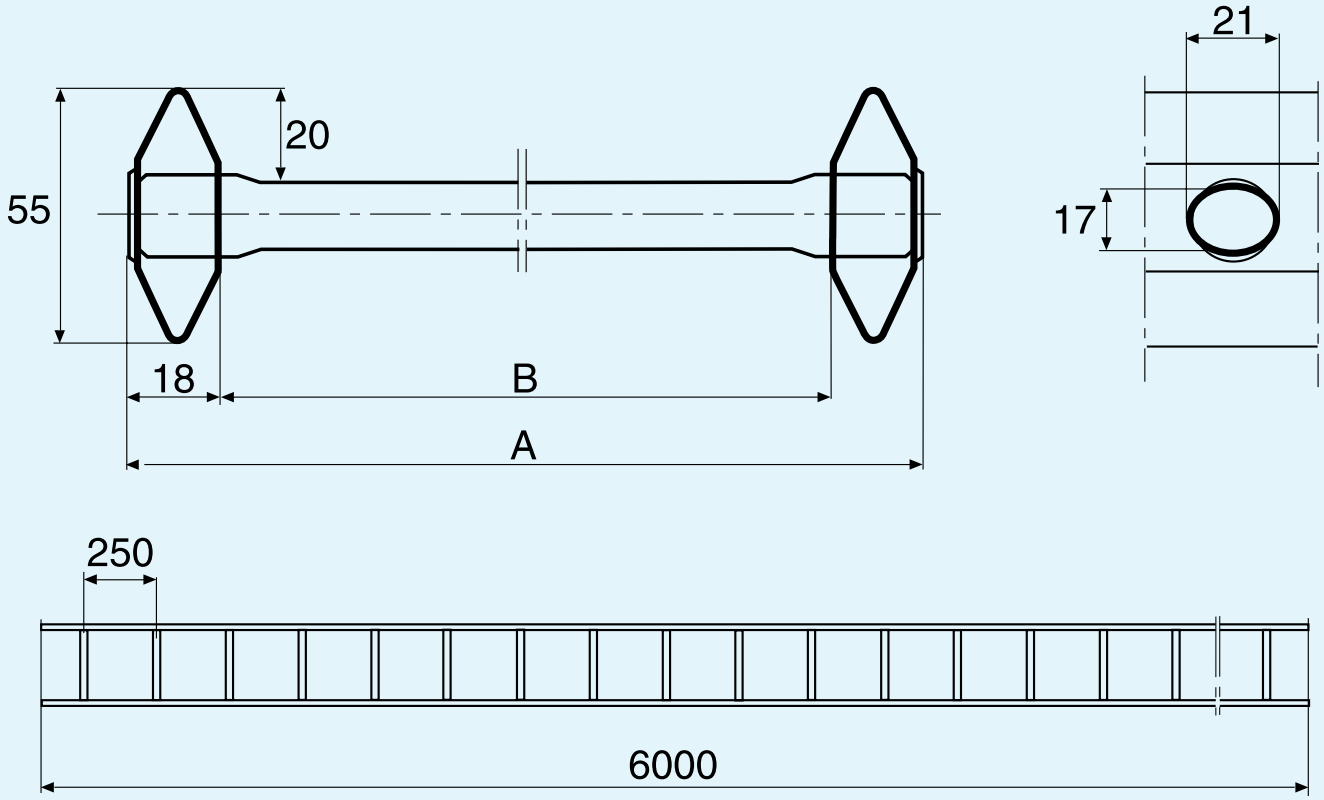
# WIBE CABLE LADDERS CATALOGUE 2022

The spine of an exceptional infrastructure

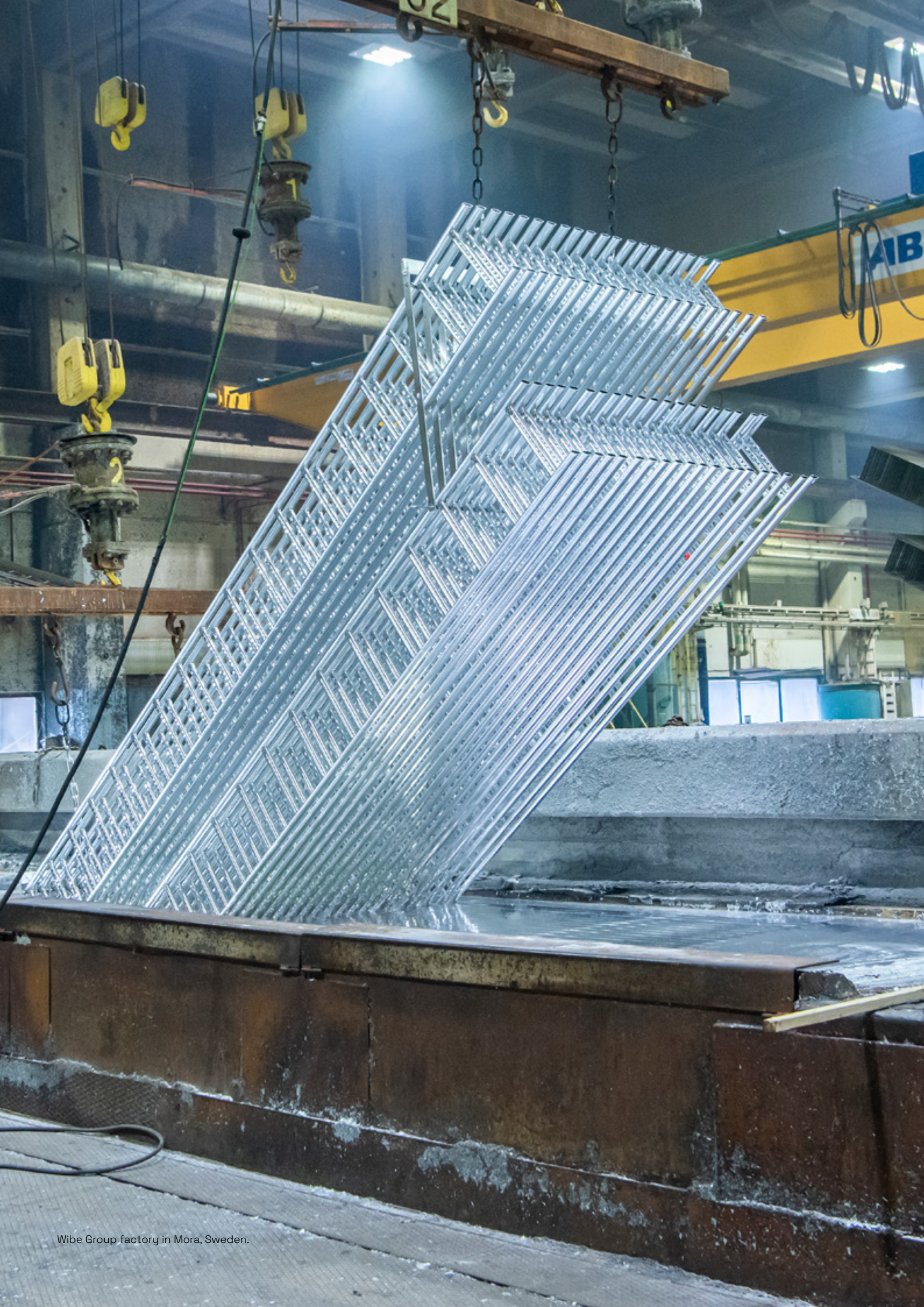



wibe®

# Creating clever, uplifting solutions, together with our clients for almost 100 years. Reimagined in June 2021 – for the coming century.

Looking ahead to the next century, we are reinventing ourselves – as Wibe Group – bringing together four of the world's leading cable management brands as a new independent company to offer a complete, innovative range of cable ladders, cable trays and mesh trays – for applications ranging from commercial buildings to extreme demanding industrial environments.

wibe® group



Wibe Group factory in Mora, Sweden.

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# The spine of an exceptional infrastructure

The cable support system is as essential for the building's infrastructure as the bone structure for the body. The Wibe Cable Ladders are robust and functional, enabling the same ladder to be used both horizontally and vertically. Add to that the extensive range of accessories as well as the wide variety of surface treatments – and you will have a safe and easily maintained solution that can be mounted in any direction or angle to fit round bends and curves in any environment.


Wibe Cable ladders 8
A quick over-view of the Wibe cable ladder range and information about corrosion classes.

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The Wibe Cable Ladder system, agile enough to be completely reconfigured in a matter of days.

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# Light, strong and endurable

A product with the right properties fit for purpose will meet the high demands on performance, reliability and cost-efficiency. That is why a thorough analysis of the environment in terms of corrosion, pollution, humidity and salt is crucial before deciding on material and surface treatment. Whether you need a ladder for sheltered, dry indoor applications or the harshest offshore environments, we will find the solution for you.  Just take a look at our offer.

## Wibe KHZ

**Cable ladder with round rungs**

Length: 6 m.
Width: 150 - 600 mm
Corrosion class: C3 to C5-I
Surface treatment: Hot-dip galvanized, Zinkpox®

## Wibe KHZV

**Reinforced cable ladder with round rungs**

Length: 6 m.
Width: 200-600 mm
Corrosion class: C3 to C5-I
Surface treatment: Hot-dip galvanized, Zinkpox®

## Wibe covers all corrosion classes

**C1**

**Electro-galvanized**

For heated facilities with low exposure to corrosion, such as hotels and offices.

**C2**

**Pre-galvanized**

For partly outdoor environments with low exposure to corrosion, for example warehouses and parking garages.

**C3**

**Hot-dip galvanized**

For urban and light industrial areas with average environmental corrosion, such as breweries and dairies.

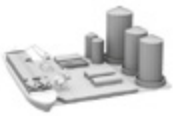
**C4**

**Hot-dip galvanized**

For areas with high levels of environmental corrosion, humidity and airborne pollution such as industrial and coastal areas, chemical plants, dockyards.

**C5-I**

**Stainless steel AISI 304, Zinkpox®,** For areas with almost permanent high levels of humidity and airborne pollution, such as chemical and heavy industries, tunnels and dockyards.



**C5-M**

**Stainless steel AISI 316L,** For areas with almost permanent high levels of humidity, airborne pollution and salt, such as purifying plants and offshore.

For more information regarding surface treatments and corrosion classes, please see from page 104

# Wibe KHZSP / KHZSPZ+

**Cable ladder with open profile and perforated rungs**

KHZSP
Length: 3, 4 and 6 m. Width: 200-600 mm
Corrosion class: C2 to C5-M
Surface treatment: Pre-galvanized, Stainless steel AISI 316L

KHZSPZ+
Length: 4 and 6 m. Width: 200-600 mm
Corrosion class: C3 to C4
Surface treatment: Zink+

# Wibe KHZP / KHZPS

**Cable ladder with perforated rungs**

KHZPS
Length: 6 m. Width: 150-1000 mm
Corrosion class: C2
Surface treatment: Pre-galvanized

KHZP
Length: 3 and 6 m. Width: 150-1000 mm
Corrosion class: C3 to C5-M
Surface treatment: Hot-dip galvanized, Zinkpox®, Stainless steel AISI 316L

# Wibe KHZPV

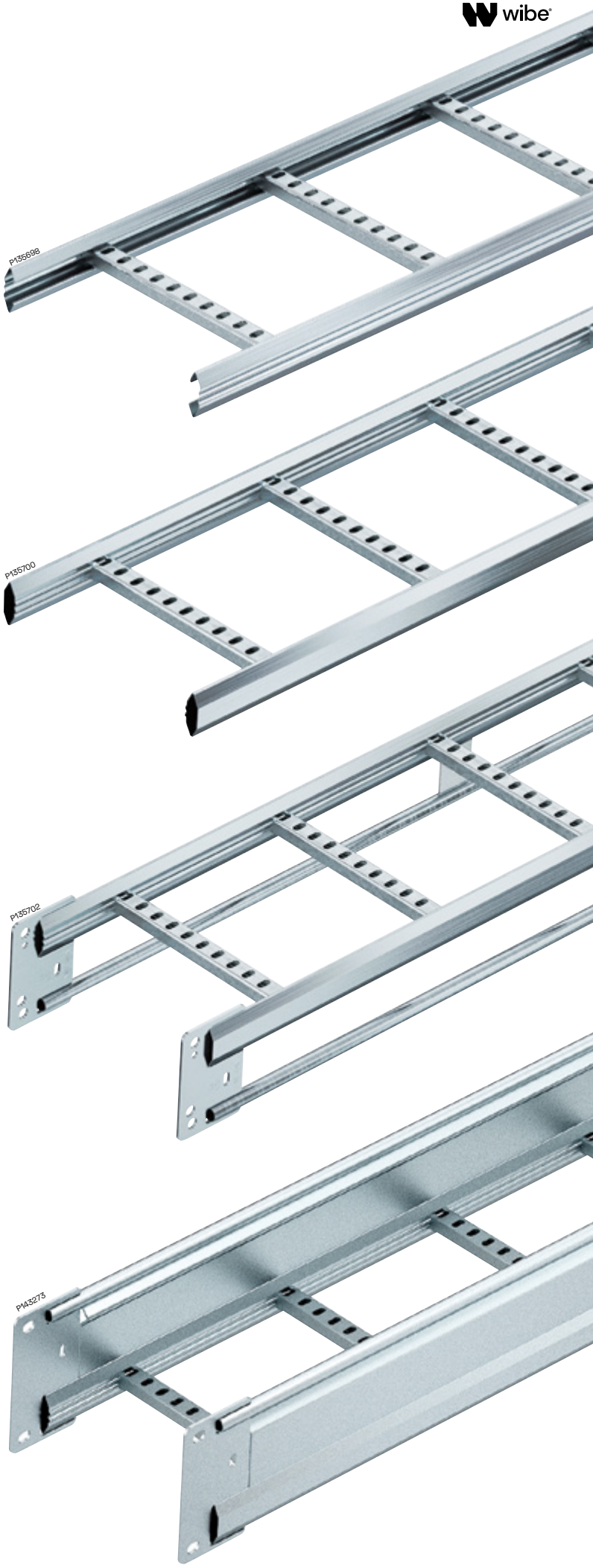
**Reinforced cable ladder with perforated rungs**

Length: 6 m.
Width: 200-1000 mm
Corrosion class: C3 to C5-M
Surface treatment: Hot-dip galvanized, Zinkpox®, Stainless steel AISI 316L

# Wibe KHZP 20C

**High-sided reinforced cable ladder with perforated rungs**

Length: 6 m.
Width: 200-1000 mm
Corrosion class: C3 to C4, C5-I Zinkpox® on special order
Surface treatment: Hot-dip galvanized, Zinkpox® on special order



P135711

P138788

## Support bracket

Sturdy support bracket for centre support of cable ladders on pendant/fixing rails and vertical pieces.

P135711

## Installation plate

Mounted on vertical cable ladders and used for terminal boxes, contact breakers etc.

P138787

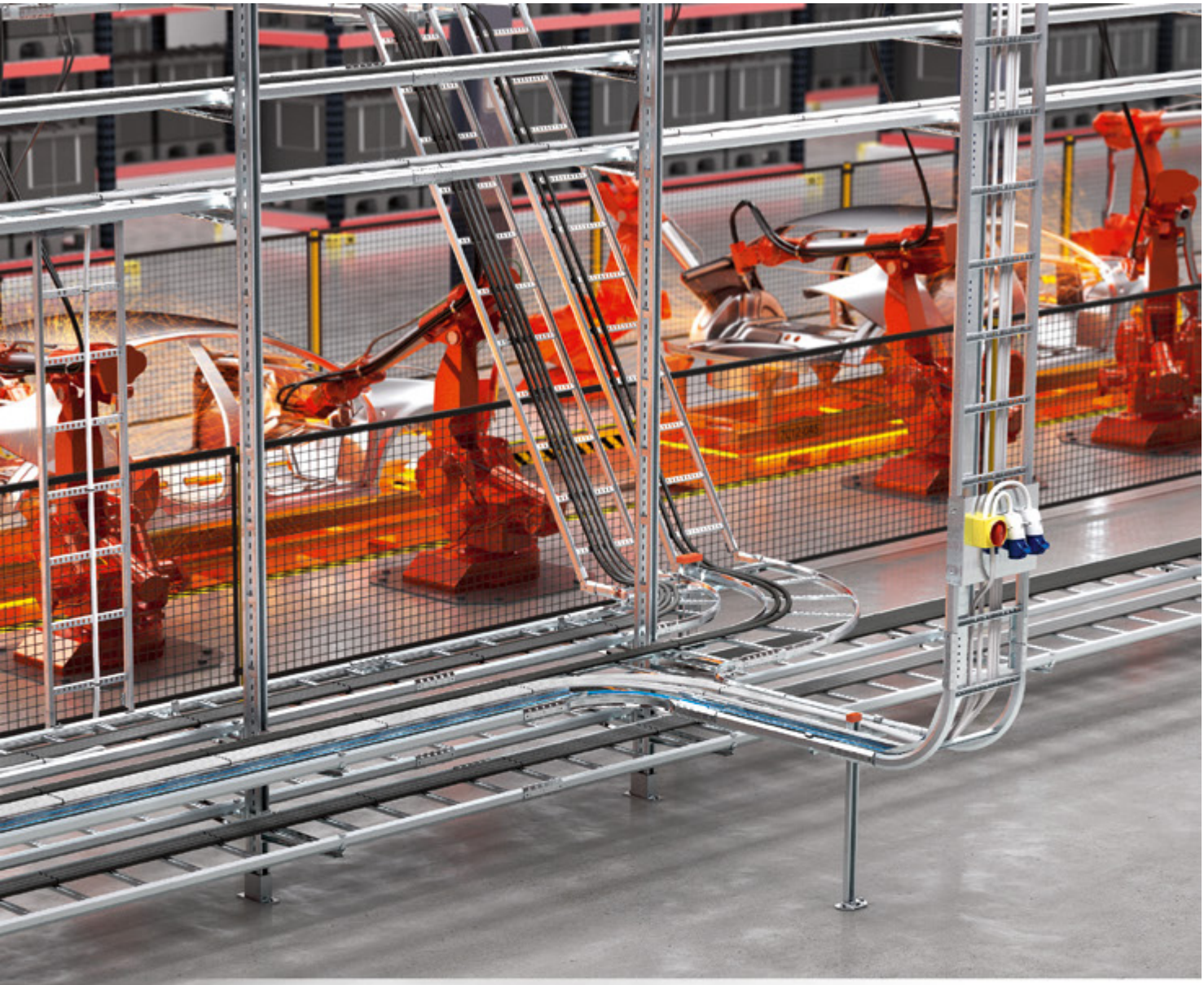
## Coupling 22

Versatile joint for horizontal or vertical branches in any angle. Suitable for 90 bend, T- or X-junctions, or as a riser.

P135711

## Vertical piece

Multipurpose support, either used from the ceiling or from the floor. Ready for either canti-lever arms or support brackets.



# Organised and ready for constant change

In a high-tech industry the infrastructure needs to be modular and flexible, minimizing the risk of costly downtime when shifting to a new design or model. This is why the Wibe Cable Ladder system must be agile enough to be completely reconfigured in a matter of days.

An advanced industrial environment can really put a strain on the power and network infrastructure. For Wibe cable ladders, there is no application too complicated. Our cable ladder offer includes a wide range of dimensions and accessories like bends, raisers, cantilever arms, brackets, joints, couplings and much more, making the entire solution flexible and adjustable enough to take on any challenging task.

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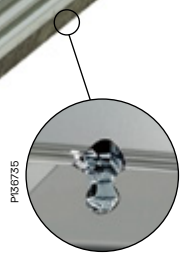
**The challenge**
A typical urban environment. Thousands of people commuting every day. It is busy and crowded. Departures and arrivals on time are vital and what everybody expects. And there is no room for an inadequate infrastructure.



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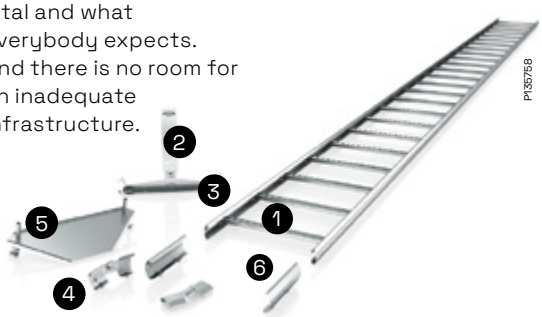
A smart feature is the drainage holes placed at the top and bottom of the open profiles of the KHZSP stainless steel ladder, preventing moisture from filling up.




P135758

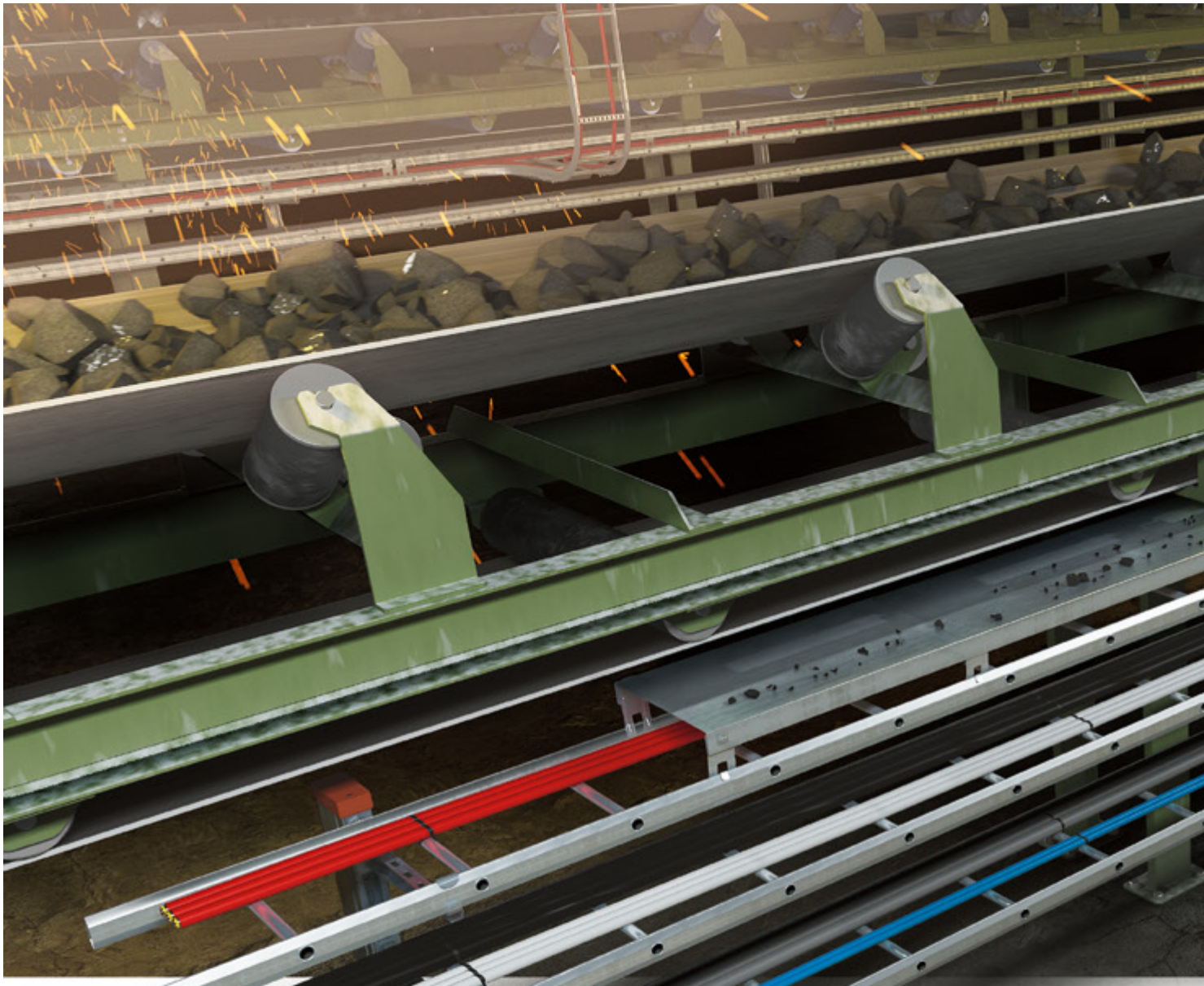
**The solution**
This installation includes only a few parts:

1. KHZSP Cable ladder in stainless steel
2. Round bar fixing for ceiling
3. Support bracket 3
4. Coupling 22
5. Angle plate 33
6. Joint 21

# On track with the future

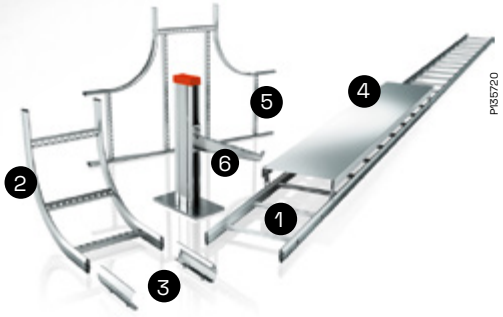
Today we constantly meet increasing expectations on performance, flexibility and sustainability. Advanced constructions require top quality in every detail and keeping up with technical development is a challenging task. Our goal is to prosper business performance while conserving environmental resources.

The monorail train illustrates a modern, technological city infrastructure, but the idea of an elevated train on a single track actually dates back to the beginning of the 20th century.
Today the monorail trains are often used as fast intercity connections, running through tunnels and open landscapes, exposed to rain, ice and snow – at a speed often exceeding 300 km/h.
Yet the journey is smooth, comfortable and quiet. Accentuating demands on capacity and comfort have spurred the development of advanced technique and sophisticated design. With the comprehensive offer that is constantly refined and improved, Wibe Cable Ladders match all the requirements by far.



P135703

**The challenge**
Heavy industrial environment with a lot of pollution. Uptime is crucial, no room for costly production shutdowns.




P135720

**The solution**
These are the only parts needed:
1. KHZ Cable ladder in hot-dip galv
2. Riser 18
3. Joint 21
4. Cover plate
5. T-junction 16
6. Vertical piece 20FS, Cantilever arm 50, End cap

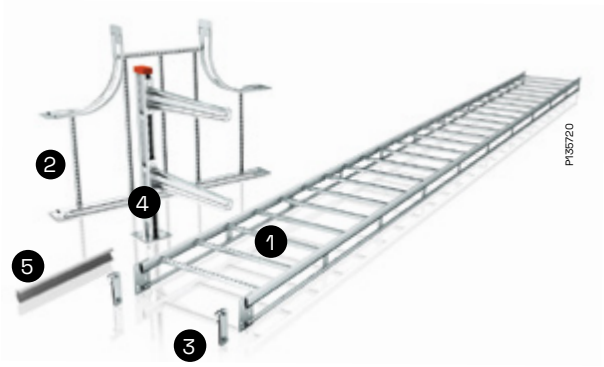
# Breaking ground for heavy-duty applications

No environment is too tough or too dirty. With the appropriate material and ideal surface treatment of the cable support solutions, reliable power and network supply is secured.

It is noisy, busy and very harsh contidions. Maintaining continuous production is top priority, and any malfunctions will jeopardize both safety of the staff and the all important profitability. Here the cable support solution is really put to the test. The standing vertical pieces can carry several layers of ladders on top of each other, securing easy maintenance and service. Details like round rungs and cover plates protect the installation from dirt and damage.

P135704

**The challenge**
An environment like a huge sports arena calls for extra strong solutions – both in terms of safety and easy maintenance in odd spaces.




**Few but strong**
The installation above is assembled with a limited number of parts:

1. KHZPV Cable ladder in hot-dip galv
2. T-junction 56
3. Take-off hook 47
4. Vertical piece 20F
   Cantilever arm 50F
   End cap
5. Profile protection

# Safety and dependable operation in focus

Tens of thousands of people, roaring, cheering, all eyes on the game. High above is the headlight system, sustained by an extensive infrastructure of cable support solutions. Downright performance is what everybody expects. And what they can count on.

If the task is to support error-free, reliable lighting for the field and the audience, along with power and network supply for broadcasting, only the strongest is good enough. Wibe reinforced ladder KHZPV has an impressive distribution load of 150 kg/m (at 4 m support distance), backed up by sturdy vertical pieces, cantilever arms, junctions etc. Another good feature is the profile protection, allowing safe tap-offs with secured maximum bend radius anywhere on the ladder. Equipped with a label, the profile protection can also be used for clear marking and identification.

# Accessories and benefits

## Screwless joint

When joining two ladders the screwless joint is very handy. Just snap it in place. The joint is suitable for fitting of 90° bends, T- and X-junctions and vertical mounting. No extra earthing is necessary.

P136736

P136741

## Coupling 22

This ingenious coupling allows mounting of horizontal or vertical branches at any desired angle. It can be used for 90° bends, T-junctions, X-junctions, or as a riser.
In the section Use and installation in this catalogue you will find a lot of installation examples.

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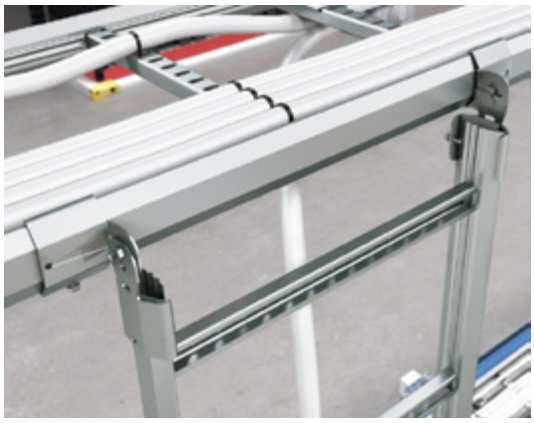

P136742

## Take-off hooks

Convenient hooks for use on ladders to make 90° branches. Just hook on and take off at any place on the ladder. Equipped with an extra hole for earthing or when vertical locking of the ladder is needed.

P136738

P136743

## T-bolt 26U

This clever bolt has a metal spring which allows it to remain anywhere in the fixing rail before it is even fixed. Just apply the T-bolt in the desired position, adjust it if necessary and then fix it in place by tightening the nut.

T-bolt composition-18

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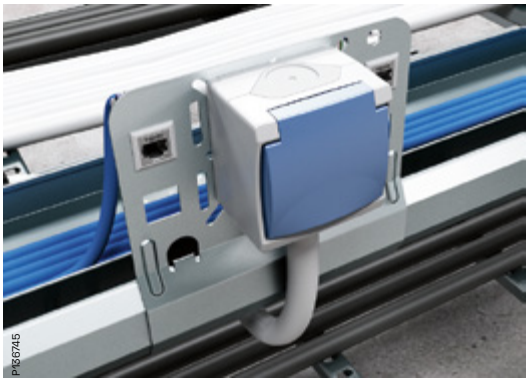
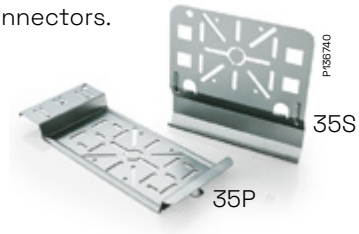
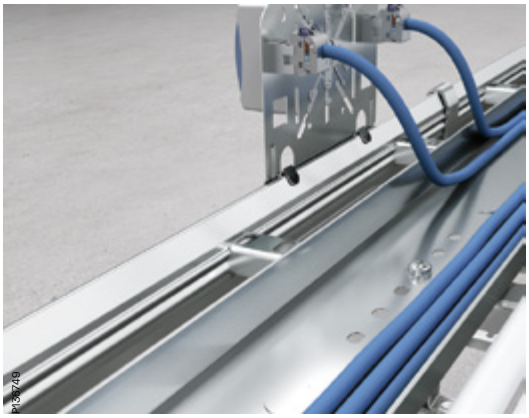



## Junction box plates

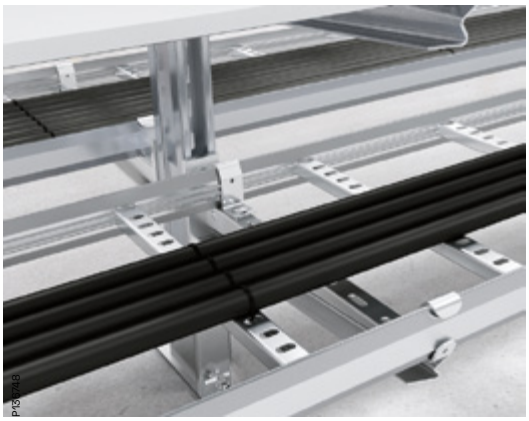
The multi-purpose junction box plate 35S can be mounted in standing or hanging positions on the side sections of the cable ladder. The pre-defined hole pattern fits both LexCom and Actassi connectors. The junction box plate 35P is intended to be mounted between the rungs of the cable ladder.




## Tele-conduit

Keep the entire installation tidy and well organized – the tele-conduit enables the ladder to carry both power cables and network cables.



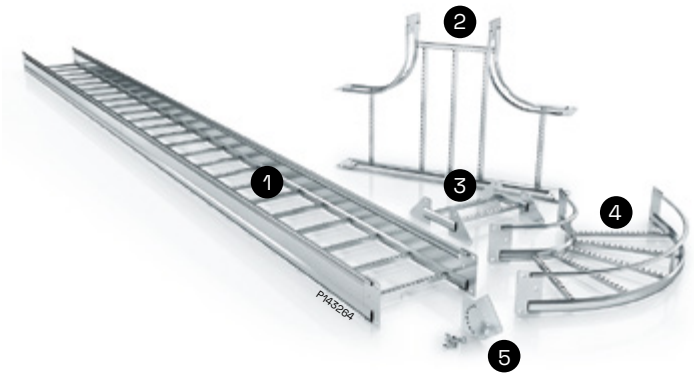

## Support

The different supports like vertical pieces, fixing rails, cantilever arms and brackets are delivered in numerous sizes, offering swift flexibility as well as strength and organizational qualities to any complex installation.

## Cable roller

The cable rollers simplify pulling of cables. The rollers are adjustable in height to allow cables to pass underneath. Suitable for 90° bends, T- and X-junctions as well as risers.

**The challenge:**
To meet the toughest requirements of extra heavy load and wide support dist-ances in the most critical industrial environments.




**Few but strong**
The installation above is assembled with a limited number of parts:
1. KHZP 20C Cable ladder in hot-dip galv
2. T-junction 20C
3. Riser coupling 20C
4. 90° Bend 20C
5. Vertical coupling 20C

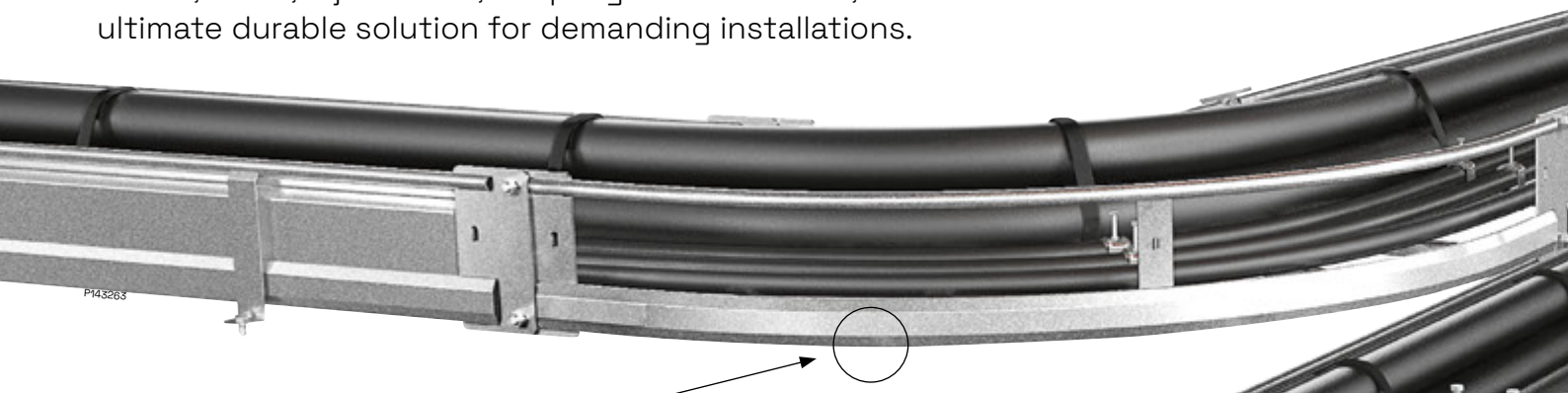
# When conditions call for extreme loads and the widest support spans

Over the years, the Wibe Cable Ladder system from Wibe Group has been developed to tackle all kinds of harsh environments, such as Oil & Gas and chemical industries. Now the range has been further reinforced.

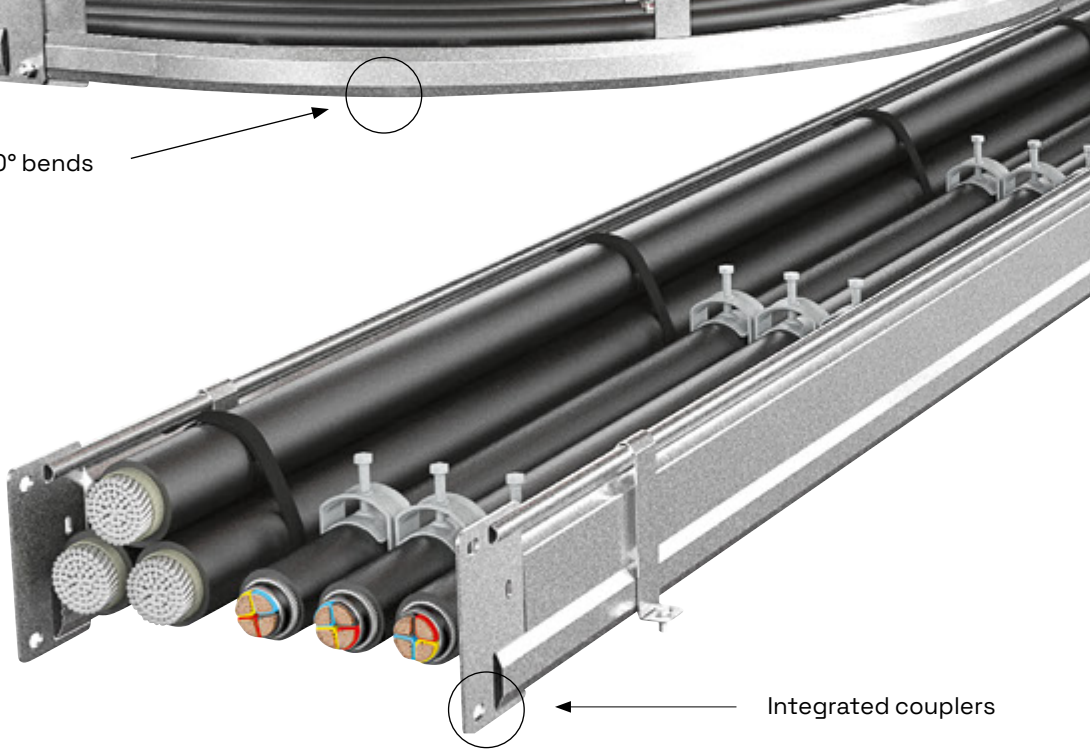
The latest and most powerful addition to our cable ladder portfolio is KHZP 20C – a strong, high-sided ladder with excellent properties. Meeting the NEMA 20C SWL standard, 149 kg/m at 6-metre span/safety, this new range offers long spans with heavy-load qualities. Nevertheless, the KHZP 20C range enables fast and easy installation. For example, the couplers are integrated into the ladder sides, providing much faster mounting time than conventional systems requiring splice plates and multiple nuts and bolts. All in all, the KHZP 20C is a solution that contributes heavily to a safe, easily maintained and long lasting installation.

# Based on proven expertise and continuous refinement

The KHZP 20C has evolved from many years of renowned development. With impressive dimensions and easy-to-apply accessories, such as bends, risers, T-junctions, couplings and reducers, the KHZP 20C is the ultimate durable solution for demanding installations.




Sturdy 90° bends



Integrated couplers

Width 200–1000 mm

Adjustable vertical coupling

Robust T-junctions

6 m support distance

Riser 20C for internal or external bends

### Wibe KHZP 20C is reinforced all the way

All the accessories are dedicated and tested to meet the high load requirements.

### Install anywhere at any angle

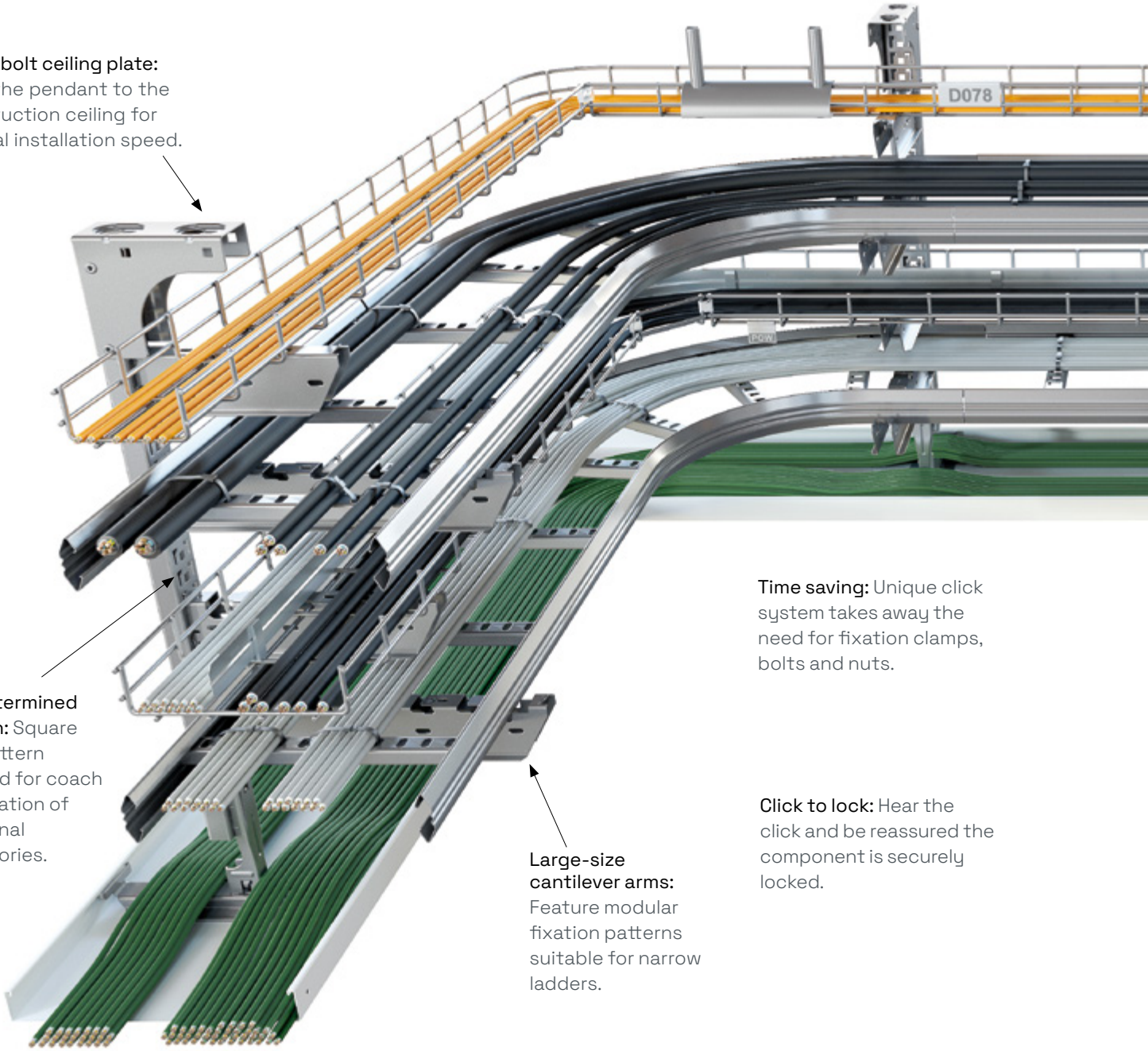
Fixed angle couplings or couplings that can be adjusted to any angle on the horizontal or vertical plane.

### Easy to reduce and expand

Increase or decrease the routing of cables from a wide to a narrow cable ladder.

# Engineered to set the standard in commercial building installations.

Modern commercial buildings feature cable routing installations that demand flexibility and efficiency. The revolutionary CLX3 support system is ideal regardless of the cable support required, because it is specifically developed to be smoothly and effectively integrated to the same support system.
CLX3 incorporates a set of unique benefits to deliver the most smart, lean and simple cable routing management.




**Single bolt ceiling plate:** Fixes the pendant to the construction ceiling for optimal installation speed.

**Pre-determined fixation:** Square hole pattern adapted for coach bolt fixation of additional accessories.

**Time saving:** Unique click system takes away the need for fixation clamps, bolts and nuts.

**Click to lock:** Hear the click and be reassured the component is securely locked.

**Large-size cantilever arms:** Feature modular fixation patterns suitable for narrow ladders.

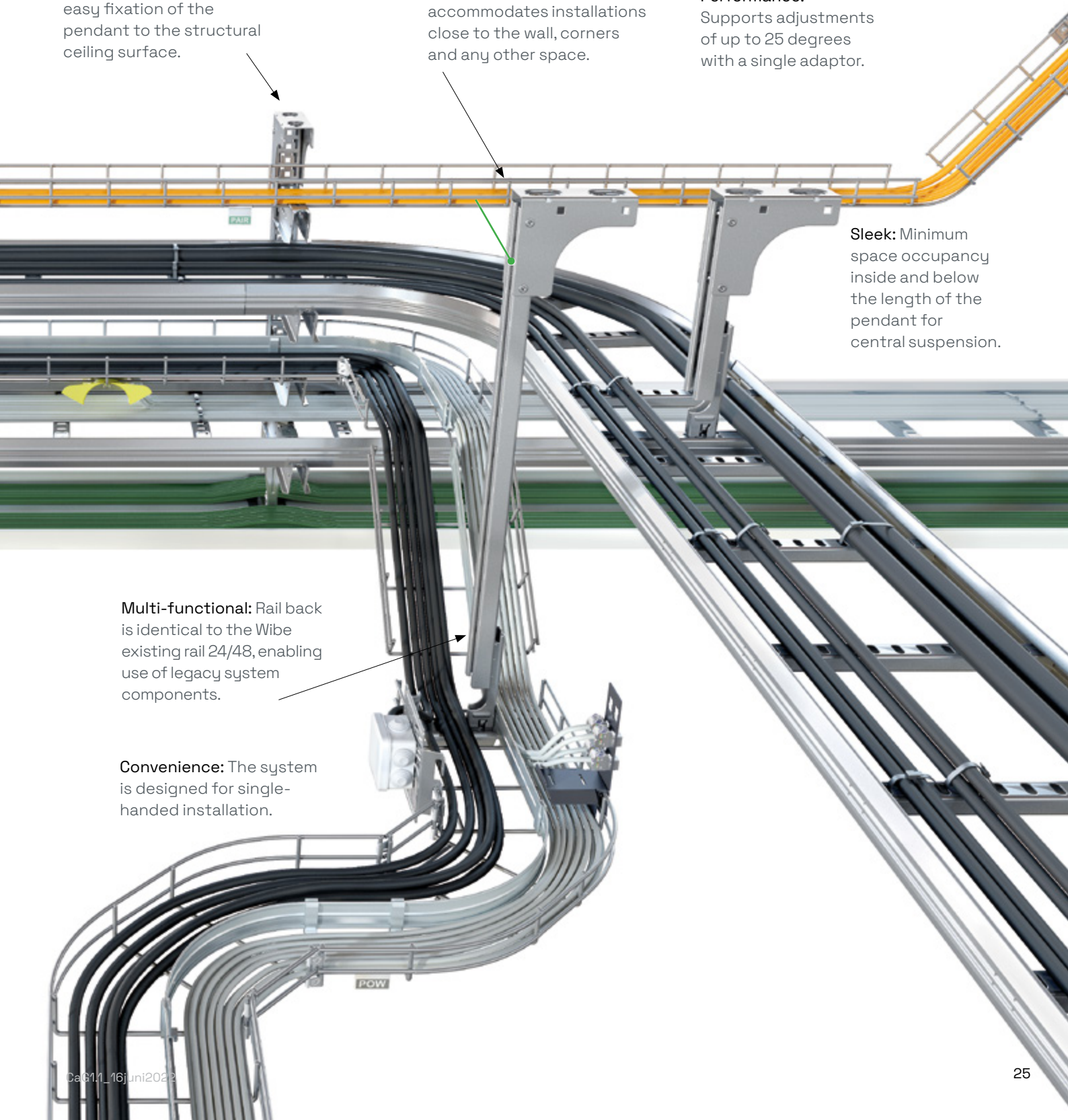
**Robust design:** Capable of bearing distances up to 4m, requiring less supports to be installed.

**Lean:** Fewer components needed, leading to more efficiency all along the process from BIM design through ordering, storage and installation.

**Key hole fixation:** Smart design to facilitate easy fixation of the pendant to the structural ceiling surface.

**Flexible:** The pendant accommodates installations close to the wall, corners and any other space.

**Performance:** Supports adjustments of up to 25 degrees with a single adaptor.




**Sleek:** Minimum space occupancy inside and below the length of the pendant for central suspension.

**Multi-functional:** Rail back is identical to the Wibe existing rail 24/48, enabling use of legacy system components.

**Convenience:** The system is designed for single-handed installation.

# Certified according to DIN4102-12 for fire resistance E30, E60 and E90

The longer the installation is resistant to fire, the longer the electric system will be able to operate normally. Wibe products with E30, E60 and E90 certification help to protect life and property in the event of a fire. The well-proven, reliable system will prolong the access to critical emergency services, such as fire suppression systems, emergency lighting, ventilation and other basic installations.

The Wibe cable ladders meet the toughest product standards:
IEC 61537
DIN 4102-12 for fire resistance classes E30, E60 and E90

The Wibe cable ladder system is also approved by Det Norske Veritas (DNV) for offshore and shipyard use.

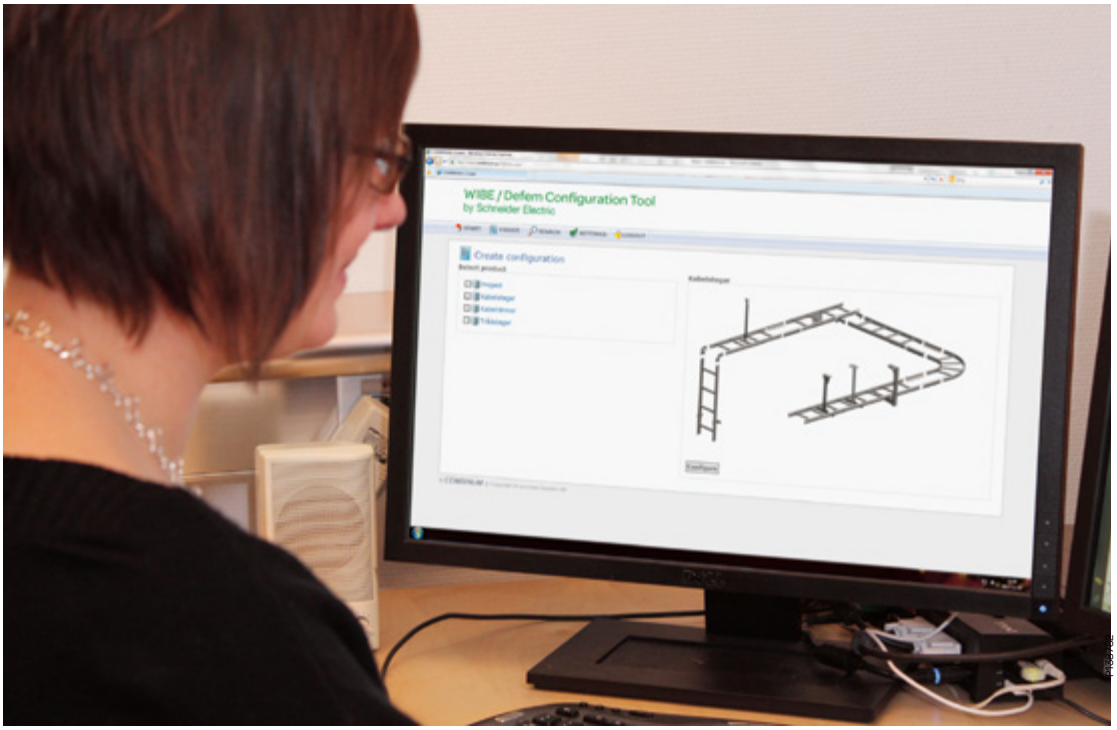
The Wibe cable ladder system is also approved according to UL E212854 for use in the US and Canada.

## About the test

A selection of the Wibe products have proven excellent fire resistance properties. You can feel confident when installing Wibe cable ladders in environments requiring either E30, E60 or E90 certification.
The cable ladders with supporting system and Dätwyler Pyrofil KERAM E30, E60 and E90 cables were tested for 90 minutes in a temperature of up to 1000°C without collapsing, with the electrical performance still remaining intact.

For installation specification please see the Technical part in this catalogue.

# Our Configuration tool – the right choice




The smartest way to be efficient and profitable, is to cut down on costs. Material that is either insufficient or oversized, means actually money down the drain. Our configuration tool helps you calculate the dimensions you need, eliminating waste of your time, money and effort.

## Make your specification accurate, flexible and up-to-date

The Wibe/Defem configuration tool is a unique and user-friendly assistant to specifiers, wholesalers and installers. The tool is free of charge and perfect for optimizing the amount of material for any given installation. No previous experience is necessary – all you need is a standard web browser and a personal login (provided from Wibe Group), and you are ready to go.

### Make the right choice

It is all about making the right choice. Just specify your requirements regarding environment/corrosion class, load and support distances etc and you will have a customized selection for your installation. Your calculations are saved, so you can adjust them at any time. The configuration tool is automatically updated as products are launched or replaced, enabling accurate and exact configurations. You can also easily have the BOM (Bill of Material) transferred to Excel, to be used as your shopping list.

Today the configuration tool is available in English, Russian and Swedish, but more versions are under development.

# 3.2 million metres manufactured each year.

Wibe Cable Ladders form the backbone of the modern infrastructure.

# Experience and knowledge take you higher

## Creating shared value

Throughout the years we have stacked up an outstanding amount of knowledge and skills as part of our resources for continuous product development.
Another essential contribution to this is the experience of our customers. Together we investigate the needs of today and tomorrow in our common goal towards finding even more effective, sustainable and future-proof solutions. Our close cooperation brings increased knowledge and stronger competitiveness to both parties, resulting in successful projects that draw attention all over the world.

The Wibe cable ladder system handles routing of power, data and control cables. All with outstanding conditions for high performance and problem-free maintenance.

Burj Khalifa, Dubai. The world's tallest building stretches close to 830 m into the air. As a comparison, the Sears Tower in Chicago reaches 442 m and the Empire State Building in New York comes in at 381 m. Increasing demands on longer, taller and wider constructions call for kilometres of cables – and an infrastructure backbone of comprehensive cable support solutions.
As the only approved supplier of cable support to the Hyder Consultant with Emaar, Wibe Group Electric delivered 1,500 pcs of KHZP Cable Ladders (9,000 metres).

P129702

Wibe Cable Ladders KHZ and KHZP installed at Borealis Stenungsund. Borealis in Sweden supports customers with speciality plastics for some of the largest energy supply, oil and water pipeline projects in the world.

P129687

Wibe Cable Ladder KHZV installed at Outokumpu Stainless steel, Avesta Sweden.

P128020

Wibe Cable Ladder KHZP installed at a Nuclear power station in Russia.

P136521

Wibe Cable Ladder KHZP installed at Lukoil sleetproof mooring line Varandei, Barents Sea Russia.

P129687

Wibe Cable Ladders KHZ installed at SSAB Borlänge Steel plant, Sweden.

P129702

Wibe Cable Ladder KHZP installed at BP/ARCO/Technip – Al Rayyan Development, Qatar.

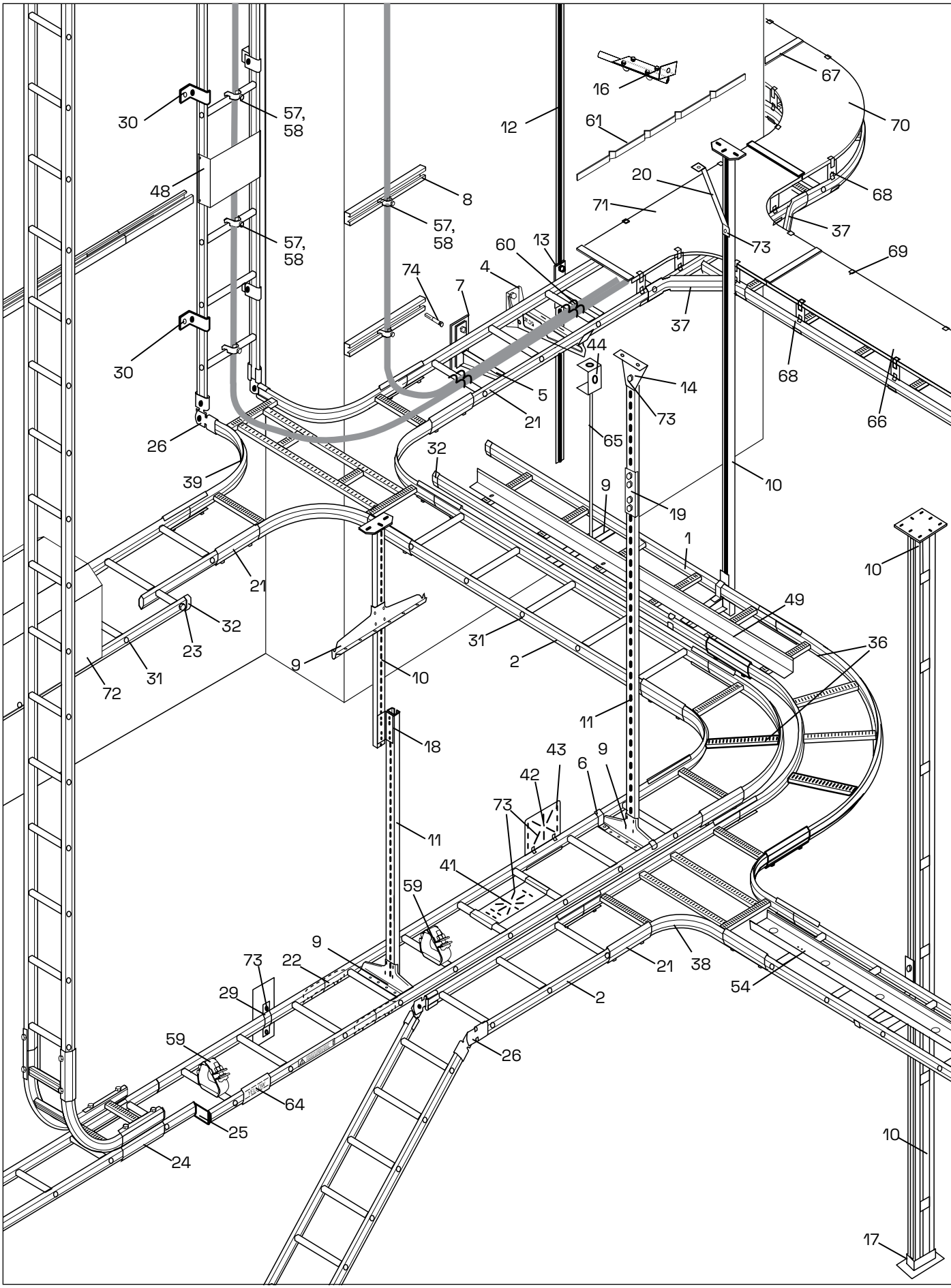
P129698

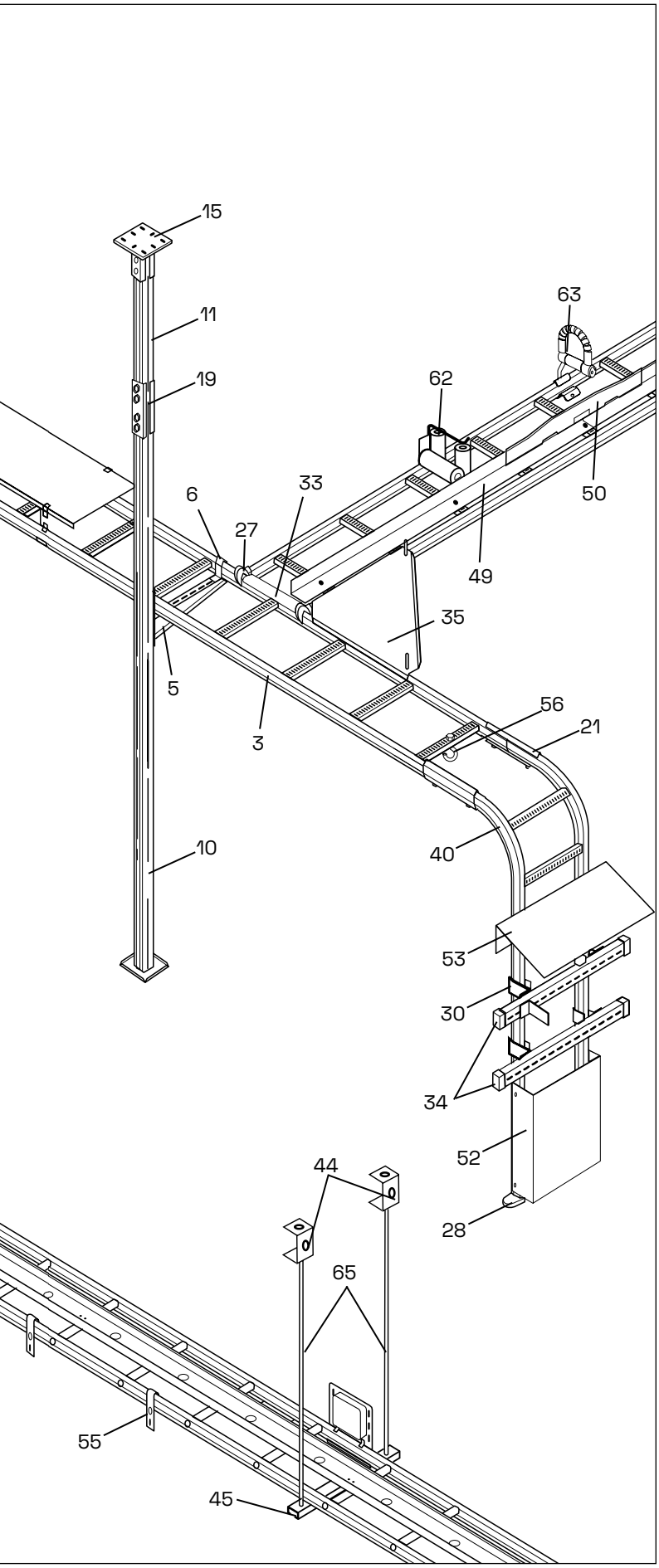
Wibe Cable Ladder KHZP installed at Kista Science Center, Sweden.

P129750

Wibe Cable Ladder KHZV installed at Gärdstaverken, Sweden.

# Installation summary - KHZSP, KHZSPZ+, KHZPS, KHZ, KHZP

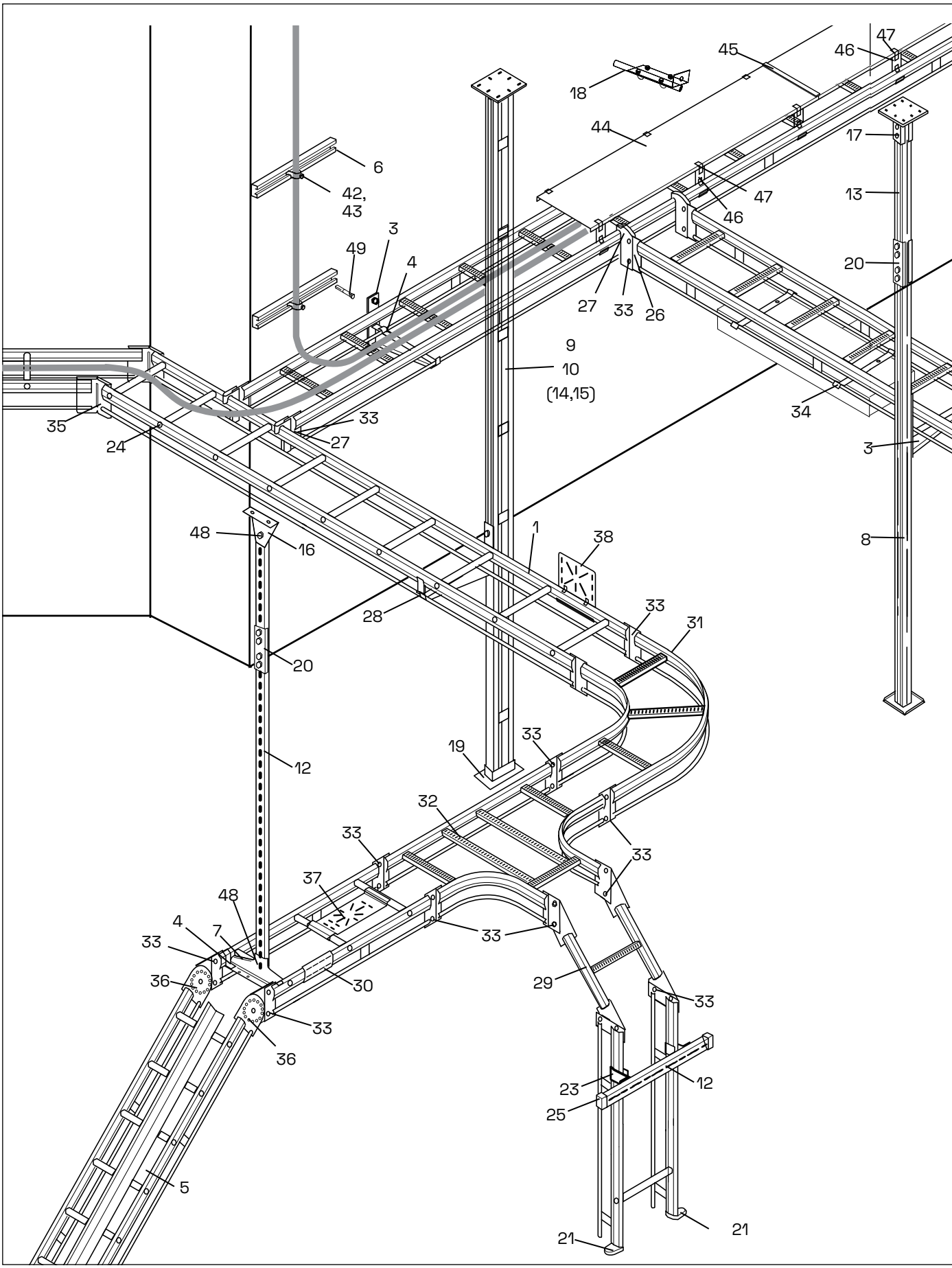


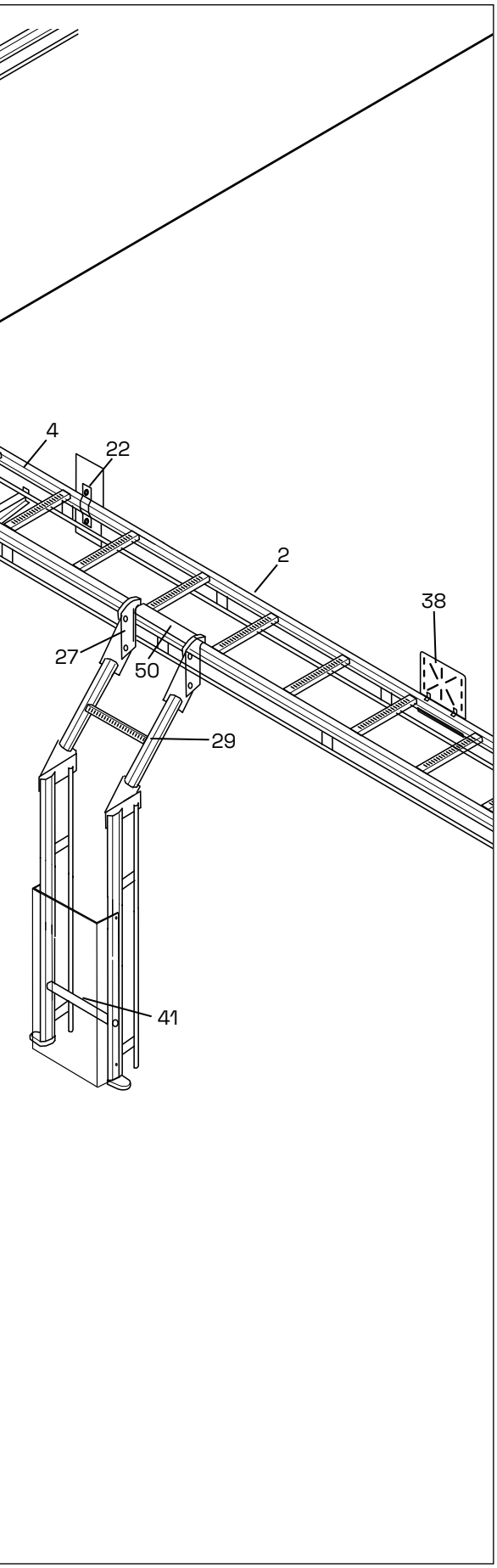



**Components**

1 Cable ladder KHZSP, KHZSPZ+
2 Cable ladder KHZ
3 Cable ladder KHZPS, KHZP
4 Cantilever arm 50i
5 Cantilever arm 50, 50F
6 Profile clamp 42
7 Back plate 40
8 Mounting rail 40
9 Support bracket 3, Support bracket 6
10 Vertical pieces
11 Pendant/Fixing rails
12 Fixing rail 24/26x53 for casting-in
13 T-bolt 26U
14 Ceiling bracket 5
15 Pendant base plate 520
16 Round bar fixings(ceiling,wall,floor)
17 Rail fixing support 24/20F, 24/20FS
18 End bracket HT-11
19 Pendant joint 2J, 2FJ, 20J
20 Pendant bar 1
21 Joint 21
22 Joint 9
23 Intermediate connection bolt 29
24 Dropper joint 32
25 Reducer 31
26 Coupling 22
27 Fixed take-off hook 4
28 End connection 10
29 Profile clamp 41
30 Wall bracket 11/25, 11/75
31 Cross member plug 27
32 End plug 28, 28i
33 Profile protection 28P
34 End plug 28E, 28D, 28C, 28F
35 Angle plate 33/1, 33/2
36 90° bend 15
37 Junction coupling 14
38 T-junction 16
39 X-junction 17
40 Riser 18
41 Junction box plate 35P
42 Junction box plate 35S
43 Earth clamp W79
44 Ceiling bracket TF10 and TF16
45 Support bracket HS0
48 Installation plate 61
49 Dividing strip 39
50 Distance piece W39
52 Cover plate 65
53 Junction box cover
54 Tele-conduit 36
55 Clamp 12
56 Hook 8
57 Cable clamp ARX
58 Insert piece EM
59 Cable clamp ER
60 Lashing wire
61 Mounting rail, WMS25L
62 Cable roller S
63 Cable roller 38 Rig´n roll/Cable roller set 66
64 Marking plate 93
65 Threaded rod W76 M10
66 Cover W5
67 Cover joint
68 Profile support piece 37
69 Cover clamp
70 Cover 90° bend
71 Cover T-junction
72 Protecting cover
73 Screw sets
74 Expansion bolts

# Installation summary / KHZV, KHZPV

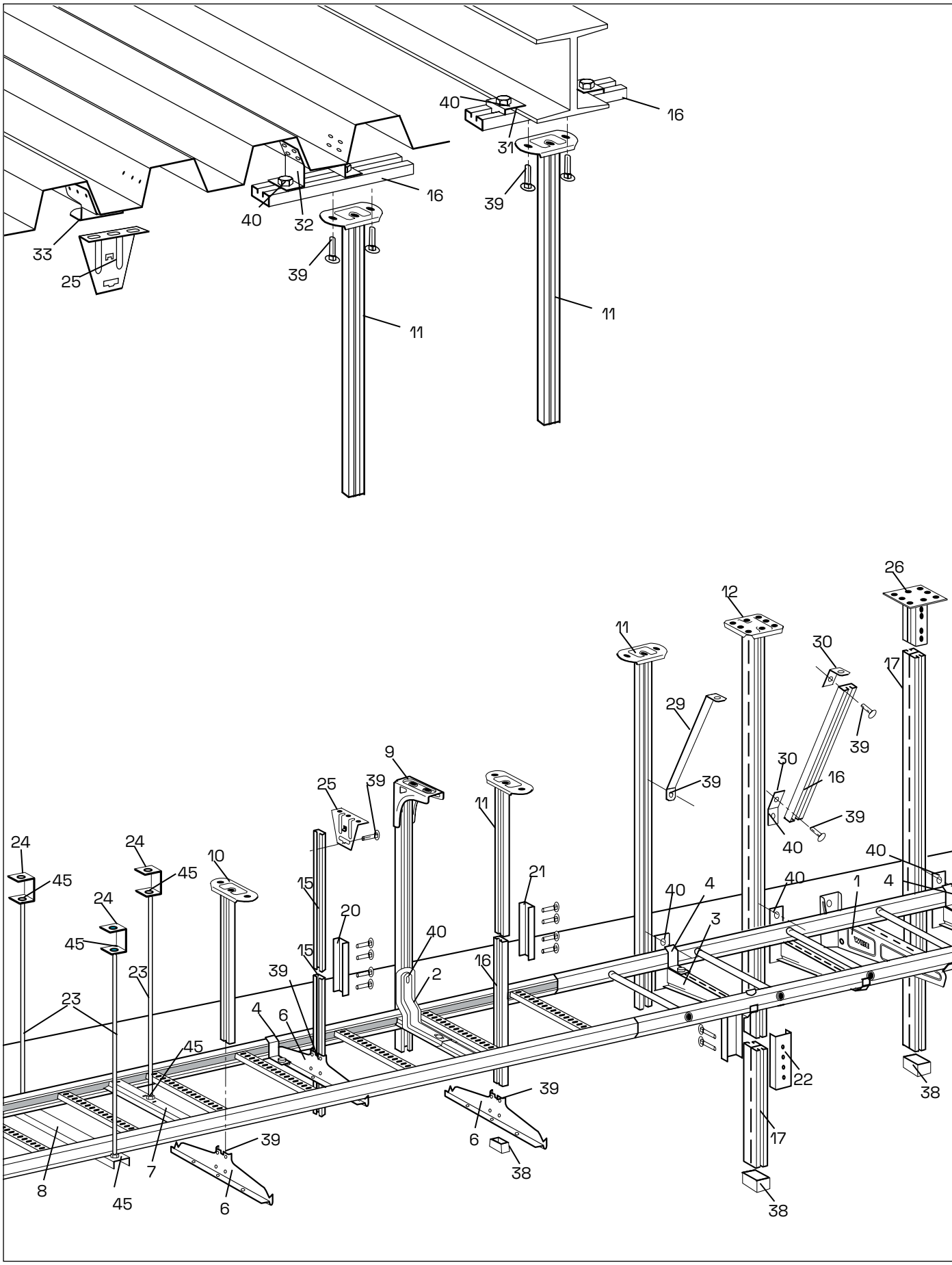


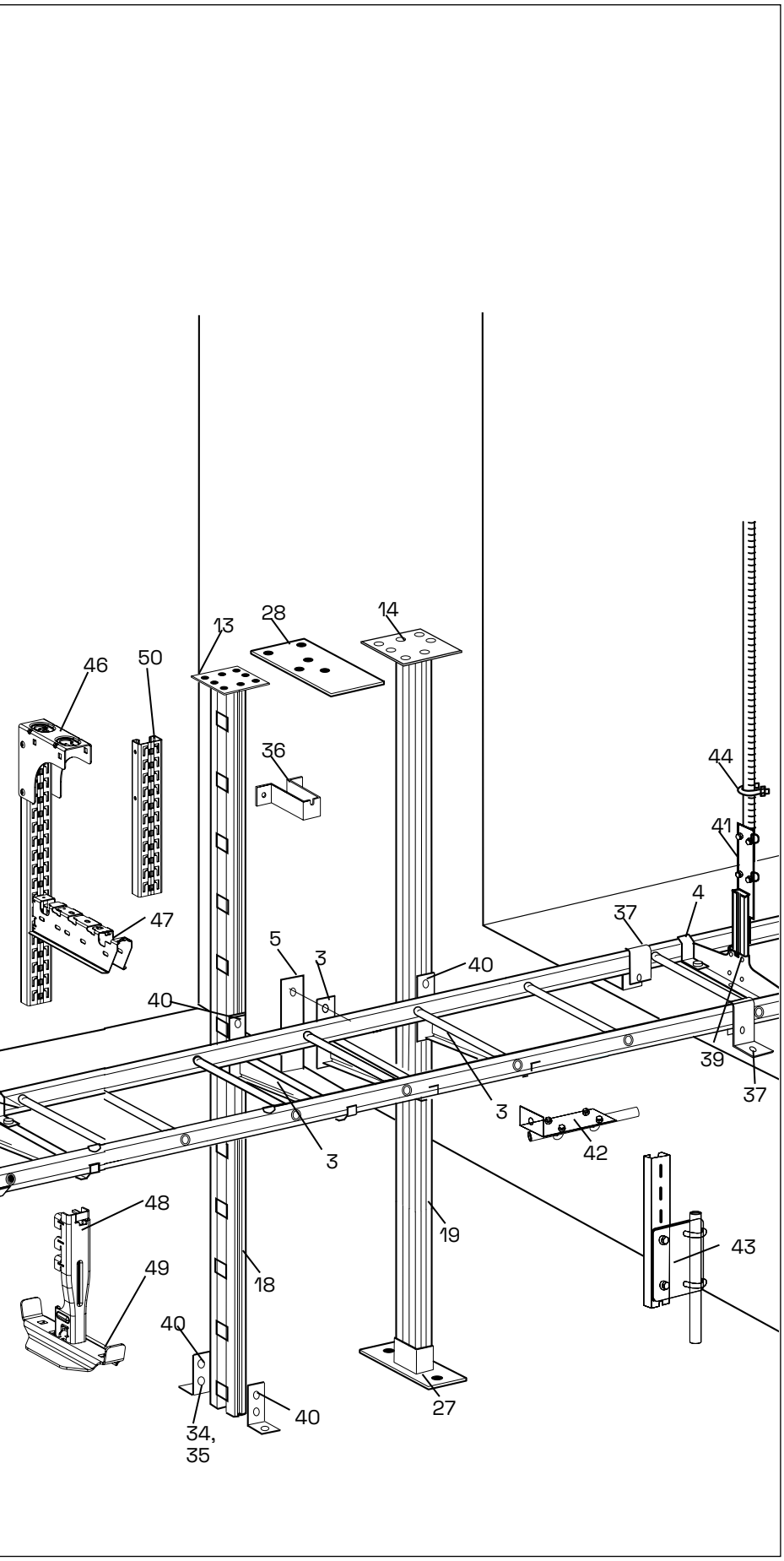



**Components**

1 Cable ladder KHZV
2 Cable ladder KHZPV
3 Cantilever arm 50F
4 Profile clamp 42,43
5 Dividing strip 39
6 Mounting rail 40
7 Support bracket 3
8 Vertical piece 20
9 Vertical piece 20F
10 Vertical piece 20FS
12 Pendant/Fixing rail 24/48
13 Pendant/Fixing rail 24/20
14 Pendant/Fixing rail 24/20F
15 Pendant/Fixing rail 24/20FS
16 Ceiling bracket 5
17 Pendant base plate 520
18 Round bar fixings (ceiling, wall, floor)
19 Rail fixing support 24/20F, 24/20FS
20 Pendant joint 2J, 2 FJ, 20J
21 End connection 10
22 Profile clamp 41
23 Wall bracket 11/25, 11/75
24 Cross member plug 27
25 End plug 28E, 28D, 28C, 28F
26 Joint 45
27 Take-off hook 47
28 Profile support piece 46
29 Riser coupling 49
30 Marking plate 93
31 90° bend 55
32 T-junction 56
33 Screw set M12
34 Lighting bracket 200
35 Coupling 44
36 Coupling 51
37 Junction box plate 35P
38 Junction box plate 35S
41 Cover plate 65
42 Cable clamp ARX
43 Insert piece EM
44 Cover W5
45 Cover joint
46 Profile support piece 37
47 Cover clamp
48 Screw sets
49 Expansion bolts
50 Profile protection 28P

# Suspension components / KHZSP, KHZSPZ+, KHZPS, KHZ, KHZP, KHZV, KHZPV






**Suspension**

1 Cantilever arm 50i
2 Cantilever arm 30
3 Cantilever arm 50, 50F
4 Profile clamp 42
5 Back plate 40
6 Support bracket 3
7 Support bracket 6
8 Support bracket HS0
9 Vertical piece 2Fi
10 Vertical piece 2
11 Vertical piece 2F
12 Vertical piece 20
13 Vertical piece 20F
14 Vertical piece 20FS
15 Pendant/Fixing rail 24/34
16 Pendant/Fixing rail 24/48
17 Pendant/Fixing rail 24/20
18 Pendant/Fixing rail 24/20F
19 Pendant/Fixing rail 24/20FS
20 Pendant joint 2J
21 Pendant joint 2FJ
22 Pendant joint 20J
23 Threaded rod W76 M10
24 Ceiling bracket TF-10, TF-16
25 Ceiling bracket 5
26 Pendant base plate 520
27 Rail fixing support 24/20F, 24/20FS
28 Ceiling plate 20F, 20FS
29 Pendant bar 1
30 Bracket 60/40
31 Beam clamp 5BK
32 Ceiling bracket 5TP
33 Ceiling bracket 5TPA
34 Angle bracket 5L
35 Angle bracket 5LS
36 Wall bracket 20, 20F
37 Wall bracket 11/25, 11/75
38 End plug 28E, 28D, 28C, 28F, 28J
39 Screw set 2S, 22S
40 T-bolts
41 Round bar fixing for ceilings
42 Round bar fixing for walls
43 Round bar fixing for floors
44 Clamp set M6
45 Nut M10
46 CLX3 Pendant 24/48
47 CLX3 Cantilever arm
48 CLX3 Central suspension adapter
49 CLX3 Central suspension bracket, Ladder KHZSP
50 CLX3 rail 24/48

# Pre-galvanized - Corrosion class C2

## Cable ladders

P140324

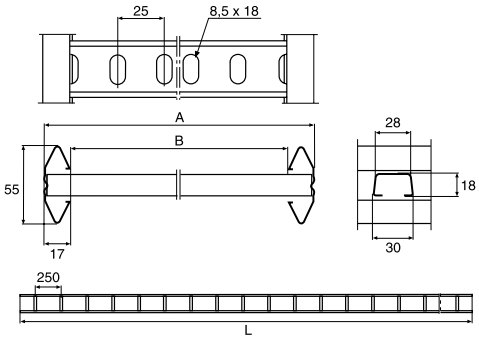
| Type | Dimensions A/B/C mm | Weight kg/100 m | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cable ladders KHZSP** | | | | |
| Cable ladder for indoor applications in dry environments. With open side profiles and profile-shaped rungs. Must not be used as walkway.<br>Material: Steel, pre-galvanized. | | | | |
| KHZSP-200 | 55/198/3000<br>55/198/4000<br>55/198/6000 | 198 | 7321677831555<br>7321677185726<br>7321677344888 | **783155**<br>**718572**<br>**734488** |
| KHZSP-300 | 55/298/3000<br>55/298/4000<br>55/298/6000 | 217 | 7321677831562<br>7321677185733<br>7321677344895 | **783156**<br>**718573**<br>**734489** |
| KHZSP-400 | 55/398/3000<br>55/398/4000<br>55/398/6000 | 237 | 7321677831579<br>7321677185740<br>7321677344901 | **783157**<br>**718574**<br>**734490** |
| KHZSP-500 | 55/498/3000<br>55/498/4000<br>55/498/6000 | 257 | 7321677831586<br>7321677185757<br>7321677344918 | **783158**<br>**718575**<br>**734491** |
| KHZSP-600 | 55/598/3000<br>55/598/4000<br>55/598/6000 | 277 | 7321677831593<br>7321677185764<br>7321677344925 | **783159**<br>**718576**<br>**734492** |

P140330

| | | | | |
|---|---|---|---|---|
| **Cable ladders KHZPS** | | | | |
| Cable ladder for indoor applications in dry environments. With closed side profiles and profile-shaped rungs. Must not be used as walkway.<br>Material: Steel, pre-galvanized. | | | | |
| KHZPS-150 | 55/147/6000 | 225 | 7321677253500 | **725350** |
| KHZPS-200 | 55/197/6000 | 235 | 7321677253517 | **725351** |
| KHZPS-300 | 55/297/6000 | 255 | 7321677253524 | **725352** |
| KHZPS-400 | 55/397/6000 | 275 | 7321677253531 | **725353** |
| KHZPS-500 | 55/497/6000 | 300 | 7321677253548 | **725354** |
| KHZPS-600 | 55/597/6000 | 315 | 7321677253555 | **725355** |
| KHZPS-800 | 55/797/6000 | 410 | 7321677810994 | **781099** |
| KHZPS-1000 | 55/997/6000 | 490 | 7321677253562 | **725356** |

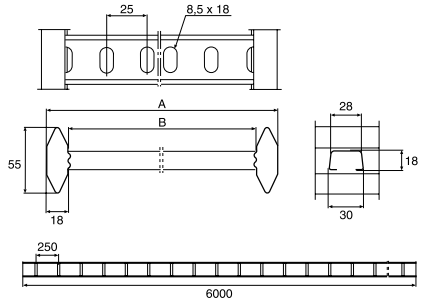
## Dimension table

B224475




| Type | A mm | B mm | L mm | Ref. No. |
|---|---|---|---|---|
| KHZSP-200 | 198 | 164 | 3000<br>4000<br>6000 | 783155<br>718572<br>734488 |
| KHZSP-300 | 298 | 264 | 3000<br>4000<br>6000 | 783156<br>718573<br>734489 |
| KHZSP-400 | 398 | 364 | 3000<br>4000<br>6000 | 783157<br>718574<br>734490 |
| KHZSP-500 | 498 | 464 | 3000<br>4000<br>6000 | 783158<br>718575<br>734491 |
| KHZSP-600 | 598 | 564 | 3000<br>4000<br>6000 | 783159<br>718576<br>734492 |

B223675




| | | | | |
|---|---|---|---|---|
| KHZPS-150 | 147 | 111 | 6000 | 725350 |
| KHZPS-200 | 197 | 161 | 6000 | 725351 |
| KHZPS-300 | 297 | 261 | 6000 | 725352 |
| KHZPS-400 | 397 | 361 | 6000 | 725353 |
| KHZPS-500 | 497 | 461 | 6000 | 725354 |
| KHZPS-600 | 597 | 561 | 6000 | 725355 |
| KHZPS-800 | 797 | 761 | 6000 | 781099 |
| KHZPS-1000 | 997 | 961 | 6000 | 725356 |

# Pre-galvanized - Corrosion class C2

## Joints

| | Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|---|
| P140020 | **Joint 21** | | | | |
| | Joint to be used for rigid joining of cable ladders, bends, junctions and risers. Snap-on and fixed by two screws. It also reduces the transition resistance and prevents the ladders from slipping apart. M6 screws included. Material: Steel, Zinc+. | | | | |
| | 21 | 64/22/300 | 46 | 3606480574856 | **CSU795051** |
| P139654 | Joint to be used for rigid joining of cable ladders, bends, junctions and risers. Snap-on and fixed by bending the hooks with a screw driver. It also reduces the transition resistance and prevents the ladders from slipping apart. Material: Steel, Zinc+. | | | | |
| | 21 | 64/32/200 | 33 | 3606480574849 | **CSU795050** |
| P140336 | **Joint 9** | | | | |
| | Joint to be used for straight joining of cable ladders KHZ, KHZP and KHZPS. The teeth of the joint should face downwards. Under load, the ladders are prevented from slipping apart. If the joint is above a bracket, the teeth should face upwards. Material: Steel, pre-galvanized. | | | | |
| | 9 | 52/4/200 | 16 | 7321677211159 | **721115** |

## Couplings

| | | | | | |
|---|---|---|---|---|---|
| P140337 | **Coupling 22** | | | | |
| | Coupling to be used for horizontal or vertical branches at any desired angle. M6 screws included. Material: Steel, pre-galvanized. | | | | |
| | 22 | 60/24/150 | 21 | 7321677211227 | **721122** |
| P140338 | **Junction coupling 14** | | | | |
| | Junction coupling to be used for T- and X-junctions. Suitable for cable ladders KHZ, KHZP, KHZSP and KHZPS, all cable widths. M6 screws included. Material: Steel, pre-galvanized. | | | | |
| | 14 | 65/73/350 | 49 | 7321677232123 | **723212** |

## Clamps

| | | | | | |
|---|---|---|---|---|---|
| P151014 | **Profile clamp 42** | | | | |
| | Profile clamp to be used for installations where the cable ladder is to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included. Material: Steel, pre-galvanized. | | | | |
| | 42 | 55/55/30 | 50 | 3606485410326 | **CSU795240** |
| P140339 | **Profile clamp 42 for fire resistance installations E30 - E90** | | | | |
| | Profile clamp fire resistant certified according to DIN 4102-12. Classification E30 - E90. Specifically to be used to fix the cable ladder KHZPS to cantilever arm 50 or support bracket HS0 in fire resistant certified installation configurations. Screw M8 and nut included. Material: Steel, pre-galvanized. | | | | |
| | 42 | 55/55/30 | 50 | 3606485410319 | **CSU795239** |
| P140340 | **Profile clamp 41** | | | | |
| | Profile clamp to be used to install a pendant/fixing rail or mounting plate, etc., on the cable ladder profile. Material: Steel, pre-galvanized. | | | | |
| | 41 | 125/16/30 | 10 | 7321677253630 | **725363** |

## Cantilever arms

| | | | | | |
|---|---|---|---|---|---|
| P140088 | **Cantilever arm 30** | | | | |
| | Cantilever arm for installation inside cable ladder KHZSP. Material: Steel, pre-galvanized. | | | | |
| | 30-200 | 185/184/80 | 90 | 7321677277773 | **727777** |
| | 30-300 | 185/284/80 | 110 | 7321677277780 | **727778** |
| | 30-400 | 185/384/80 | 120 | 7321677277797 | **727779** |
| | 30-500 | 185/484/80 | 140 | 7321677277803 | **727780** |
| | 30-600 | 185/584/80 | 160 | 7321677277810 | **727781** |

# Pre-galvanized - Corrosion class C2

## Cantilever arms

P138932

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cantilever arm 50i** | | | | |
| Cantilever arm to be used for mountings on walls, vertical pieces or pendant/fixing rails. Material: Steel, pre-galvanized. | | | | |
| 50i-200 | 85/250/43 | 29 | 7321677914135 | **791413** |
| 50i-300 | 110/350/43 | 46 | 7321677914142 | **791414** |
| 50i-400 | 115/450/44 | 83 | 7321677914159 | **791415** |
| 50i/500 | 130/580/50 | 160 | 3606480911354 | **CSU795322** |
| 50i/600 | 130/680/50 | 186 | 3606480911361 | **CSU795323** |

## Wall and support brackets

P140341
P140342

| | | | | |
|---|---|---|---|---|
| **Wall bracket 11/25 and 11/75** | | | | |
| Wall bracket to be used for vertical or horizontal installations of cable ladders against a wall. Maximum loads for vertical mounting: 300 kg (3 kN). For mounting against a rung the max. load is 500 kg (5 kN) for 11/25. Maximum loads for horizontal mounting: 11/25 250 kg (2.5 kN), 11/75 100 kg (1 kN). Material: Steel, pre-galvanized. | | | | |
| 11/25 | 85/71/40 | 24 | 7321677211050 | **721105** |
| 11/75 | 135/71/40 | 30 | 7321677211067 | **721106** |

P140343

| | | | | |
|---|---|---|---|---|
| **Support bracket 3** | | | | |
| Support bracket to be used for centre installation of cable ladders on pendant/fixing rails and vertical pieces. Material: Steel, pre-galvanized. | | | | |
| 3-200 | 92/57/200 | 33 | 7321677218691 | **721869** |
| 3-300 | 92/57/300 | 58 | 7321677218707 | **721870** |
| 3-400 | 92/57/400 | 78 | 7321677218714 | **721871** |
| 3-500 | 92/57/500 | 120 | 7321677218721 | **721872** |
| 3-600 | 92/57/600 | 145 | 7321677218738 | **721873** |

P140091

| | | | | |
|---|---|---|---|---|
| **Support bracket 6** | | | | |
| Support bracket to be used for centre installation of cable ladders KHZSP. Material: Steel, pre-galvanized. | | | | |
| 6-200 | 37/80/184 | 27 | 7321677275823 | **727582** |
| 6-300 | 37/80/284 | 45 | 7321677275830 | **727583** |
| 6-400 | 37/80/384 | 63 | 7321677275847 | **727584** |
| 6-500 | 37/80/484 | 81 | 7321677275854 | **727585** |
| 6-600 | 37/80/584 | 99 | 7321677275861 | **727586** |

## Vertical pieces

P140092

| | | | | |
|---|---|---|---|---|
| **Vertical piece 2Fi** | | | | |
| Vertical piece to be used for lighter mountings with Cantilever arm 50i and Cable ladder KHZSP. Material: Steel, pre-galvanized. | | | | |
| 2Fi-300 | 272/134/54 | 97 | 7321677927234 | **792723** |
| 2Fi-500 | 497/134/54 | 137 | 7321677927241 | **792724** |
| 2Fi-750 | 722/134/54 | 177 | 7321677927258 | **792725** |
| 2Fi-1000 | 922/134/54 | 225 | 7321677927265 | **792726** |

## Pendant/Fixing rails

P140344

| | | | | |
|---|---|---|---|---|
| **Pendant/Fixing rail 24/34** | | | | |
| Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, pre-galvanized. | | | | |
| 24/34 | 293/16/42 | 23 | 7321677253579 | **725357** |
| 24/34 | 383/16/42 | 31 | 7321677253586 | **725358** |
| 24/34 | 495/16/42 | 40 | 7321677253593 | **725359** |
| 24/34 | 698/16/42 | 56 | 7321677253609 | **725360** |
| 24/34 | 990/16/42 | 80 | 7321677253616 | **725361** |
| 24/34 | 2970/16/42 | 240 | 7321677211029 | **721102** |

# Pre-galvanized - Corrosion class C2

## Pendant/Fixing rails

P140345

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Pendant/Fixing rail 24/48** | | | | |
| Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.<br>Material: Steel, pre-galvanized. | | | | |
| 24/48 | 1000/26/48 | 175 | 3606481317858 | **CSU795564** |
| 24/48 | 2970/26/48 | 520 | 7321677317172 | **731717** |
| 24/48 | 5940/26/48 | 1120 | 7321677317219 | **731721** |

## Pendant bars

P140346

| | | | | |
|---|---|---|---|---|
| **Pendant bar 1** | | | | |
| Pendant bar to be installed in order to reduce the deflection of heavily loaded vertical pieces. Installed with T-bolt and Expansion bolt.<br>Material: Steel, pre-galvanized. | | | | |
| 1-300 | 362/–/40 | 35 | 7321677927272 | **792727** |
| 1-500 | 568/–/40 | 53 | 7321677927289 | **792728** |
| 1-800 | 880/–/40 | 82 | 7321677927296 | **792729** |

## Pendant joint

P140347
P139960

| | | | | |
|---|---|---|---|---|
| **Pendant joint 2J and 2FJ** | | | | |
| Pendant joint to be used for joining pendant/fixing rails and vertical pieces. Screw M8x16 and nuts included.<br>Material: Steel, pre-galvanized. | | | | |
| 2J | 200/48/18 | 43 | 7321677211197 | **721119** |
| 2FJ | 200/18/55 | 46 | 3606480911385 | **CSU795325** |

## Ceiling brackets

P140348

| | | | | |
|---|---|---|---|---|
| **Ceiling bracket 5** | | | | |
| Ceiling bracket to be used for installations with Pendant/Fixing rails 24/34 and 24/48. Screw not included.<br>Material: Steel, pre-galvanized. | | | | |
| 5 | 100/135/40 | 35 | 7321677211012 | **721101** |

P140349

| | | | | |
|---|---|---|---|---|
| **Ceiling bracket 5TPA** | | | | |
| Ceiling bracket with telescopic function, to be used for mounting of various sizes of trapezoid plates. Including screw MVBF 8x16 and nut M6MF8. Breaking load: 150 kg without deformation.<br>Material: Steel, pre-galvanized. | | | | |
| 5TPA | 50/76/79-118 | 14 | 7321677321773 | **732177** |

P140350

| | | | | |
|---|---|---|---|---|
| **Ceiling bracket 5TP** | | | | |
| Ceiling bracket to be used in trapezoidal sheeting for installations of Pendant/Fixing rail 24/48.<br>Material: Steel, pre-galvanized. | | | | |
| 5TP | 71/35/50 | 12 | 7321677253623 | **725362** |

P140093

| | | | | |
|---|---|---|---|---|
| **Ceiling bracket 2Fi** | | | | |
| Ceiling bracket to be used on Pendant/fixing rail 24/48 to achieve the desired length of vertical pieces.<br>Material: Steel, pre-galvanized. | | | | |
| 2Fi | 131/134/54 | 50 | 7321677925544 | **792554** |

## Wall support

P143289
P143290

| | | | | |
|---|---|---|---|---|
| **Wall support 550** | | | | |
| Wall support for mounting of cantilever arm on porous walls or sandwich wall blocks, with six keyholes for easy fixation.<br>When mounting cantilever arm on support, use screw set 25S (M8).<br>Material: Steel, pre-galvanized. | | | | |
| Wall support 550 mm | 20/100/550 | 105 | 3606485405476 | **CSU795220** |
| Wall support 550 mm white | 20/100/550 | 107 | 3606485405469 | **CSU795221** |

# Pre-galvanized - Corrosion class C2

## Threaded rod

P140075

P140155

P140154

P140094

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Threaded rod W76** | | | | |
| Threaded rod to be used for installations of cable ladders and lighting trunking. Joint nuts are used for the joining of Threaded rods W76.<br>Material: Steel, electro-galvanized. | | | | |
| W76 M8-1000 | M8/1000 | 32 | 7321677250790 | **725079** |
| W76 M10-2000 | M10/2000 | 100 | 7321677167920 | **716792** |
| W76 M10-3000 | M10/3000 | 150 | 7321677167937 | **716793** |
| Joint nut M8 | 40/15/13 | 5.6 | 7321677250837 | **725083** |
| Joint nut M10 | 40/18.5/16 | 7.2 | 7321677248063 | **724806** |
| **Flange nut B43** | | | | |
| Flange nut to be mounted onto Threaded rod W76 in order to lock it to the Support hook and the Ceiling fittings.<br>Package of 50 pcs.<br>Material: Steel, electro-galvanized. | | | | |
| B43/M8 | 17/17/8 | 0.68 | 7321677888474 | **1149405** |
| B43/M10 | 20/20/15 | 1.12 | 7332227014649 | **1149464** |
| **Thread lock B50** | | | | |
| Thread lock to be used when joining Threaded rods.<br>Material: Steel, electro-galvanized. | | | | |
| B50/M8 | 10/20/35 | 1 | 7332227014564 | **1149456** |
| B50/M10 | 12/24/35 | 2 | 7332227014663 | **1149466** |

## Take-off hook, end connection

P139657

P139964

| | | | | |
|---|---|---|---|---|
| **Fixed take-off hook 4** | | | | |
| Fixed take-off hook to be used for 90° horizontal branches.<br>Material: Aluminium. | | | | |
| 4 | 71/19/86 | 8 | 7321677090174 | **709017** |
| **End connection 10** | | | | |
| End connection to be used for the connection of a ladder vertically to a floor, or horizontally to a wall.<br>Material: Aluminium. | | | | |
| 10 | 60/55/60 | 8 | 7321677090181 | **709018** |

## Fittings for mesh trays

P140021

P140022

| | | | | |
|---|---|---|---|---|
| **Combi-fittings B21** | | | | |
| Combi-fitting to be used when mounting mesh trays onto cable ladders.<br>Material: Steel, electro-galvanized. | | | | |
| B21 | 250/50/20 | 44 | 7332227011594 | **1149159** |
| B21 90 degrees | 120/50/135 | 44 | 7332227011914 | **1149191** |

## Installation and box plates

P140351

P140352

P140465

| | | | | |
|---|---|---|---|---|
| **Installation plate 61** | | | | |
| Installation plate to be used on vertical cable ladder installations for mounting of terminal boxes, contact breakers, etc.<br>Material: Steel, pre-galvanized. | | | | |
| 61-200 | 310/70/200 | 100 | 7321677324866 | **732486** |
| 61-300 | 310/70/300 | 140 | 7321677324873 | **732487** |
| 61-400 | 310/70/400 | 170 | 7321677324880 | **732488** |
| 61-500 | 310/70/500 | 240 | 7321677324897 | **732489** |
| 61-600 | 310/70/600 | 270 | 7321677324903 | **732490** |
| **Junction box plate 35S** | | | | |
| Junction box plate, holed or unholed, to be installed upright or hanging from the profile. Locked with locking tabs. For junction boxes, electric light fittings, etc.<br>Material: Steel, pre-galvanized. | | | | |
| 35S holed | 164/20/170 | 22 | 7321677112050 | **711205** |
| 35S unholed | 164/20/170 | 23 | 7321677302451 | **730245** |

# Pre-galvanized - Corrosion class C2

## Installation and box plates

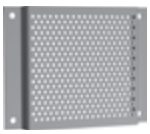
P140353

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Junction box plate 35P** | | | | |
| Junction box plate with holes, to be installed between rungs. Locked with appropriate locking tabs for each ladder. For junction boxes, electric light fittings, etc. Material: Steel, pre-galvanized. | | | | |
| 35P | 21/106/250 | 28 | 7321677186181 | **718618** |

P151244

| | | | | |
|---|---|---|---|---|
| **Junction box plate 12xRJ45 Actassi S-One** | | | | |
| Junction box plate suitable for direct mounting of 12 RJ45 LexCom DPM & S-One RJ45 connectors. Delivered flat, to be bended on site. Additional optional fixation to the cable ladder beam with self-drilling screws. Material: Steel, pre-galvanized. | | | | |
| 12xRJ45 DPM | 300/1/168 | 30 | 3606480916762 | **CSU795353** |

B224626



| | | | | |
|---|---|---|---|---|
| **Box plate 62** | | | | |
| Box plate to be used for mounting of outlets and junction boxes on walls, ceilings or floors. Material: Steel, pre-galvanized. | | | | |
| 62-100 | 100/15/130 | 12 | 7321677834600 | **783460** |
| 62-200 | 200/15/130 | 24 | 7321677834617 | **783461** |

## Outlet and junction box sets

P132522

| | | | | |
|---|---|---|---|---|
| **Outlet** | | | | |
| Outlet, 2-way, enclosed IP44, mounted on a Junction box plate 35S. Material: Steel, pre-galvanized. | | | | |
| 35S | 164/64/170 | 35 | 7321677342259 | **734225** |

P132623

| | | | | |
|---|---|---|---|---|
| Outlet, 2-way, unenclosed IP21, mounted on a Junction box plate 35S. Material: Steel, pre-galvanized. | | | | |
| 35S | 164/58/170 | 33 | 7321677342266 | **734226** |

P132521

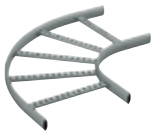
| | | | | |
|---|---|---|---|---|
| **Junction box** | | | | |
| Junction box, IP65, mounted on a Junction box plate 35S. Material: Steel, pre-galvanized. | | | | |
| 35S With junction box MP | 164/56/170 | 34 | 7321677319626 | **731962** |
| 35S With junction box UP | 164/56/170 | 32 | 7321677319619 | **731961** |

B223222

| | | | | |
|---|---|---|---|---|
| **Earth clamp W79** | | | | |
| Earth clamp to be used when protective earthing of the junction box plate is required. Material: Steel, pre-galvanized. | | | | |
| W79 | Screw M4/–/4.5 | 0.2 | 7321677166404 | **716640** |

## Bends

P140354



| | | | | |
|---|---|---|---|---|
| **90° bend 15, interior** | | | | |
| Interior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Inner radius 268 mm. Material: Steel, pre-galvanized. | | | | |
| 15-200 | 55/597/597 | 240 | 7321677230617 | **723061** |
| 15-300 | 55/697/697 | 290 | 7321677230624 | **723062** |
| 15-400 | 55/797/797 | 340 | 7321677230631 | **723063** |
| 15-500 | 55/897/897 | 390 | 7321677230648 | **723064** |
| 15-600 | 55/997/997 | 440 | 7321677230655 | **723065** |

## Tele-conduits

P140355

| | | | | |
|---|---|---|---|---|
| **Tele-conduit 36** | | | | |
| Tele-conduit to be used where a separate tray is required for low-tension cables. Knock-out holes in the bottom of the channel permit the cables to pass through. Material: Steel, pre-galvanized. | | | | |
| 36-50 | 24/50/2000 | 94 | 7321677250653 | **725065** |
| 36-100 | 24/100/2000 | 142 | 7321677250660 | **725066** |
| 36-200 | 24/200/2000 | 238 | 7321677250677 | **725067** |

# Pre-galvanized - Corrosion class C2

## Dividers

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Dividing strip 39** | | | | |
| Dividing strip to be used to separate low-tension and high-tension cables. Material: Steel, pre-galvanized. | | | | |
| 39/24 | 24/24/1750 | 46 | 7321677188352 | **718835** |
| 39/55 | 55/24/1750 | 73 | 7321677257850 | **725785** |
| **Distance piece W39** | | | | |
| Distance piece to be used for the joining of Dividing strips 39. Material: Plastic, natural coloured. | | | | |
| W39 | 37/–/330 | 3 | 7321677168248 | **716824** |

P140356

P140044

## Covers/Cover plates

P140357

| | | | | |
|---|---|---|---|---|
| **Cover W5** | | | | |
| Cover to be used to protect the cable runs from dust, dirt, liquids, etc. Outdoors, it protects against rain and sun. Suitable for all cable ladders. Material: Steel, pre-galvanized. | | | | |
| W5-70 | 11/73/2000 | 100 | 7321677322145 | **732214** |
| W5-100 | 11/103/2000 | 140 | 7321677322152 | **732215** |
| W5-150 | 11/153/2000 | 190 | 7321677322169 | **732216** |
| W5-200 | 11/203/2000 | 250 | 7321677322176 | **732217** |
| W5-300 | 11/303/2000 | 360 | 7321677322183 | **732218** |
| W5-400 | 11/403/2000 | 680 | 7321677322190 | **732219** |
| W5-500 | 11/503/2000 | 840 | 7321677322206 | **732220** |
| W5-600 | 11/603/2000 | 700 | 7321677322213 | **732221** |
| W5-1000 | 11/1003/2000 | 1150 | 7321677322220 | **732222** |

P140358

| | | | | |
|---|---|---|---|---|
| **Cover 90° interior bend** | | | | |
| Cover to be used for 90° interior bends. To be installed with a Profile support piece 37, Cover clamp and Cover joint. Material: Steel, pre-galvanized. | | | | |
| 150 | 10/420/420 | 65 | 7321677323227 | **732322** |
| 200 | 10/470/470 | 91 | 7321677323234 | **732323** |
| 300 | 10/570/570 | 143 | 7321677323241 | **732324** |
| 400 | 10/670/670 | 221 | 7321677323258 | **732325** |
| 500 | 10/770/770 | 299 | 7321677323265 | **732326** |
| 600 | 10/870/870 | 390 | 7321677323272 | **732327** |
| 800 | 10/1070/1070 | 460 | 7321677818020 | **781802** |
| 1000 | 10/1270/1270 | 871 | 7321677323289 | **732328** |

P140359

| | | | | |
|---|---|---|---|---|
| **Cover T-junction** | | | | |
| Cover to be used for T-junctions. To be installed with a Profile support piece 37, Cover clamp and Cover joint. Material: Steel, pre-galvanized. | | | | |
| 150 | 11/400/651 | 182 | 7321677323456 | **732345** |
| 200 | 11/450/701 | 221 | 7321677323463 | **732346** |
| 300 | 11/550/801 | 312 | 7321677323470 | **732347** |
| 400 | 11/650/901 | 416 | 7321677323487 | **732348** |
| 500 | 11/750/1001 | 533 | 7321677323494 | **732349** |
| 600 | 11/850/1101 | 676 | 7321677323500 | **732350** |
| 800 | 11/1050/1301 | 710 | 7321677818037 | **781803** |
| 1000 | 11/1240/1501 | 1352 | 7321677323517 | **732351** |

P140360

| | | | | |
|---|---|---|---|---|
| **Profile support piece 37** | | | | |
| Profile support piece to be used when installing covers. To be mounted on approximately every 0.5 m along both sides of the cable ladder. Used together with cover clamp for locking covers. Material: Steel, pre-galvanized. | | | | |
| 37 | 136/20/50 | 6 | 7321677292172 | **729217** |

P140361

| | | | | |
|---|---|---|---|---|
| **Cover clamp** | | | | |
| Cover clamps to be used when installing a cover on a Profile support piece 37. Material: Steel, Zink+. | | | | |
| Cover clamp | 32/10.5/20 | 1.5 | 3606489699413 | **CSU795598** |

# Pre-galvanized - Corrosion class C2

## Covers/Cover plates

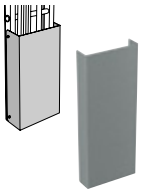
P140362

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cover joint** | | | | |
| Cover joint to be inserted between covers.<br>Material: Steel, pre-galvanized. | | | | |
| 150 | 4/100/125 | 10 | 7321677126392 | **712639** |
| 200 | 4/100/175 | 20 | 7321677126408 | **712640** |
| 300 | 4/100/275 | 30 | 7321677126422 | **712642** |
| 400 | 4/100/375 | 40 | 7321677126439 | **712643** |
| 500 | 4/100/475 | 50 | 7321677126446 | **712644** |
| 600 | 4/100/575 | 60 | 7321677126453 | **712645** |

P140363

| | | | | |
|---|---|---|---|---|
| **Protecting cover** | | | | |
| Cover to be used to protect the cable runs against ice and snow. Suitable for all cable ladder widths 300 and 400 respectively.<br>Material: Steel, pre-galvanized. | | | | |
| 300 | 280/300/1000 | 880 | 7321677867387 | **786738** |
| 400 | 280/400/1000 | 990 | 7321677867394 | **786739** |

P140364



| | | | | |
|---|---|---|---|---|
| **Cover plate 65** | | | | B223191 |
| Cover plate to be used on vertical cable ladder installations as protection of cables near the floor. To be mounted in the side profile with self-tapping screw ST4.2.<br>Material: Steel, pre-galvanized. | | | | |
| 65-200 | 1000/120/200 | 930 | 7321677324750 | **732475** |
| 65-300 | 1000/120/300 | 1140 | 7321677324767 | **732476** |
| 65-400 | 1000/120/400 | 1350 | 7321677324774 | **732477** |
| 65-500 | 1000/120/500 | 1560 | 7321677324781 | **732478** |
| 65-600 | 1000/120/600 | 1780 | 7321677324798 | **732479** |

## Angle plates

P140107

| | | | | |
|---|---|---|---|---|
| **Angle plate 33** | | | | |
| Angle plate to be used together with 90° horizontal T-junctions. Recommended for all cable ladders.<br>Material: Steel, pre-galvanized. | | | | |
| 33/1 | 28/150/290 | 50 | 7321677687336 | **768733** |
| 33/2 | 25/195/490 | 90 | 7321677211142 | **721114** |

## Clamps ARX with accessories

CSU795600

| | | | | |
|---|---|---|---|---|
| **Cable clamp type ARX1** | | | | |
| Cable clamp for fastening of one cable on Pendant/Fixing rail 24/48 and on cable ladders KHZ, KHZV, KHZSP, KHZSPZ+, KHZSP85, KHZPS, KHZP and KHZPV, in combination with Insert piece EM.<br>Material: Steel, Zink+. | | | | |
| CABLE CLAMP ARX1-12 Z+ | 45/17/30 | 5.5 | 3606489726966 | **CSU795600** |
| CABLE CLAMP ARX1-16 Z+ | 49/21/30 | 6.3 | 3606489726973 | **CSU795601** |
| CABLE CLAMP ARX1-22 Z+ | 55/27/30 | 7.4 | 3606489726980 | **CSU795602** |
| CABLE CLAMP ARX1-28 Z+ | 61/33/30 | 8.5 | 3606489726997 | **CSU795603** |
| CABLE CLAMP ARX1-36 Z+ | 69/41/30 | 11.1 | 3606489727000 | **CSU795604** |
| CABLE CLAMP ARX1-44 Z+ | 77/49/30 | 12.7 | 3606489727017 | **CSU795605** |
| CABLE CLAMP ARX1-52 Z+ | 85/57/30 | 14.2 | 3606489727024 | **CSU795606** |
| CABLE CLAMP ARX1-60 Z+ | 93/65/30 | 15.5 | 3606489727031 | **CSU795607** |
| CABLE CLAMP ARX1-70 Z+ | 105/75/30 | 18.4 | 3606489727048 | **CSU795608** |

CSU795609

| | | | | |
|---|---|---|---|---|
| **Cable clamp type ARX2** | | | | |
| Cable clamp for fastening of two cables on Pendant/Fixing rail 24/48 and on cable ladders KHZ, KHZV, KHZSP, KHZSPZ+, KHZSP85, KHZPS, KHZP and KHZPV, in combination with Insert piece EM.<br>Material: Steel, Zink+. | | | | |
| CABLE CLAMP ARX2-12 Z+ | 58/17/30 | 6.8 | 3606489727055 | **CSU795609** |
| CABLE CLAMP ARX2-16 Z+ | 66/21/30 | 7.9 | 3606489727062 | **CSU795610** |
| CABLE CLAMP ARX2-22 Z+ | 78/27/30 | 9.6 | 3606489727079 | **CSU795611** |
| CABLE CLAMP ARX2-28 Z+ | 90/33/30 | 11.3 | 3606489727086 | **CSU795612** |
| CABLE CLAMP ARX2-36 Z+ | 106/41/30 | 14.5 | 3606489727093 | **CSU795613** |
| CABLE CLAMP ARX2-44 Z+ | 122/49/30 | 17.0 | 3606489727109 | **CSU795614** |
| CABLE CLAMP ARX2-52 Z+ | 138/57/30 | 19.2 | 3606489727116 | **CSU795615** |
| CABLE CLAMP ARX2-60 Z+ | 154/65/30 | 21.4 | 3606489727123 | **CSU795616** |

# Pre-galvanized - Corrosion class C2

## Clamps ARX acessories

P140101

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Insert piece EM** | | | | |
| Insert piece to be used in order to prevent pressure on the cable. The insert piece is placed between the cable and the rung from the same side where the clamp has been fastened to the rung. Material: PE. | | | | |
| EM-12 for cable -12 | 5/15/39 | 0.2 | 7321677090501 | **709050** |
| EM-16 for cable 13-16 | 5/19/39 | 0.2 | 7321677090518 | **709051** |
| EM-22 for cable 17-22 | 5/25/39 | 0.3 | 7321677090525 | **709052** |
| EM-28 for cable 23-28 | 5/31/39 | 0,3 | 7321677090532 | **709053** |
| EM-36 for cable 29-36 | 5/39/39 | 0.5 | 7321677090549 | **709054** |
| EM-44 for cable 37-44 | 5/46/39 | 0.7 | 7321677090556 | **709055** |
| EM-52 for cable 45-52 | 5/55/39 | 0.8 | 7321677090563 | **709056** |
| EM-60 for cable 53-60 | 5/62/39 | 0.9 | 7321677090570 | **709057** |
| EM-70 for cable 61-70 | 5/72/39 | 1.0 | 7321677090587 | **709058** |

P140226
P140225

| | | | | |
|---|---|---|---|---|
| **Lashing wire** | | | | |
| Lashing wire to be used for lashing of wires on cable ladders. Material: Stainless steel, PVC. | | | | |
| HTR-2303, white PVC | Ø1.25 | 1.3/100 m | 7321677136865 | **713686** |
| HTR-2313, black PVC | Ø1.25 | 1.3/100 m | 7321677136872 | **713687** |

P140226
P140225

| | | | | |
|---|---|---|---|---|
| Lashing wire to be used for lashing of wires on cable ladders. Material: PVC. | | | | |
| HT-2304, white | Ø1.5 | 1.8/100 m | 7321677136841 | **713684** |
| HT-2314, black | Ø1.5 | 1.8/100 m | 7321677136858 | **713685** |

## Installation system HT

P140099

| | | | | |
|---|---|---|---|---|
| **Carrying sling HT-51** | | | | |
| Carrying sling for cables, to be used in combination with steel wires. Material: Steel, pre-galvanized. | | | | |
| HT-51 | 65/15/49 | 6 | 7321677136766 | **713676** |

P140100
P140623

| | | | | |
|---|---|---|---|---|
| **Carrying bracket HT-33/34** | | | | |
| Carrying bracket to be used for ceiling installations. To be installed with Expansion bolt or concrete screw. Material: Steel, pre-galvanized. | | | | |
| HT-33 | 19.5/15/25 | 1 | 7321677136742 | **713674** |
| HT-34 | 43.5/15/25 | 2 | 7321677136759 | **713675** |

P140227

| | | | | |
|---|---|---|---|---|
| **Steel wire** | | | | |
| Steel wire to be installed as carrier of one or more cables. Breaking loads, see below. Material: Available in several qualities. | | | | |
| HT-2309, galvanized, soft, breaking load 700 kg | Ø5.0 | 15.5/100 m | 7321677136797 | **713679** |
| HT-2311, 7x diam. 1.71=16 mm² coated, grey, breaking load 970 kg | Ø6.15 | 13.5/100 m | 7321677136889 | **713688** |
| HTR-2322 stainless, hard, breaking load 450 kg | Ø2.5 | 3.9/100 m | 7321677136810 | **713681** |
| HTR-2323 stainless, hard, breaking load 700 kg | Ø3.0 | 5.6/100 m | 7321677136827 | **713682** |
| HTR-2324 stainless, hard, breaking load 1200 kg | Ø4.0 | 10.0/100 m | 7321677136834 | **713683** |

## Profile protection

P140063

| | | | | |
|---|---|---|---|---|
| **Profile protection 28P** | | | | |
| Profile protection to be used to increase the contact surface of the cables, when pulled over the side profile of the ladder. Material: PVC, grey. | | | | |
| 28P | 60/28/2000 | 80 | 7321677321513 | **732151** |

# Pre-galvanized - Corrosion class C2

## End plugs

### End plug 28/28i

End plug to be mounted on ladder ends for sealing or protection.
Material: PP/TPE.

P140064

P140065
P140066

| | | | | |
|---|---|---|---|---|
| 28, red | 59/25/22 | 0.8 | 7321677090198 | **709019** |
| 28i, white<br>28i, red | 54/14/19 | 0.4 | 7321677354467<br>7321677319947 | **735446**<br>**731994** |

### End plug 28C, D, E, F and J

End plug to be mounted on pendant ends to provide protection against personal injury and to make the ends of the profiles more conspicuous.
Material: PP/TPE, orange.

P140067

P140068

P140069

P140070

P138758

| | | | | |
|---|---|---|---|---|
| 28C for Vertical piece 2 and Pendant/fixing rail 24/34 | 25/19/46 | 0.5 | 7321677898756 | **789875** |
| 28D for Vertical piece 20 and Pendant/fixing rail 24/20 | 25/52/58 | 1 | 7321677090204 | **709020** |
| 28E for Vertical piece 2F and pendant/fixing rail 24/48 and CLX³ pendant fixing rail 24/48 | 24/30/52 | 0.5 | 7321677090211 | **709021** |
| 28F for Vertical piece 20FS and Pendant/fixing rail 24/20FS | 30/53/110 | 4 | 7321677898763 | **789876** |
| 28J for Vertical piece 20F and Pendant/Fixing rail 24/20F | 27/53/95 | 2.1 | 3606480457531 | **CSU794520** |

### Cross member plug 27

Cross member plug to be installed at the ends of the rungs of KHZ and KHZV. Used in premises with a high corrosion risk.
Material: PE, grey.

P140071

| | | | | |
|---|---|---|---|---|
| 27 | Ø20/10 | 0.15 | 7321677266685 | **726668** |

## Screws and bolts

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|

### T-bolt 26U

T-bolt to be used for mounting with all vertical pieces except Vertical piece 2 and with Pendant/fixing rail 24/48.
Material: Steel, hot-dip galvanized.

T-bolt single-08

| | | | | |
|---|---|---|---|---|
| 26U M8 x30 | 44/50/18 | 6.8 | 3606489579777 | **CSU795595** |
| 26U M10 x30 | 44/50/18 | 6.8 | 3606489579715 | **CSU795589** |

### Screw set W34

Screw set to be used for fastening of dividing strips on cable ladders KHZSP, KHZSPZ+, KHZPS, KHZP and KHZPV. Set including screw MSCS 6x12 and nut M6MF 6. Package of 100 pcs.
Material: Steel, electro-galvanized.

P140156

| | | | | |
|---|---|---|---|---|
| W34 | 10/10/16 | 0.8 | 7321677184736 | **718473** |

## Marking plate

### Marking plate 93

Marking plates are part of a colour marking system that is easy to use when you want to mark out the type of cable that is placed on the cable ladder. Five different colours are available.
Material: Sheet steel.

B223240

| | | | | |
|---|---|---|---|---|
| 93, yellow | 103/0.7/100 | 5 | 7321677377046 | **737704** |
| 93, orange | 103/0.7/100 | 5 | 7321677377053 | **737705** |
| 93, blue | 103/0.7/100 | 5 | 7321677377060 | **737706** |
| 93, green | 103/0.7/100 | 5 | 7321677377077 | **737707** |
| 93, black | 103/0.7/100 | 5 | 7321677377084 | **737708** |

### Marking label, equipotential

Label to be used to show that a construction is equipotentially bonded. Available in Swedish (other languages on request).
Printed on self-adhesive yellow vinyl, 250 labels per roll.
Material: Self-adhesive vinyl.

P138944

| | | | | |
|---|---|---|---|---|
| Marking label | 25/–/86 | – | 7321677868605 | **786860** |

# Reliable, functional and flexible. CLX3 is optimized to deliver for a range of applications.

### Central cable ladder support

- Occupies minimum space below the ladder. This is beneficial especially when space beneath the cable routing track is limited.
- Developed on the well established Central Suspension Bracket 6 platform.
- The smooth and rounded design helps prevent damage to cables.

### Cantilever arm support

- Slim design to minimize occupied space.
- Integrated click for both Cable ladder and Defem mesh tray in the same product.
- Boltless fixation to the rail

# CLX³ Suspension system - Corrosion class C2

## Vertical piece

PTCSU-181

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **CLX³ pendant 24/48** | | | | |
| Vertical piece/pendant to be used for ceiling suspended mounting. Perforated pattern to be used with CLX³ cantilever arm or CLX³ central suspension adapter. Open side can be used with T-bolt. Material: Steel, pre-galvanized. | | | | |
| CLX³ pendant-300 | 295/145/53 | 90.6 | 3606489904937 | **CSU795632** |
| CLX³ pendant-400 | 395/145/53 | 107.5 | 3606489904944 | **CSU795633** |
| CLX³ pendant-500 | 495/145/53 | 124.4 | 3606489904951 | **CSU795634** |
| CLX³ pendant-700 | 695/145/53 | 158.1 | 3606489904968 | **CSU795635** |
| CLX³ pendant-1000 | 995/145/53 | 208.7 | 3606489904975 | **CSU795636** |
| CLX³ pendant-1500 | 1495/145/53 | 294.2 | 3606481828323 | **CSU795638** |

PTCSU-186

| | | | | |
|---|---|---|---|---|
| **CLX³ pendant rail 24/48** | | | | |
| Pendant rail to be used for direct wall mounting or for vertical piece/pendants extentions. To be connected to the vertical piece/pendant together with the pendant joint CSU795325. Perforated pattern to be used with CLX³ cantilever arm. Open side can be used with T-bolt. Material: Steel, pre-galvanized. | | | | |
| CLX³ rail 24/48 300 | 280/48/26 | 47.2 | 3606481828330 | **CSU795640** |
| CLX³ rail 24/48 1000 | 980/48/26 | 165.1 | 3606481828347 | **CSU795641** |
| CLX³ rail 24/48 3000 | 2980/48/26 | 502 | 3606489904982 | **CSU795637** |

## Adjustable ceiling plate

PTCSU-187

| | | | | |
|---|---|---|---|---|
| **CLX³ adjustable ceiling plate** | | | | |
| Adjustable ceiling plate. To be used for angular adjustment of pendant vs ceiling. Adjustment between 0-25°. Adjustable ceiling plate is to be mounted to the CLX³ pendant. To be assembled with 4 screw set 22S (713694), need to be ordered separately. Tightening force of the screw set minimum torque 20 N.m. Material: Steel, pre-galvanized. | | | | |
| CLX³ adjustable ceiling plate | 150/100/59 | 49.8 | 3606489904999 | **CSU795639** |

## Cantilever arms

PTCSU-191

| | | | | |
|---|---|---|---|---|
| **CLX³ Cantilever arm** | | | | |
| Cantilever arm to be used for mounting on vertical pieces or pendant/fixing rails. The cantilever arm is designed for fast click fixation of ladder type KHZSP, Defem mesh tray height 60/110 and Stago tray KG281/KB184/KB284 height 60. Stago trays need to be fastened with the fast fixing clamp (CSU08490100). Material: Steel, pre-galvanized. | | | | |
| CLX³ cantilever arm 200 | 62/280/49 | 42.8 | 3606489905026 | **CSU795647** |
| CLX³ cantilever arm 300 | 62/380/49 | 60.5 | 3606489905033 | **CSU795648** |
| CLX³ cantilever arm 400 | 92/480/49 | 90.9 | 3606489905040 | **CSU795649** |
| CLX³ cantilever arm 500 | 92/580/49 | 106.6 | 3606489905057 | **CSU795650** |
| CLX³ cantilever arm 600 | 92/680/49 | 119.7 | 3606489905064 | **CSU795651** |

## Central suspensions

PTCSU-202

| | | | | |
|---|---|---|---|---|
| **CLX³ central suspension bracket, ladder KHZSP** | | | | |
| Central suspension bracket be used for mounting Wibe cable ladders type KHZSP on vertical pieces. The central suspension bracket shall first be assembled together with the CLX³ central suspension adapter (CSU795700) to be able to click in the perforation pattern on the vertical piece. Material: Steel, pre-galvanized. | | | | |
| 200 | 37/78/185 | 33.4 | 3606489905101 | **CSU795655** |
| 300 | 37/78/285 | 53.1 | 3606489905118 | **CSU795656** |
| 400 | 37/78/385 | 72 | 3606489905125 | **CSU795657** |
| 500 | 37/78/485 | 90.1 | 3606489905132 | **CSU795658** |
| 600 | 37/78/585 | 109 | 3606489905149 | **CSU795659** |

(*) the central suspension bracket shall first be assembled together with the CLX³ central suspension adapter (CSU795700) to be able to click in the perforation pattern on the vertical piece.

PTCSU-211

| | | | | |
|---|---|---|---|---|
| **CLX³ central suspension adapter** | | | | |
| Central suspension adapter to be first clicked to a CLX³ central suspension bracket of choice. The adaptor fits to all types of CLX³ central suspension brackets; ladder, tray and mesh. In a second step the adaptor with the central suspension bracket mounted is clicked in the perforation pattern in the rail or the pendant. Material: Steel, pre-galvanized. | | | | |
| CLX³ CSB adapter | 166/31/39 | 17.7 | 3606489905248 | **CSU795700** |

## Wall bracket

| | | | | |
|---|---|---|---|---|
| **Wall bracket for CLX³ cantilevers.** | | | | |
| To be used for direct fixation to wall. Single bolt fixation in keyhole, alternatively multi-bolt fixation in lateral holes for softer walls. Bolts are not included. Material: Steel, pre-galvanized. | | | | |
| Wall bracket for CLX³ cantilevers | 163/101/26 | 34 | 7321677958047 | **CSU795804** |

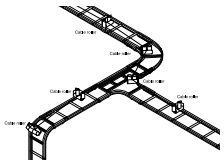
# Pre-galvanized - Corrosion class C2

## Tools

P129977

### Cable roller S

Cable roller used to facilitate the pulling of cables and lines. Easily installed on all Wibe cable ladders except the high-sided WHS ladders (outer mounting hole). Also suitable for external/internal profiles of all 90° bends, T-junctions, X-junctions and risers (inner mounting hole). With a height adjustment of 45 mm to leave room for cables to pass under the roller.
Material: Steel, electro-galvanized.



| | | | | |
|---|---|---|---|---|
| S | 230/80/204 | 230 | 7321677186600 | **718660** |

P149449

### Cable roller 38 Rig'n roll

Cable roller used for mounting on Wibe cable ladders with belonging junctions and branches.
Material: Stainless steel AISI316L (cable roller).

| | | | | |
|---|---|---|---|---|
| 38 Rig'n roll | 220/50/130 | 48 | 7321677359981 | **735998** |

P149452

| | | | | |
|---|---|---|---|---|
| Bag | 375/160/460 | 230 | 7321677801862 | **780186** |
| Set 66 (1 bag + 10 Cable rollers roll) | 375/160/460 | 710 | 7321677801879 | **780187** |

### Demo kit

Wibe ladder demo kit consisting of: KHZ 150 HDG L=0,35m, KHZP 150 HDG L=0,35m, KHZSP 200 pre-galv L=0,35m, cantilever arm 50 150 HDG, cantilever arm 50i 200, joint 21 click, coupler 22 HDG, VP 2F /280, end plug 28E, end plug 28, end plug 28i, T-bolt M10-30 HDG, profile clamp 42 HDG, wall bracket 11/25, angle bracket 5L, take off hook 4.
Material: Steel

| | | | | |
|---|---|---|---|---|
| Wibe Ladder Demo Kit | 290/375/580 | 640 | 3606480738401 | **CSU795180** |

### Demo kit, length material

Wibe ladder length material demo kit consisting of: KHZ 150 HDG, KHZP 150 HDG, KHZSP 200 pre-galv, KHZSP 200 thermoplastic, KHZ 150 zinkpox, KHZSP 200 316L, KHZP 150 316L. Lenghts = 0,35 m each.
Material: Steel

| | | | | |
|---|---|---|---|---|
| Wibe Ladder Demo kit Length Material | 290/375/580 | 640 | 3606480738418 | **CSU795181** |

# Zink+ - Corrosion class C3, C4

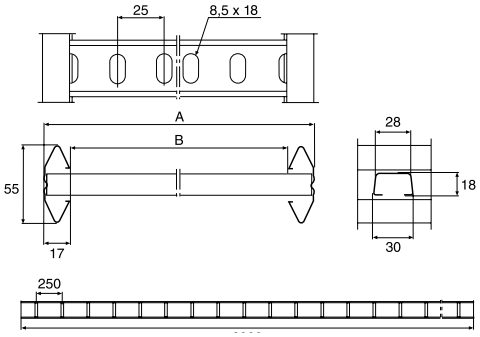
## Cable ladders

P139619

| Type | Dimensions A/B/C mm | Weight kg/100 m | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cable ladders KHZSPZ+** | | | | |
| Cable ladder for indoor or outdoor industrial applications. With open side profiles and profile-shaped rungs. Must not be used as walkway. Material: Steel, Zink+ | | | | |
| KHZSPZ+-200 | 55/198/4000 | 198 | 3606480692802 | **CSU795122** |
| | 55/198/6000 | | 3606480692819 | **CSU795127** |
| KHZSPZ+-300 | 55/298/4000 | 217 | 3606480692826 | **CSU795123** |
| | 55/298/6000 | | 3606480692833 | **CSU795128** |
| KHZSPZ+-400 | 55/398/4000 | 237 | 3606480692840 | **CSU795124** |
| | 55/398/6000 | | 3606480692857 | **CSU795129** |
| KHZSPZ+-500 | 55/498/4000 | 257 | 3606480692864 | **CSU795125** |
| | 55/498/6000 | | 3606480692871 | **CSU795130** |
| KHZSPZ+-600 | 55/598/4000 | 277 | 3606480692888 | **CSU795126** |
| | 55/598/6000 | | 3606480692895 | **CSU795131** |

## Dimension table

B223678




| Type | A mm | B mm | L mm | Ref. No. |
|---|---|---|---|---|
| KHZSPZ+-200 | 198 | 164 | 4000<br>6000 | CSU795122<br>CSU795127 |
| KHZSPZ+-300 | 298 | 264 | 4000<br>6000 | CSU795123<br>CSU795128 |
| KHZSPZ+-400 | 398 | 364 | 4000<br>6000 | CSU795124<br>CSU795129 |
| KHZSPZ+-500 | 498 | 464 | 4000<br>6000 | CSU795125<br>CSU795130 |
| KHZSPZ+-600 | 598 | 564 | 4000<br>6000 | CSU795126<br>CSU795131 |

L

# Hot Dip-galvanized - Corrosion class C3, C4

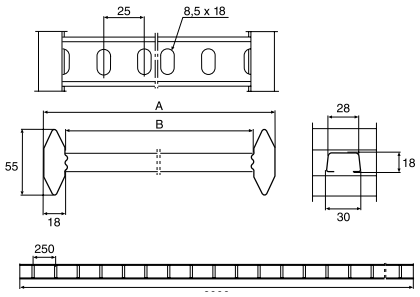
## Cable ladders

P139625

| Type | Dimensions A/B/C mm | Weight kg/100 m | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cable ladders KHZP** | | | | |
| Cable ladder for indoor or outdoor industrial applications. With closed side profiles and profile-shaped rungs. Must not be used as walkway.<br>Material: Steel, hot-dip galvanized. | | | | |
| KHZP-150 | 55/147/3000<br>55/147/6000 | 260 | 7321677835164<br>7321677185627 | **783516**<br>**718562** |
| KHZP-200 | 55/197/3000<br>55/197/6000 | 270 | 7321677835171<br>7321677185634 | **783517**<br>**718563** |
| KHZP-300 | 55/297/3000<br>55/297/6000 | 290 | 7321677835188<br>7321677185641 | **783518**<br>**718564** |
| KHZP-400 | 55/397/3000<br>55/397/6000 | 315 | 7321677835195<br>7321677185658 | **783519**<br>**718565** |
| KHZP-500 | 55/497/3000<br>55/497/6000 | 340 | 7321677835201<br>7321677185665 | **783520**<br>**718566** |
| KHZP-600 | 55/597/3000<br>55/597/6000 | 360 | 7321677835218<br>7321677185672 | **783521**<br>**718567** |
| KHZP-800 | 55/797/3000<br>55/797/6000 | 490 | 7321677835225<br>7321677219605 | **783522**<br>**721960** |
| KHZP-1000 | 55/997/3000<br>55/997/6000 | 560 | 3606480535598<br>7321677185689 | **783523**<br>**718568** |

## Dimension table

B223677




| Type | A mm | B mm | L mm | Ref. No. |
|---|---|---|---|---|
| KHZP-150 | 147 | 111 | 3000<br>6000 | **783516**<br>**718562** |
| KHZP-200 | 197 | 161 | 3000<br>6000 | **783517**<br>**718563** |
| KHZP-300 | 297 | 261 | 3000<br>6000 | **783518**<br>**718564** |
| KHZP-400 | 397 | 361 | 3000<br>6000 | **783519**<br>**718565** |
| KHZP-500 | 497 | 461 | 3000<br>6000 | **783520**<br>**718566** |
| KHZP-600 | 597 | 561 | 3000<br>6000 | **783521**<br>**718567** |
| KHZP-800 | 797 | 761 | 3000<br>6000 | **783522**<br>**721960** |
| KHZP-1000 | 997 | 961 | 3000<br>6000 | **783523**<br>**718568** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Cable ladders

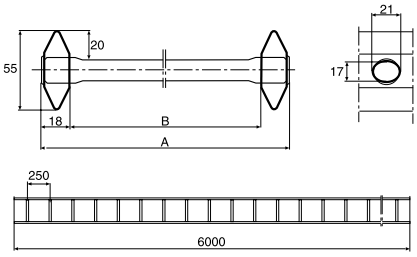
P139633

| Type | Dimensions A/B/C mm | Weight kg/100 m | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cable ladders KHZ** | | | | |
| Cable ladder for indoor or outdoor industrial applications. With closed side profiles and round rungs. Must not be used as walkway.<br>Material: Steel, hot-dip galvanized. | | | | |
| KHZ-150 | 55/147/6000 | 270 | 7321677680016 | **768001** |
| KHZ-200 | 55/197/6000 | 280 | 7321677680023 | **768002** |
| KHZ-300 | 55/297/6000 | 300 | 7321677680047 | **768004** |
| KHZ-400 | 55/397/6000 | 320 | 7321677680054 | **768005** |
| KHZ-500 | 55/497/6000 | 340 | 7321677680061 | **768006** |
| KHZ-600 | 55/597/6000 | 360 | 7321677680078 | **768007** |

P139639

| | | | | |
|---|---|---|---|---|
| Cable ladder for indoor or outdoor industrial applications. With closed side profiles and round rungs that do not penetrate the outer side of the side profile. Must not be used as walkway.<br>Material: Steel, hot-dip galvanized. | | | | |
| KHZ-150 | 55/147/6000 | 270 | 7321677264162 | **726416** |
| KHZ-200 | 55/197/6000 | 280 | 7321677264179 | **726417** |
| KHZ-300 | 55/297/6000 | 300 | 7321677264193 | **726419** |
| KHZ-400 | 55/397/6000 | 320 | 7321677264209 | **726420** |
| KHZ-500 | 55/497/6000 | 340 | 7321677264216 | **726421** |
| KHZ-600 | 44/597/6000 | 360 | 7321677264223 | **726422** |

## Dimension table




B223589

| Type | A mm | B mm | L mm | Ref. No. |
|---|---|---|---|---|
| KHZ-150 | 147 | 111 | 6000 | 768001<br>726416 |
| KHZ-200 | 197 | 161 | 6000 | 768002<br>726416 |
| KHZ-300 | 297 | 261 | 6000 | 768004<br>726419 |
| KHZ-400 | 397 | 361 | 6000 | 768005<br>726420 |
| KHZ-500 | 497 | 461 | 6000 | 768006<br>726421 |
| KHZ-600 | 597 | 561 | 6000 | 768007<br>726422 |

L

# Hot Dip-galvanized - Corrosion class C3, C4

## Cable ladders

P139645

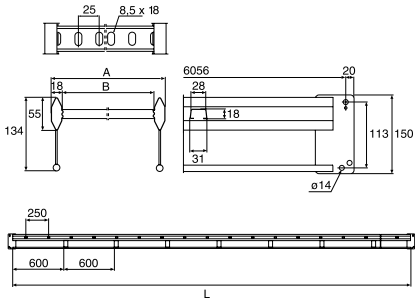
| Type | Dimensions A/B/C mm | Weight kg/100 m | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cable ladders KHZPV** | | | | |
| Reinforced cable ladder for indoor or outdoor industrial applications. Designed for extreme support distances and loadings. With closed side profiles and profile-shaped rungs. Must not be used as walkway. Material: Steel, hot-dip galvanized. | | | | |
| KHZPV-200 | 134/197/6000 | 426 | 7321677179824 | **717982** |
| KHZPV-300 | 134/297/6000 | 448 | 7321677179831 | **717983** |
| KHZPV-400 | 134/397/6000 | 470 | 7321677179848 | **717984** |
| KHZPV-500 | 134/497/6000 | 493 | 7321677179855 | **717985** |
| KHZPV-600 | 134/597/6000 | 515 | 7321677179862 | **717986** |
| KHZPV-1000 | 134/997/6000 | 703 | 7321677164004 | **716400** |

P139651

| | | | | |
|---|---|---|---|---|
| **Cable ladders KHZV** | | | | |
| Reinforced cable ladder for indoor or outdoor industrial applications. Designed for extreme support distances and loadings. With closed side profiles and round rungs. Must not be used as walkway. Material: Steel, hot-dip galvanized. | | | | |
| KHZV-200 | 134/197/6000 | 440 | 7321677120154 | **712015** |
| KHZV-300 | 134/297/6000 | 460 | 7321677120178 | **712017** |
| KHZV-400 | 134/397/6000 | 480 | 7321677120192 | **712019** |
| KHZV-500 | 134/497/6000 | 500 | 7321677120185 | **712018** |
| KHZV-600 | 134/597/6000 | 530 | 7321677120208 | **712020** |

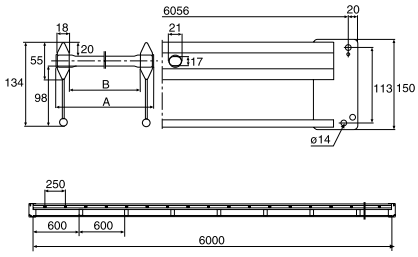
## Dimension table

B226376




| Type | A mm | B mm | L mm | Ref. No. |
|---|---|---|---|---|
| KHZPV-200 | 197 | 161 | 6000 | **717982** |
| KHZPV-300 | 297 | 261 | 6000 | **717983** |
| KHZPV-400 | 397 | 361 | 6000 | **717984** |
| KHZPV-500 | 497 | 461 | 6000 | **717985** |
| KHZPV-600 | 597 | 561 | 6000 | **717986** |
| KHZPV-1000 | 997 | 961 | 6000 | **716400** |

B223553




| | | | | |
|---|---|---|---|---|
| KHZV-200 | 197 | 161 | 6000 | **712015** |
| KHZV-300 | 297 | 261 | 6000 | **712017** |
| KHZV-400 | 397 | 361 | 6000 | **712019** |
| KHZV-500 | 497 | 461 | 6000 | **712018** |
| KHZV-600 | 597 | 561 | 6000 | **712020** |

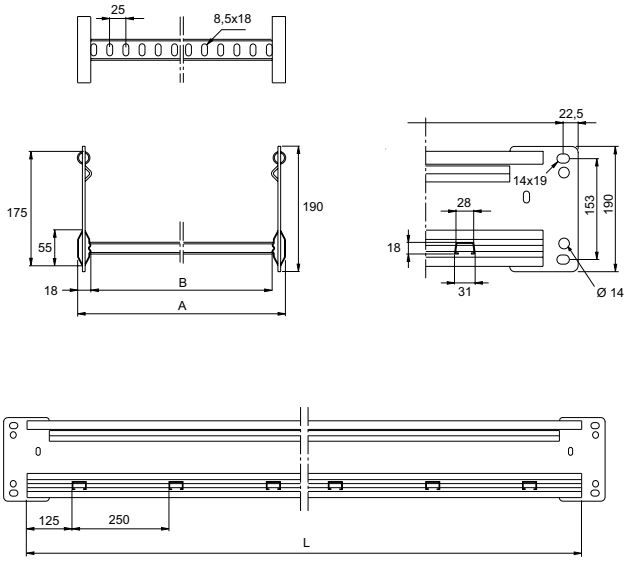
# Hot Dip-galvanized - Corrosion class C3, C4

## Cable ladders

P143117

| Type | Dimensions A/B/C mm | Weight kg/100 m | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cable ladders KHZP 20C** | | | | |
| Reinforced cable ladder for indoor or outdoor industrial applications. Designed for extreme support distances and loadings. Fullfills NEMA 20C classification. With closed side profiles and profile-shaped rungs. Must not be used as a connection walkway.<br>Material: Steel, hot-dip galvanized. | | | | |
| KHZP 20C-200 | 190/200/6100 | 867 | 3606480739224 | **CSU795138** |
| KHZP 20C-300 | 190/300/6100 | 900 | 3606480739231 | **CSU795139** |
| KHZP 20C-400 | 190/400/6100 | 933 | 3606480739248 | **CSU795140** |
| KHZP 20C-500 | 190/500/6100 | 967 | 3606480739255 | **CSU795141** |
| KHZP 20C-600 | 190/600/6100 | 1000 | 3606480739262 | **CSU795142** |
| KHZP 20C-800 | 190/600/6100 | 1033 | 3606480739279 | **CSU795143** |
| KHZP 20C-1000 | 190/1000/6100 | 1067 | 3606480739286 | **CSU795144** |

## Dimension table




| Type | A mm | B mm | L mm | Ref. No. |
|---|---|---|---|---|
| KHZP 20C-200 | 197 | 161 | 6000 | CSU795138 |
| KHZP 20C-300 | 297 | 261 | 6000 | CSU795139 |
| KHZP 20C-400 | 397 | 361 | 6000 | CSU795140 |
| KHZP 20C-500 | 497 | 461 | 6000 | CSU795141 |
| KHZP 20C-600 | 597 | 561 | 6000 | CSU795142 |
| KHZP 20C-800 | 797 | 761 | 6000 | CSU795143 |
| KHZP 20C-1000 | 997 | 961 | 6000 | CSU795144 |

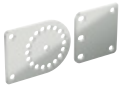
# Hot Dip-galvanized - Corrosion class C3, C4

## Joints

| | Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|---|
| | **Joint 21** | | | | |
| P140020 | Joint to be used for straight, rigid joining of cable ladders, bends, junctions and risers. It also reduces the transition resistance and prevents the ladders from slipping apart. M6 screws included.<br>Material: Steel, hot-dip galvanized. | | | | |
| | 21 | 64/22/300 | 46 | 7321677911998 | **791199** |
| P140020 | Joint to be used for rigid joining of cable ladders, bends, junctions and risers. Snap-on and fixed by two screws. It also reduces the transition resistance and prevents the ladders from slipping apart. M6 screws included.<br>Material: Steel, Zinc+. | | | | |
| | 21Zinc+ | 64/22/300 | 46 | 3606480574856 | **CSU795051** |
| P139654 | Joint to be used for rigid joining of cable ladders, bends, junctions and risers. Snap-on and fixed by bending the hooks with a screw driver. It also reduces the transition resistance and prevents the ladders from slipping apart.<br>Material: Steel, Zinc+. | | | | |
| | 21 Zinc+ | 64/32/200 | 33 | 3606480574849 | **CSU795050** |
| | **Joint 9** | | | | |
| P139917 | Joint to be used for straight joining of cable ladders KHZ, KHZP and KHZPS. The teeth of the joint should face downwards. Under load, the ladders are prevented from slipping apart. If the joint is above a bracket, the teeth should face upwards.<br>Material: Steel, hot-dip galvanized. | | | | |
| | 9 | 52/4/200 | 16 | 7321677053049 | **705304** |
| | **Dropper joint 32** | | | | |
| P139918 | Dropper joint used to form vertical branches in centre posision under/on top of cable ladders. Screw M6 included.<br>Material: Steel, hot-dip galvanized. | | | | |
| | 32 | 130/22/200 | 75 | 7321677347131 | **734713** |
| | **Joint 45** | | | | |
| P139919 | Joint to be fitted as a joining plate in a cut KHZV/KHZPV ladder. Screws M8 and M12 + nuts are included.<br>Material: Steel, hot-dip galvanized. | | | | |
| | 45 | 150/4/95 | 50 | 7321677076093 | **707609** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Couplings

| | Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|---|
| | **Coupling 22** | | | | |
| P139856 | Coupling to be used for horizontal or vertical branches at any desired angle. M6 screws included. Material: Steel, hot-dip galvanized. | | | | |
| | 22 | 60/24/150 | 21 | 7321677184095 | **718409** |
| | **Junction coupling 14** | | | | |
| P139920 | Junction coupling to be used for T- and X-junctions. Suitable for cable ladders KHZ, KHZP, KHZSP and KHZPS, all cable widths. M6 screws included. Material: Steel, hot-dip galvanized. | | | | |
| | 14 | 65/73/350 | 49 | 7321677250967 | **725096** |
| | **Coupling 44** | | | | |
| P139921 | Coupling to be used for horizontal coupling of cable ladders KHZV/KHZPV. Also to be used for branches and as an end connection against a wall. Four screws M8x30 and nuts are included. Material: Steel, hot-dip galvanized. | | | | |
| | 44 | 135/–/120 | 50 | 7321677208159 | **720815** |
| | **Horizontal coupling for bending 20C** | | | | |
| P143550 | Coupling to be used for horizontal connection of cable ladders KHZP 20C range.Also to be used for branches and as an end connection against a wall. Four screws M8x30 and nuts are inlcluded. Material: Steel, hot-dip galvanized. | | | | |
| | For Bending 20C | 180/15/120 | 55 | 3606480739583 | **CSU795210** |
| | **Horizontal coupling 20C** | | | | |
| P143551 | Coupling to be used for horizontal connection of cable ladders KHZP 20C range.Four screws M8x30 and nuts are inlcluded. Material: Steel, hot-dip galvanized. | | | | |
| | 20C | 180/15/120 | 94 | 3606480739590 | **CSU795211** |
| | **Coupling 51** | | | | |
| P139922  | Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV. Two screws M12 and nuts are included. Material: Steel, hot-dip galvanized. | | | | |
| | 51 | 150/–/193+138 | 150 | 7321677318377 | **731837** |
| | **Vertical coupling** | | | | |
| P143552 | Coupling to be used as a self-supporting vertical coupling of cable ladders KHZP 20C range. Adjustable from 10° to 90° gradually in steps of 20°. Two screws M12 and nuts are included. Material: Steel, hot-dip galvanized. | | | | |
| | 20C | 190/4/250 | 221 | 3606480739538 | **CSU795205** |

## Clamps, support piece

| | | | | | |
|---|---|---|---|---|---|
| | **Profile clamp 42** | | | | |
| P151015 | Profile clamp to be used for installations where the cable ladder is to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included. Material: Steel, hot-dip galvanized. | | | | |
| | 42 | 55/55/30 | 56 | 3606485410340 | **CSU795242** |
| P151014 | Profile clamp to be used for installations where the cable ladder is to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included. Material: Steel, Zinc+. | | | | |
| | 42 Zinc+ | 55/55/30 | 56 | 3606485410333 | **CSU795241** |
| | **Profile clamp 43** | | | | |
| P139924 | Profile clamp to be used for installations where the cable ladders KHZV and KHZPV are to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included. Material: Steel, hot-dip galvanized. | | | | |
| | 43 | 21/43/30 | 5 | 7321677075119 | **707511** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Clamps, support piece

P139925
P139926

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Clamp 12** | | | | |
| Clamp to be used on the side profile of the cable ladder for installation of accessories. Bolt and nut included. Material: Steel, hot-dip galvanized. | | | | |
| 12/70 | 125/25/40 | 19 | 7321677286539 | **728653** |
| 12/120 | 175/25/40 | 24 | 7321677286546 | **728654** |

P143947

| | | | | |
|---|---|---|---|---|
| **Profile clamp 20C** | | | | |
| Profile clamp for KHZP 20 range to be used for installations where the cable ladder is to be fixed to cantilever arms, I-beams, etc. Material: Steel, hot-dip galvanized. | | | | |
| 20C | 190/57/40 | 26 | 3606480739521 | **CSU795168** |

P139927

| | | | | |
|---|---|---|---|---|
| **Profile clamp 41** | | | | |
| Profile clamp to be used to install a pendant/fixing rail or mounting plate, etc., on the cable ladder profile. Material: Steel, hot-dip galvanized. | | | | |
| 41 | 125/16/30 | 10 | 7321677208241 | **720824** |

P139928

| | | | | |
|---|---|---|---|---|
| **Profile support piece 46** | | | | |
| Profile support piece to be fitted between the ladder and the vault pipe when a support bracket is positioned between existing profile support pieces. For cable ladders KHZV and KHZPV. Material: Steel, hot-dip galvanized. | | | | |
| 46 | 72/18/30 | 15 | 7321677080014 | **708001** |

## Cantilever arms

P138932

| | | | | |
|---|---|---|---|---|
| **Cantilever arm 50i** | | | | |
| Cantilever arm to be used for lighter mountings on walls, vertical pieces or pendant/fixing rails. Material: Steel, hot dip galvanized.. | | | | |
| 50i/100 | 120/180/40 | 42 | 3606480911293 | **CSU795316** |
| 50i/200 | 120/280/40 | 55 | 3606480911309 | **CSU795317** |
| 50i/300 | 120/380/40 | 68 | 3606480911316 | **CSU795318** |
| 50i/400 | 142/480/40 | 86 | 3606480911323 | **CSU795319** |
| 50i/500 | 130/580/50 | 160 | 3606480911330 | **CSU795320** |
| 50i/600 | 130/680/50 | 186 | 3606480911347 | **CSU795321** |

P140019

| | | | | |
|---|---|---|---|---|
| **Cantilever arm 50 and 50F** | | | | |
| Cantilever arm for mounting on walls, pendant/fixing rails or vertical pieces. Material: Steel, hot-dip galvanized. | | | | |
| 50-100 | 85/150/40 | 24 | 7321677234325 | **723432** |
| 50-150 | 85/200/40 | 28 | 7321677234332 | **723433** |
| 50-200 | 85/250/40 | 34 | 7321677234349 | **723434** |
| 50-250 | 105/300/40 | 52 | 7321677234356 | **723435** |
| 50-300 | 105/350/40 | 60 | 7321677234363 | **723436** |
| 50-400 | 120/450/50 | 228 | 7321677234370 | **723437** |
| 50-500 | 140/550/50 | 172 | 7321677234387 | **723438** |
| 50-600 | 150/650/50 | 215 | 7321677234394 | **723439** |
| 50-700 | 150/750/50 | 270 | 7321677271252 | **727125** |
| 50-800 | 160/850/50 | 310 | 7321677271269 | **727126** |
| 50-900 | 160/950/50 | 350 | 7321677271276 | **727127** |
| 50-1000 | 170/1050/50 | 390 | 7321677271283 | **727128** |
| 50F-200 | 148/245/50 | 95 | 7321677186242 | **718624** |
| 50F-300 | 175/345/50 | 125 | 7321677186259 | **718625** |
| 50F-400 | 175/445/50 | 170 | 7321677186266 | **718626** |
| 50F-500 | 180/547/50 | 220 | 7321677186273 | **718627** |
| 50F-600 | 180/647/50 | 250 | 7321677186280 | **718628** |
| 50F-1000 | 240/1052/60 | 770 | 7321677124657 | **712465** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Wall and support brackets

P139929

### Support bracket 3

Support bracket to be used for centre installation of cable ladders on pendant/fixing rails and vertical pieces.
Material: Steel, hot-dip galvanized.

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| 3-150 | 92/57/150 | 26 | 7321677207619 | **720761** |
| 3-200 | 92/57/200 | 33 | 7321677207626 | **720762** |
| 3-300 | 92/57/300 | 58 | 7321677207633 | **720763** |
| 3-400 | 92/57/400 | 78 | 7321677207640 | **720764** |
| 3-500 | 92/57/500 | 120 | 7321677207657 | **720765** |
| 3-600 | 92/57/600 | 145 | 7321677207664 | **720766** |

P139931

P140025

### Support bracket HS0

Support bracket to be mounted together with Threaded rod M10 or M16 for the installation of cable ladders.
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| HS0-150 M10 | 26/48/210 | 39 | 7321677910632 | **791063** |
| HS0-200 M10 | 26/48/260 | 48 | 7321677910649 | **791064** |
| HS0-300 M10 | 26/48/360 | 66 | 7321677910656 | **791065** |
| HS0-400 M16 | 26/48/460 | 84 | 7321677910663 | **791066** |
| HS0-500 M16 | 26/48/560 | 103 | 7321677910670 | **791067** |
| HS0-600 M16 | 26/48/660 | 121 | 7321677910687 | **791068** |

P139932

### Washer HS0 M16

Washer to be used for centered mounting with Support bracket HS0 M16 and Threaded rod M16. Package of 10.
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| HS0 M16 | 5/50/50 | 8.7 | 7321677910922 | **791092** |

P139934
P139933

### Wall bracket 11/25 and 11/75

Wall bracket to be used for vertical or horizontal installations of cable ladders against a wall. Maximum loads for vertical mounting: 300 kg (3 kN). For mounting against a rung the max. load is 500 kg (5 kN) for 11/25. Maximum loads for horizontal mounting: 11/25 250 kg (2.5 kN), 11/75 100 kg (1 kN).
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| 11/25 | 85/71/40 | 24 | 7321677132041 | **713204** |
| 11/75 | 135/71/40 | 30 | 7321677132034 | **713203** |

P139935

### Wall bracket 20

Wall bracket to be used at installation of Pendant/fixing rail 24/20 to ceiling beam or wall.
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| 20 | 50/59/154 | 47 | 7321677234509 | **723450** |

P139936

### Wall bracket 20F

Wall bracket to be used at installation of Pendant/fixing rail 20F to ceiling beam or wall.
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| 20F | 50/93/150 | 69 | 7321677234516 | **723451** |

P143289

### Wall support 550

Wall support for mounting of cantilever arm on porous walls or sandwich wall blocks, with six keyholes for easy fixation.
When mounting cantilever arm on support, use screw set 25S (M8).
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| Wall support 550 mm | 20/100/550 | 105 | 3606480985287 | **CSU795365** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Vertical pieces

P139937

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Vertical piece 2** | | | | |
| Vertical piece to be used for installation of Support bracket 3, symmetrical loading. Not suitable for cable ladders KHZV and KHZPV. Can be joined to Pendant/fixing rail 24/34 with Pendant joint 2J. Material: Steel, hot-dip galvanized. | | | | |
| 2-300 | 279/80/135 | 52 | 7321677171910 | **717191** |
| 2-400 | 392/80/135 | 62 | 7321677171927 | **717192** |
| 2-500 | 504/80/135 | 72 | 7321677171934 | **717193** |
| 2-700 | 729/80/135 | 93 | 7321677171941 | **717194** |
| 2-1000 | 1022/80/135 | 120 | 7321677171958 | **717195** |

P139938

| | | | | |
|---|---|---|---|---|
| **Vertical piece 2F** | | | | |
| Vertical piece to be used for installation of Support bracket 3 or Cantilever arm 50. Can be joined to Pendant/fixing rail 24/48 with Pendant joint 2FJ. Material: Steel, hot-dip galvanized. | | | | |
| 2F-280 | 280/80/135 | 80 | 7321677171965 | **717196** |
| 2F-370 | 370/80/135 | 100 | 7321677171972 | **717197** |
| 2F-505 | 505/80/135 | 130 | 7321677171989 | **717198** |
| 2F-640 | 640/80/135 | 150 | 3606480410000 | **CSU794202** |
| 2F-730 | 730/80/135 | 170 | 7321677171996 | **717199** |
| 2F-865 | 865/80/135 | 200 | 3606480410017 | **CSU794203** |
| 2F-1000 | 1000/80/135 | 220 | 7321677172009 | **717200** |
| 2F-1500 | 1495/80/135 | 290 | 7321677872763 | **787276** |

P139942

| | | | | |
|---|---|---|---|---|
| **Vertical piece 20** | | | | |
| Vertical piece, two-sided, to be used for vertical installation together with Cantilever arm 50, from a ceiling or on a floor. Can also be installed as a cantilever arm on a wall. Material: Steel, hot-dip galvanized. | | | | |
| 20-280 | 280/155/150 | 165 | 3606480409967 | **CSU794204** |
| 20-370 | 370/155/150 | 198 | 3606480409974 | **CSU794205** |
| 20-500 | 505/155/150 | 243 | 7321677157235 | **715723** |
| 20-640 | 640/155/150 | 293 | 3606480409981 | **CSU794206** |
| 20-700 | 730/155/150 | 324 | 7321677157242 | **715724** |
| 20-865 | 865/155/150 | 372 | 3606480409998 | **CSU794207** |
| 20-1000 | 1000/155/150 | 458 | 7321677157259 | **715725** |
| 20-1500 | 1495/155/150 | 652 | 7321677157266 | **715726** |
| 20-2000 | 1990/155/150 | 799 | 7321677157273 | **715727** |
| 20-3000 | 2980/155/150 | 1177 | 7321677157280 | **715728** |

P139943

| | | | | |
|---|---|---|---|---|
| **Vertical piece 20F** | | | | |
| Vertical piece, two-sided, to be used for mounting from the ceiling or on the floor. Suitable for rather heavy loads. Material: Steel, hot-dip galvanized. | | | | |
| 20F-1000 | 995/160/160 | 590 | 7321677182497 | **718249** |
| 20F-1500 | 1490/160/160 | 790 | 7321677182503 | **718250** |
| 20F-2000 | 1985/160/160 | 990 | 7321677182510 | **718251** |
| 20F-3000 | 2980/160/160 | 1240 | 7321677097999 | **709799** |

P139944

| | | | | |
|---|---|---|---|---|
| **Vertical piece 20FS** | | | | |
| Vertical piece, two-sided, to be used for mounting from the ceiling or on the floor. Suitable for very heavy loads. Material: Steel, hot-dip galvanized. | | | | |
| 20FS-1500 | 1495/270/150 | 1460 | 7321677187188 | **718718** |
| 20FS-2000 | 1990/270/150 | 1810 | 7321677187195 | **718719** |
| 20FS-2500 | 2485/270/150 | 2160 | 7321677187201 | **718720** |
| 20FS-3000 | 2980/270/150 | 2520 | 7321677187218 | **718721** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Pendant/Fixing rails

P139945

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Pendant/Fixing rail 24/34** | | | | |
| Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, hot-dip galvanized. | | | | |
| 24/34 | 2970/16/42 | 240 | 7321677158799 | **715879** |

P139946

| | | | | |
|---|---|---|---|---|
| **Pendant/Fixing rail 24/48** | | | | |
| Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, hot-dip galvanized. | | | | |
| 24/48 | 1000/26/48 | 175 | 3606481317865 | **CSU795565** |
| 24/48 | 2970/26/48 | 520 | 7321677050932 | **705093** |
| 24/48 | 5940/26/48 | 1120 | 7321677317196 | **731719** |

P139947

| | | | | |
|---|---|---|---|---|
| **Pendant/Fixing rail 24/20** | | | | |
| Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, hot-dip galvanized. | | | | |
| 24/20 | 2970/55/48 | 1130 | 7321677097951 | **709795** |

P139948

| | | | | |
|---|---|---|---|---|
| **Pendant/Fixing rail 24/20F** | | | | |
| Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, hot-dip galvanized. | | | | |
| 24/20F-3000 | 2970/89/48 | 1160 | 7321677097982 | **709798** |
| 24/20F-6000 | 5940/89/48 | 2370 | 7321677188086 | **718808** |

P139949

| | | | | |
|---|---|---|---|---|
| **Pendant/Fixing rail 24/20FS** | | | | |
| Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, hot-dip galvanized. | | | | |
| 24/20FS | 5940/106/48 | 4200 | 7321677090310 | **709031** |

P139950

| | | | | |
|---|---|---|---|---|
| **Fixing rail 24/26x53 for casting-in** | | | | |
| Fixing rail for casting-in in wall and ceilings. Material: Steel, hot-dip galvanized. | | | | |
| 24/26x53 | 4000/26/48 | 970 | 7321677680634 | **768063** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Ceiling and base plates

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|

P139939

**Ceiling plate 20F**

Ceiling plate to be used as a pre-drilled attachment for Vertical piece 20F to a steel member. The ceiling plate is welded in position.
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| 20F | –/160/160 | 200 | 7321677188499 | **718849** |

P139940

**Ceiling plate 20FS**

Ceiling plate to be used as a pre-drilled attachment for Vertical piece 20FS to a steel member. The ceiling plate is welded in position.
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| 20FS | –/270/150 | 310 | 7321677205363 | **720536** |

P139941

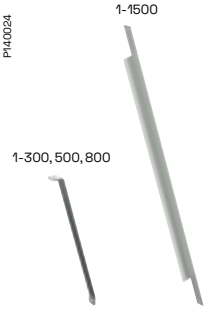
**Pendant base plate 520**

Pendant base plate to be used as a ceiling or floor base plate for Pendant/Fixing rail 24/20 in any desired length. Four screws MVBF 8x80 and nuts included.
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| 520 | 278/160/160 | 400 | 7321677182534 | **718253** |

## Pendant bar, rail fixing

P140023
P140024




**Pendant bar 1**

Pendant bar to be installed in order to reduce the deflection of heavily loaded vertical pieces. Installed with T-bolt and Expansion bolt.
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| 1-300 | 362/–/40 | 35 | 7321677176403 | **717640** |
| 1-500 | 568/–/40 | 53 | 7321677176410 | **717641** |
| 1-800 | 880/–/40 | 82 | 7321677176427 | **717642** |
| 1-1500 | 1296/35/50 | 560 | 7321677189038 | **718903** |

P139951

**Rail fixing support 24/20F, 24/20FS**

Rail fixing support to be used with Pendant/fixing rails 24/20F and 24/20FS respectively, for mounting between floor and ceiling.
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| 24/20F | 106/165/80 | 167 | 7321677188505 | **718850** |
| 24/20FS | 106/185/80 | 190 | 7321677188512 | **718851** |

## Brackets

P139953

**Angle bracket 5L**

Angle bracket to be used for steel wire installation in ceilings. Also used when assembling pendant/fixing rails to frames for switching cabinets and elecrical control centres and for fixing an upright between floor and ceiling. Assembled with a T-bolt.
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| 5L | 70/45/49 | 15 | 7321677317912 | **731791** |

P139954

**Angle bracket 5LS**

Angle bracket to be used when assembling pendant/fixing rails to frames for switching cabinets and elecrical control centres and for fixing an upright between floor and ceiling. Assembled with a T-bolt.
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| 5LS | 111/71/60 | 50 | 7321677098019 | **709801** |

P139955

**Combi bracket 53**

Combi bracket to be used for the mounting of cable ladders and trays on seamed roofing sheets, etc. To be combined with plastic insulating plate 54.
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| 53 (bracket) | 58/52/60 | 26 | 7321677823536 | **782353** |
| 54 (plate) | 2/70/120 | 2 | 7321677872237 | **787223** |

P139956

**Bracket 60/40**

Bracket to be used together with Pendant/fixing rail 24/48 to reduce the deflection of long vertical pieces.
Material: Steel, hot-dip galvanized.

| | | | | |
|---|---|---|---|---|
| 60/40 | 95/23/40 | 10 | 7321677189045 | **718904** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Brackets

| | Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|---|
| P139957 | **Rod bracket 82** | | | | |
| | Rod bracket to be used together with Cantilever arm 50, in combination with threaded rod support. Material: Steel, hot-dip galvanized. | | | | |
| | 82 | 60/158/43 | 360 | 7321677867684 | **786768** |

## Pendant joint

| | | | | | |
|---|---|---|---|---|---|
| P139959 P139960 P139958 | **Pendant joint 2J, 2FJ and 20J** | | | | |
| | Pendant joint to be used for joining pendant/fixing rails and vertical pieces. Screws M8x16 (2J and 2FJ) or M8x70 (20J) and nuts included. Material: Steel, hot-dip galvanized. | | | | |
| | 2J | 200/48/18 | 43 | 7321677131778 | **713177** |
| | 2FJ | 200/55/18 | 46 | 7321677131785 | **713178** |
| | 20J | 200/55/36 | 94 | 7321677131730 | **713173** |

## Ceiling brackets

| | | | | | |
|---|---|---|---|---|---|
| P139961 | **Ceiling bracket 5** | | | | |
| | Ceiling bracket to be used for installations with Pendant/Fixing rails 24/34 and 24/48. Screw not included. Material: Steel, hot-dip galvanized. | | | | |
| | 5 | 100/135/40 | 35 | 7321677186402 | **718640** |
| P139962 | **Ceiling bracket 5TPA** | | | | |
| | Ceiling bracket with telescopic function, to be used for mounting of various sizes of trapezoid plates. Including screw MVBF 8x16 and nut M6MF8. Breaking load: 150 kg without deformation. Material: Steel, hot-dip galvanized. | | | | |
| | 5TPA | 50/76/79-118 | 14 | 7321677334872 | **733487** |
| P139963 | **Ceiling bracket 5TP** | | | | |
| | Ceiling bracket to be used for installations of Vertical pieces 2, 2F and 20 in ceilings with a trapezoidal sheet profile. Material: Steel, hot-dip galvanized. | | | | |
| | 5TP | 75/35/50 | 12 | 7321677131532 | **713153** |
| P138938 | **Ceiling brackets TF-10 and TF-16** | | | | |
| | Ceiling bracket to be used for installation with Threaded rods. Nut included. Material: Steel, hot-dip galvanized. | | | | |
| | TF-10 (with nut M10) | 55/40/45 | 15 | 7321677881642 | **788164** |
| P138939 | TF-16 (with nut M16) | 75/50/50 | 30 | 7321677881659 | **788165** |

## Take-off hook, end connection

| | | | | | |
|---|---|---|---|---|---|
| P139657 | **Fixed take-off hook 4** | | | | |
| | Fixed take-off hook to be used for 90° horizontal branches. Material: Aluminium. | | | | |
| | 4 | 71/19/86 | 8 | 7321677090174 | **709017** |
| P139658 | **Take-off hook 47** | | | | |
| | Take-off hook to be used on cable ladders KHZV and KHZPV to make 90° branches. Screw M12 and nuts are included. Material: Steel, hot-dip galvanized. | | | | |
| | 47 | 155/10/73 | 27 | 7321677913503 | **791350** |
| P143549 | **Take-off hook 20C** | | | | |
| | Take-off hook to be used on cable ladders KHZP 20C range to make 90° branches. Screw M12 and nuts are included. Material: Steel, hot-dip galvanized. | | | | |
| | 20C | 205/10/78 | 40 | 3606480739576 | **CSU795209** |
| P139964 | **End connection 10** | | | | |
| | End connection to be used for the connection of a ladder vertically to a floor, or horizontally to a wall. Material: Aluminium. | | | | |
| | 10 | 60/55/60 | 8 | 7321677090181 | **709018** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Fittings for mesh tray

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Combi-fittings B21** | | | | |
| Combi-fitting to be used when mounting mesh trays onto cable ladders.<br>Material: Steel, hot-dip galvanized. | | | | |
| B21 | 250/50/20 | 48 | 7332227012591 | **1149259** |
| B21 90 degrees | 120/50/135 | 46 | 7332227012911 | **1149291** |

P140021

P140022

## Beam clamp, hook

| | | | | |
|---|---|---|---|---|
| **Beam clamp 5BK** | | | | |
| Beam clamp to be used for the installation of Vertical pieces 2, 2F or 20 on I-beams. For flange thickness max. 13 mm and 14-30 mm respectively.<br>Material: Steel, hot-dip galvanized. | | | | |
| 5BK-10 (max. 13 mm) | 30/50/45 | 15 | 7321677156757 | **715675** |
| 5BK-30 (14-30 mm) | 50/50/45 | 18 | 7321677182435 | **718243** |
| **Hook 8** | | | | |
| Hook to be used for the installation of cables beneath Support bracket 3. Can also be installed in perforated rungs.<br>Material: Steel, hot-dip galvanized. | | | | |
| 8 | 67/15/40 | 5 | 7321677286423 | **728642** |

P140026

P140027

## Back, installation and box plates

| | | | | |
|---|---|---|---|---|
| **Back plate 40** | | | | |
| Back plate to be used for installation behind Cantilever arm 50 to reduce the surface pressure on porous walls.<br>Material: Steel, hot-dip galvanized. | | | | |
| 40 | 150/–/60 | 55 | 7321677687381 | **768738** |
| **Installation plate 61** | | | | |
| Installation plate to be used on vertical cable ladder installations for mounting of terminal boxes, contact breakers, etc.<br>Material: Steel, hot-dip galvanized. | | | | |
| 61-200 | 310/70/200 | 100 | 7321677324910 | **732491** |
| 61-300 | 310/70/300 | 140 | 7321677324927 | **732492** |
| 61-400 | 310/70/400 | 170 | 7321677324934 | **732493** |
| 61-500 | 310/70/500 | 240 | 7321677324941 | **732494** |
| 61-600 | 310/70/600 | 270 | 7321677324958 | **732495** |
| **Junction box plate 35S** | | | | |
| Junction box plate, holed or unholed, to be installed upright or hanging from the profile. Locked with locking tabs. For junction boxes, electric light fittings, etc.<br>Material: Steel, hot-dip galvanized. | | | | |
| 35S holed | 164/20/170 | 22 | 7321677317462 | **731746** |
| **Junction box plate 35P** | | | | |
| Junction box plate with holes, to be installed between rungs. Locked with appropriate locking tabs for each ladder. For junction boxes, electric light fittings, etc.<br>Material: Steel, hot-dip galvanized. | | | | |
| 35P | –/106/250 | 28 | 7321677317455 | **731745** |

P140029

P140030

P132524

P140031

## Bends

| | | | | |
|---|---|---|---|---|
| **Riser 18** | | | | |
| Riser piece to be fitted to the cable ladders by using Joint 21.<br>Material: Steel, hot-dip galvanized. | | | | |
| 18-150 | 452/147/452 | 180 | 7321677181766 | **718176** |
| 18-200 | 452/197/452 | 190 | 7321677181773 | **718177** |
| 18-300 | 452/297/452 | 210 | 7321677181797 | **718179** |
| 18-400 | 452/397/452 | 230 | 7321677181803 | **718180** |
| 18-500 | 452/497/452 | 250 | 7321677181810 | **718181** |
| 18-600 | 452/597/452 | 270 | 7321677181827 | **718182** |
| 18-800 | 452/897/452 | 310 | 7321677219643 | **721964** |
| 18-1000 | 452/1097/452 | 350 | 7321677181834 | **718183** |

P140032

# Hot Dip-galvanized - Corrosion class C3, C4

## Bends

P140033

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Riser coupling 49** | | | | |
| Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV. Two screw sets M12 are needed.<br>Material: Steel, hot-dip galvanized. | | | | |
| 49-200 | 120/197/483 | 220 | 7321677163892 | **716389** |
| 49-300 | 120/297/483 | 230 | 7321677163908 | **716390** |
| 49-400 | 120/397/483 | 240 | 7321677163915 | **716391** |
| 49-500 | 120/497/483 | 245 | 7321677205172 | **720517** |
| 49-600 | 120/597/483 | 250 | 7321677163922 | **716392** |
| 49-1000 | 120/997/483 | 280 | 7321677163939 | **716393** |

P143138

| | | | | |
|---|---|---|---|---|
| **Riser coupling 20C** | | | | |
| Coupling to be used as a self-supporting vertical coupling of cable ladders KHZP 20C range. Two screw sets M12 are needed.<br>Material: Steel, hot-dip galvanized. | | | | |
| 20C-200 | 170/200/550 | 249 | 3606480739439 | **CSU795159** |
| 20C-300 | 170/330/550 | 260 | 3606480739446 | **CSU795160** |
| 20C-400 | 170/400/550 | 271 | 3606480739453 | **CSU795161** |
| 20C-500 | 170/500/550 | 282 | 3606480739460 | **CSU795162** |
| 20C-600 | 170/600/550 | 293 | 3606480739477 | **CSU795163** |
| 20C-800 | 170/800/550 | 315 | 3606480739484 | **CSU795164** |
| 20C-1000 | 170/1000/550 | 386 | 3606480739491 | **CSU795165** |

PTCSU-105

| | | | | |
|---|---|---|---|---|
| **Coupling plate 48** | | | | |
| Angled coupling to be used for cable ladders KHZV/KHZPV range.<br>Material: Steel, hot-dip galvanized. | | | | |
| 48 30° | 148/-/156 | 61 | 7321677189014 | **718901** |
| 48 45° | 148/-/190 | 75 | 7321677184118 | **718411** |
| 48 60° | 148/-/ 223 | 80 | 7321677189021 | **718902** |

P143260

| | | | | |
|---|---|---|---|---|
| **Angle plates 20C** | | | | |
| Angled coupling to be used for cable ladders KHZP 20C range. Four screws M12x30 and nuts are included.<br>Material: Steel, hot-dip galvanized. | | | | |
| 20C 60° | 180/5/265 | 111 | 3606480739545 | **CSU795206** |
| 20C 45° | 190/5/220 | 99 | 3606480739552 | **CSU795207** |
| 20C 30° | 195/5/180 | 85 | 3606480739569 | **CSU795208** |

P140034

| | | | | |
|---|---|---|---|---|
| **90° bend 15, interior** | | | | |
| Interior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Inner radius 268 mm.<br>Material: Steel, hot-dip galvanized. | | | | |
| 15-150 | 55/547/547 | 220 | 7321677160662 | **716066** |
| 15-200 | 55/597/597 | 240 | 7321677160679 | **716067** |
| 15-300 | 55/697/697 | 290 | 7321677160693 | **716069** |
| 15-400 | 55/797/797 | 340 | 7321677160709 | **716070** |
| 15-500 | 55/897/897 | 390 | 7321677160716 | **716071** |
| 15-600 | 55/997/997 | 440 | 7321677160723 | **716072** |
| 15-800 | 55/1197/1197 | 640 | 7321677219612 | **721961** |
| 15-1000 | 55/1397/1397 | 760 | 7321677160730 | **716073** |

P140035

| | | | | |
|---|---|---|---|---|
| **90° bend 15, exterior** | | | | |
| Exterior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend.<br>Material: Steel, hot-dip galvanized. | | | | |
| 15-150 | 55/703/703 | 320 | 7321677161799 | **716179** |
| 15-200 | 55/933/933 | 370 | 7321677161805 | **716180** |
| 15-300 | 55/1133/1133 | 460 | 7321677161829 | **716182** |
| 15-400 | 55/1333/1333 | 550 | 7321677161836 | **716183** |
| 15-500 | 55/1533/1533 | 640 | 7321677161843 | **716184** |
| 15-600 | 55/1733/1733 | 760 | 7321677161850 | **716185** |
| 15-800 | 55/2133/2133 | 1060 | 7321677230570 | **723057** |
| 15-1000 | 55/2533/2533 | 1280 | 7321677232604 | **723260** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Bends

P140036

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **90° bend 55, interior** | | | | |
| Interior bend piece to be fitted to cable ladders KHZV and KHZPV, creating a 90° horizontal bend. Material: Steel, hot-dip galvanized. | | | | |
| 55-200 | 150/625/625 | 510 | 7321677162413 | **716241** |
| 55-300 | 150/725/725 | 560 | 7321677162437 | **716243** |
| 55-400 | 150/825/825 | 620 | 7321677162444 | **716244** |
| 55-500 | 150/925/925 | 680 | 7321677162451 | **716245** |
| 55-600 | 150/1025/1025 | 750 | 7321677162468 | **716246** |
| 55-1000 | 150/1425/1425 | 1110 | 7321677162475 | **716247** |

P143124

| | | | | |
|---|---|---|---|---|
| **90° bend 20C, interior** | | | | |
| Interior bend piece to be fitted to cable ladders KHZP 20C range, creating a 90° horizontal bend. Material: Steel, hot-dip galvanized. | | | | |
| 20C-200 | 190/625/625 | 517 | 3606480739293 | **CSU795145** |
| 20C-300 | 190/725/725 | 568 | 3606480739309 | **CSU795146** |
| 20C-400 | 190/825/825 | 619 | 3606480739316 | **CSU795147** |
| 20C-500 | 190/925/925 | 671 | 3606480739323 | **CSU795148** |
| 20C-600 | 190/1025/1025 | 722 | 3606480739330 | **CSU795149** |
| 20C-800 | 190/1225/1225 | 824 | 3606480739347 | **CSU795150** |
| 20C-1000 | 190/1425/1425 | 1048 | 3606480739347 | **CSU795151** |

P140037

| | | | | |
|---|---|---|---|---|
| **T-junction 16** | | | | |
| T-junction piece to be fitted to the cable ladders by using Joint 21. Material: Steel, hot-dip galvanized. | | | | |
| 16-150 | 55/944/547 | 300 | 7321677161935 | **716193** |
| 16-200 | 55/997/597 | 320 | 7321677161942 | **716194** |
| 16-300 | 55/1097/697 | 390 | 7321677161966 | **716196** |
| 16-400 | 55/1197/797 | 440 | 7321677161973 | **716197** |
| 16-500 | 55/1297/897 | 530 | 7321677161980 | **716198** |
| 16-600 | 55/1397/997 | 600 | 7321677161997 | **716199** |
| 16-800 | 55/1597/1197 | 750 | 7321677219629 | **721962** |
| 16-1000 | 55/1797/1397 | 860 | 7321677162000 | **716200** |

P140038

| | | | | |
|---|---|---|---|---|
| **T-junction 56** | | | | |
| T-junction piece to be fitted to the cable ladder KHZV or KHZPV by using screw set M12. Material: Steel, hot-dip galvanized. | | | | |
| 56-200 | 150/1050/625 | 710 | 7321677162550 | **716255** |
| 56-300 | 150/1150/725 | 790 | 7321677162574 | **716257** |
| 56-400 | 150/1250/825 | 840 | 7321677162581 | **716258** |
| 56-500 | 150/1350/925 | 940 | 7321677162598 | **716259** |
| 56-600 | 150/1450/1025 | 1010 | 7321677162604 | **716260** |
| 56-1000 | 150/1850/1425 | 1300 | 7321677162611 | **716261** |

P143131

| | | | | |
|---|---|---|---|---|
| **T-junction 20C** | | | | |
| T-junction piece to be fitted to the cable ladder KHZP 20C range by using screw set M12. Material: Steel, hot-dip galvanized. | | | | |
| 20C-200 | 190/265/1050 | 783 | 3606480739361 | **CSU795152** |
| 20C-300 | 190/725/1150 | 853 | 3606480739378 | **CSU795153** |
| 20C-400 | 190/825/1250 | 900 | 3606480739385 | **CSU795154** |
| 20C-500 | 190/925/1350 | 987 | 3606480739392 | **CSU795155** |
| 20C-600 | 190/1025/1450 | 1039 | 3606480739408 | **CSU795156** |
| 20C-800 | 190/1225/1650 | 1306 | 3606480739415 | **CSU795157** |
| 20C-1000 | 190/1425/1850 | 1518 | 3606480739422 | **CSU795158** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Bends

P140039

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **X-junction 17** | | | | |
| X-junction piece to be fitted to the cable ladders by using Joint 21. Material: Steel, hot-dip galvanized. | | | | |
| 17-150 | 55/547/547 | 380 | 7321677162093 | **716209** |
| 17-200 | 55/997/997 | 400 | 7321677162109 | **716210** |
| 17-300 | 55/1097/1097 | 500 | 7321677162123 | **716212** |
| 17-400 | 55/1197/1197 | 550 | 7321677162130 | **716213** |
| 17-500 | 55/1297/1297 | 600 | 7321677162147 | **716214** |
| 17-600 | 55/1397/1397 | 860 | 7321677162154 | **716215** |
| 17-800 | 55/1597/1597 | 1070 | 7321677219636 | **721963** |
| 17-1000 | 55/1797/1797 | 1220 | 7321677162161 | **716216** |

P140040

| | | | | |
|---|---|---|---|---|
| **S-bend 67** | | | | |
| S-bend piece to be used as a transition between cable ladders mounted on different levels. Can be mounted both vertically and horizontally. Material: Steel, hot-dip galvanized. | | | | |
| 67 | 250/–/893 | 90 | 7321677886388 | **788638** |

## Tele-conduits

P140041

| | | | | |
|---|---|---|---|---|
| **Tele-conduit 36** | | | | |
| Tele-conduit to be used where a separate tray is required for low-tension cables. Knock-out holes in the bottom of the channel permit the cables to pass through. Material: Steel, hot-dip galvanized. | | | | |
| 36-50 | 24/50/2000 | 94 | 7321677317486 | **731748** |
| 36-100 | 24/100/2000 | 142 | 7321677317493 | **731749** |
| 36-200 | 24/200/2000 | 238 | 7321677317509 | **731750** |

## Dividers

P140042

P140043

| | | | | |
|---|---|---|---|---|
| **Dividing strip 39** | | | | |
| Dividing strip to be used to separate low-tension and high-tension cables. Material: Steel, hot-dip galvanized. | | | | |
| 39/24 | 24/24/1750 | 46 | 7321677317479 | **731747** |
| 39/55 | 55/24/1750 | 73 | 7321677329830 | **732983** |

P140044

| | | | | |
|---|---|---|---|---|
| **Distance piece W39** | | | | |
| Distance piece to be used for the joining of Dividing strips 39. Material: Plastic, natural coloured. | | | | |
| W39 | 37/–/330 | 3 | 7321677168248 | **716824** |

## Covers/Cover plates

P140045

| | | | | |
|---|---|---|---|---|
| **Cover 64** | | | | |
| Cover to be used for vertically mounted cable ladders. Material: Steel, hot-dip galvanized. | | | | |
| 64-150 | 10/151/2000 | 290 | 7321677825615 | **WBE782561** |
| 64-200 | 10/201/2000 | 370 | 7321677825622 | **WBE782562** |
| 64-300 | 10/301/2000 | 540 | 7321677825639 | **WBE782563** |
| 64-400 | 10/401/2000 | 710 | 7321677825646 | **WBE782564** |
| 64-500 | 10/501/2000 | 1020 | 7321677825653 | **WBE782565** |
| 64-600 | 10/601/2000 | 1210 | 7321677825660 | **WBE782566** |
| 64-800 | 10/801/2000 | 1660 | 7321677825677 | **WBE782567** |
| 64-1000 | 10/1001/2000 | 2000 | 7321677825684 | **WBE782568** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Covers/Cover plates

P140046

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cover** | | | | |
| Cover to be used to protect the cable runs from dust, dirt, liquids, etc. Outdoors, it protects against rain and sun. Suitable for all cable ladders. Material: Steel, hot-dip galvanized. | | | | |
| W5-150 | 10/151/2000 | 190 | 7321677322640 | **732264** |
| W5-200 | 10/201/2000 | 250 | 7321677322657 | **732265** |
| W5-300 | 10/301/2000 | 360 | 3606480535734 | **732266** |
| W5-400 | 10/401/2000 | 680 | 7321677322671 | **732267** |
| W5-500 | 10/501/2000 | 880 | 7321677322688 | **732268** |
| W5-600 | 10/601/2000 | 1050 | 7321677322695 | **732269** |
| W5-800 | 10/801/2000 | 1420 | 7321677822133 | **782213** |
| W5-1000 | 10/1001/2000 | 1730 | 7321677322701 | **732270** |

P140047

| | | | | |
|---|---|---|---|---|
| **Cover 90° bend** | | | | |
| Cover to be used for 90° interior bends. To be installed with a Profile support piece 37, Cover clamp and Cover joint. Material: Steel, hot-dip galvanized. | | | | |
| 150 | 10/420/420 | 65 | 7321677814336 | **781433** |
| 200 | 10/470/470 | 91 | 7321677814343 | **781434** |
| 300 | 10/570/570 | 143 | 7321677814350 | **781435** |
| 400 | 10/670/670 | 221 | 7321677814367 | **781436** |
| 500 | 10/770/770 | 299 | 7321677814374 | **781437** |
| 600 | 10/870/870 | 390 | 7321677814381 | **781438** |
| 800 | 10/1070/1070 | 460 | 7321677817931 | **781793** |
| 1000 | 10/1270/1270 | 871 | 7321677814398 | **781439** |

P140048

| | | | | |
|---|---|---|---|---|
| **Cover T-junction** | | | | |
| Cover to be used for T-junctions. To be installed with a Profile support piece 37, Cover clamp and Cover joint. Material: Steel, hot-dip galvanized. | | | | |
| 150 | 10/400/651 | 182 | 7321677814404 | **781440** |
| 200 | 10/450/701 | 221 | 7321677814411 | **781441** |
| 300 | 10/550/801 | 312 | 7321677814428 | **781442** |
| 400 | 10/650/901 | 416 | 7321677814435 | **781443** |
| 500 | 10/750/1001 | 533 | 7321677814442 | **781444** |
| 600 | 10/850/1101 | 676 | 7321677814459 | **781445** |
| 800 | 10/1050/1301 | 710 | 7321677817962 | **781796** |
| 1000 | 10/1240/1501 | 1352 | 7321677814466 | **781446** |

P138935

| | | | | |
|---|---|---|---|---|
| **Profile support piece 37** | | | | |
| Profile support piece to be used when installing covers. To be mounted on approximately every 0.5 m along both sides of the cable ladder. Used together with cover clamp for locking covers. Material: Steel, hot-dip galvanized. | | | | |
| 37 | 136/20/50 | 6 | 7321677301881 | **730188** |

P140049

| | | | | |
|---|---|---|---|---|
| **Cover clamp** | | | | |
| Cover clamps to be used when installing a cover on a Profile support piece 37. Material: Steel, Zink+. | | | | |
| Cover clamp | 32/10.5/20 | 1.5 | 3606489699413 | **CSU795598** |

P140050

| | | | | |
|---|---|---|---|---|
| **Cover joint** | | | | |
| Cover joint to be inserted between covers. Material: Steel, hot-dip galvanized. | | | | |
| 150 | 4/100/125 | 10 | 7321677804528 | **780452** |
| 200 | 4/100/175 | 20 | 7321677804535 | **780453** |
| 300 | 4/100/275 | 30 | 7321677804542 | **780454** |
| 400 | 4/100/375 | 40 | 7321677804559 | **780455** |
| 500 | 4/100/475 | 50 | 7321677804566 | **780456** |
| 600 | 4/100/575 | 60 | 7321677804573 | **780457** |

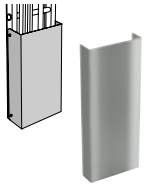
# Hot Dip-galvanized - Corrosion class C3, C4

## Covers/Cover plates

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Protecting cover** | | | | |
| Cover to be used to protect the cable runs agains ice and snow. Suitable for all cable ladder widths 300 and 400 respectively. Material: Steel, hot-dip galvanized. | | | | |
| 300 | 280/300/1000 | 880 | 7321677867462 | **786746** |
| 400 | 280/400/1000 | 990 | 7321677867479 | **786747** |
| **Cover plate 65** | | | | |
| Cover plate to be used on vertical cable ladder installations as protection of cables near the floor. To be mounted in the side profile with self-tapping screw ST4.2. Material: Steel, hot-dip galvanized. | | | | B223191 |
| 65-200 | 1000/120/200 | 930 | 7321677301928 | **730192** |
| 65-300 | 1000/120/300 | 1140 | 7321677301935 | **730193** |
| 65-400 | 1000/120/400 | 1350 | 7321677301942 | **730194** |
| 65-500 | 1000/120/500 | 1560 | 7321677301959 | **730195** |
| 65-600 | 1000/120/600 | 1780 | 7321677301966 | **730196** |

P140051

P140052



## Lighting bracket

| | | | | |
|---|---|---|---|---|
| **Lighting bracket 200** | | | | |
| Lighting bracket to be used for the installation of lighting fittings beneath cable ladders KHZV and KHZPV 200. Material: Steel, hot-dip galvanized. | | | | |
| 200 | 24/25/215 | 16 | 7321677186433 | **718643** |

P140053

## Angle plate

| | | | | |
|---|---|---|---|---|
| **Angle plate 33** | | | | |
| Angle plate to be used together with 90° horizontal T-junctions. Recommended for all cable ladders. Material: Steel, hot-dip galvanized. | | | | |
| 33/2 | 25/195/490 | 90 | 7321677077489 | **707748** |

P140054

## Installation system HT

| | | | | |
|---|---|---|---|---|
| **Wall bracket HT-14** | | | | |
| Bracket to be used for wall installations. To be installed with Expansion bolt or concrete screw. Material: Steel, hot-dip galvanized. | | | | |
| HT-14 | 30/30/104 | 18 | 7321677136711 | **713671** |
| **Carrying bracket HT-31** | | | | |
| Carrying bracket to be used for ceiling installations. To be installed with Expansion bolt or concrete screw. Material: Steel, hot-dip galvanized. | | | | |
| HT-31 | 115/4.5/23 | 2 | 7321677136728 | **713672** |
| **Carrying bracket HT-152** | | | | |
| Carrying bracket to be used for easy I-beam installations. Material: Steel, hot-dip galvanized. | | | | |
| HT-152 | 49/15/65 | 38 | 7321677176366 | **717636** |
| **End bracket HT-11** | | | | |
| End bracket to be used for ceiling beam installations. To be installed with Expansion bolt or concrete screw. Material: Steel, hot-dip galvanized. | | | | |
| HT-11 | 155/40/40 | 41 | 7321677176182 | **717618** |
| **Tightening loop HT** | | | | |
| Tightening loop to be installed at the ends of steel wires. Material: Steel, hot-dip galvanized. | | | | |
| HT-611 | 22/22/125 | 10 | 7321677136896 | **713689** |
| HT-621 | 50/50/270 | 18 | 7321677136902 | **713690** |
| HT-631 | 50/50/400 | 29 | 7321677136919 | **713691** |
| **Pipe HT-68** | | | | |
| Pipe for easy locking of wires. Material: Steel, hot-dip galvanized. | | | | |
| HT-68 | Ø15/25 | 1.3 | 7321677136773 | **713677** |

P140055

P140056

P140057

P140058

P140059

P140060

# Hot Dip-galvanized - Corrosion class C3, C4

## Installation system HT

P140227

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Steel wire HT** | | | | |
| Steel wire to be installed as carrier of one or more cables. Breaking loads, see below. Material: Available in several qualities. | | | | |
| HT-2309, galvanized, soft, breaking load 700 kg | Ø5.0 | 15.5/100 m | 7321677136797 | **713679** |
| HT-2311, 7x diam. 1.71=16 mm² coated, grey, breaking load 970 kg | Ø6.15 | 13.5/100 m | 7321677136889 | **713688** |
| HTR-2322 stainless, hard, breaking load 450 kg | Ø2.5 | 3.9/100 m | 7321677136810 | **713681** |
| HTR-2323 stainless, hard, breaking load 700 kg | Ø3.0 | 5.6/100 m | 7321677136827 | **713682** |
| HTR-2324 stainless, hard, breaking load 1200 kg | Ø4.0 | 10.0/100 m | 7321677136834 | **713683** |

## Mounting rail

P140061

| | | | | |
|---|---|---|---|---|
| **Mounting rail 40** | | | | |
| Mounting rail to be used for wall installation of cantilever arms on porous walls to reduce the surface pressure or to enable height adjustment of cantilever arms. Material: Steel, hot-dip galvanized. | | | | |
| 40 | 270/26/48 | 56 | 7321677170012 | **717001** |

## Reducers

P140062

| | | | | |
|---|---|---|---|---|
| **Reducer 31** | | | | |
| Reducer to be used for transition joining from a wide to a narrower cable ladder. Material: Steel, hot-dip galvanized. | | | | |
| 31-100 | 48/100/200 | 43 | 7321677341719 | **734171** |
| 31-200 | 48/200/200 | 59 | 7321677341726 | **734172** |
| 31-300 | 48/300/200 | 74 | 7321677341733 | **734173** |
| 31-400 | 48/400/200 | 89 | 7321677341740 | **734174** |

P143945
P143946

| | | | | |
|---|---|---|---|---|
| **Reducer 20C** | | | | |
| Reducer/Expander for transition joining from a wide to a narrower cable ladder of KHZP 20C range. May also be used at centred transition joining. Material: Steel, hot-dip galvanized. | | | | |
| 20C-100 | 40/200/100 | 109 | 3606480739507 | **CSU795166** |
| 20C-200 | 40/200/200 | 176 | 3606480739514 | **CSU795167** |

## Bar fixings

P131546

P131551

P131555

| | | | | |
|---|---|---|---|---|
| **Round bar fixing** | | | | |
| Round bar fixing to be used for mounting in underground cavities and tunnels. Material: Steel, hot-dip galvanized. | | | | |
| For ceilings | 6/60/325 | 90 | 7321677928637 | **792863** |
| For floors | 6/140/130 | 91 | 7321677928651 | **792865** |
| For walls | 61/60/161 | 68 | 7321677928675 | **792867** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Lashing wire

| | Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|---|
| | **Lashing wire** | | | | |
| | Lashing wire to be used for lashing of wires on cable ladders.<br>Material: Stainless steel, PVC. | | | | |
| P140226 P140225 | HTR-2303, white PVC | Ø1.25 | 1.3/100 m | 7321677136865 | **713686** |
| | HTR-2313, black PVC | Ø1.25 | 1.3/100 m | 7321677136872 | **713687** |
| | Lashing wire to be used for lashing of wires on cable ladders.<br>Material: PVC. | | | | |
| P140226 P140225 | HT-2304, white | Ø1.5 | 1.8/100 m | 7321677136841 | **713684** |
| | HT-2314, black | Ø1.5 | 1.8/100 m | 7321677136858 | **713685** |

## Profile protection

| | | | | | |
|---|---|---|---|---|---|
| | **Profile protection 28P** | | | | |
| P140063 | Profile protection to be used to increase the contact surface of the cables, when pulled over the side profile of the ladder.<br>Material: PVC, grey. | | | | |
| | 28P | 60/28/2000 | 80 | 7321677321513 | **732151** |

## End plugs

| | | | | | |
|---|---|---|---|---|---|
| | **End plug 28/28i** | | | | |
| | End plug to be mounted on ladder ends for sealing or protection.<br>Material: PP/TPE. | | | | |
| P140064 | 28, red | 59/25/22 | 0.8 | 7321677090198 | **709019** |
| P140065 P140066 | 28i, white<br>28i, red | 54/14/19 | 0.4 | 7321677354467<br>7321677319947 | **735446**<br>**731994** |
| | **End plug 28C, D, E, F and J** | | | | |
| | End plug to be mounted on pendant ends to provide protection against personal injury and to make the ends of the profiles more conspicuous.<br>Material: PP/TPE, orange. | | | | |
| P140067 | 28C for Vertical piece 2 and Pendant/fixing rail 24/34 | 25/19/46 | 0.5 | 7321677898756 | **789875** |
| P140068 | 28D for Vertical piece 20 and Pendant/fixing rail 24/20 | 25/52/58 | 1 | 7321677090204 | **709020** |
| P140069 | 28E for Vertical piece 2F and Pendant/fixing rail 24/48 | 24/30/52 | 0.5 | 7321677090211 | **709021** |
| P140070 | 28F for Vertical piece 20FS and Pendant/fixing rail 24/20FS | 30/53/110 | 4 | 7321677898763 | **789876** |
| P138758 | 28J for Vertical piece 20F and Pendant/Fixing rail 24/20F | 27/53/95 | 2.1 | 3606480457531 | **CSU794520** |
| | **Cross member plug 27** | | | | |
| P140071 | Cross member plug to be installed at the ends of the rungs of KHZ and KHZV. Used in premises with a high corrosion risk.<br>Material: PE, grey. | | | | |
| | 27 | Ø20/10 | 0.15 | 7321677266685 | **726668** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Screws, bolts and nuts

T-bolt single-08

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **T-bolt 26U** | | | | |
| T-bolt to be used for mounting with all vertical pieces except Vertical piece 2 and with Pendant/fixing rail 24/48. Material: Steel, hot-dip galvanized. | | | | |
| 26U M8 | M8x30 | 5 | 3606489579777 | **CSU795595** |
| 26U M10 | M10x30 | 5 | 3606489579715 | **CSU795589** |
| 26U M10 | M10x40 | 6 | 3606489579722 | **CSU795590** |
| 26U M10 | M10x50 | 7 | 3606489579739 | **CSU795591** |

P140148

| | | | | |
|---|---|---|---|---|
| **Screw set M12** | | | | |
| Screw set to be used for all joints with cable ladders KHZV and KHZPV. Set including four bolts M6S 12x25 and four nuts M6M 12. Material: Steel, hot-dip galvanized. | | | | |
| M12 | — | 20 | 7321677064151 | **706415** |

PTCLC-274

| | | | | |
|---|---|---|---|---|
| **Screw set 2S** | | | | |
| Screw set to be used for fastening of Support bracket 3 on Pendant/fixing rail 24/20F and Angle bracket 5L to the opening on Pendant rail 24/34 and 24/48. Set including screw MVBF 8x40 and nut M6MF8. Material: Steel, hot-dip galvanized. | | | | |
| 2S | — | 2.9 | 7321677157358 | **715735** |

PTCLC-271

| | | | | |
|---|---|---|---|---|
| **Screw set 20S** | | | | |
| Screw set to be used for installation of Support bracket 3 on Pendant/fixing rail 24/20 and Vertical piece 20, Angle bracket 5L to the opening on Pendant rail 24/48 and 24/20. Set including screw MVBF 8x60 and nut M6MF8. Material: Steel, hot-dip galvanized. | | | | |
| 20S | — | 3,7 | 7321677157365 | **715736** |

P140151

| | | | | |
|---|---|---|---|---|
| **Screw set 22S** | | | | |
| Screw set to be used for installation of Support bracket 3 on Vertical piece 2 and 2F, Support bracket 3 and Ceiling bracket 5 on Pendant/fixing rails 24/34 and 24/48, Angle bracket 5L against the back of Pendant/fixing rails, Pendant/fixing rails back to back. Set including screw MVBF 8x16 and nut M6MF8. Material: Steel, hot-dip galvanized. | | | | |
| 22S | — | 1.9 | 7321677136940 | **713694** |

PTCLC-272

| | | | | |
|---|---|---|---|---|
| **Screw set 25S** | | | | |
| Screw set to be used for installation of Cantiliver arm 30, 50i and 50 on Wall support plate. Set including screw MVBF 8x25 and nut M6MF8. Material: Steel, hot-dip galvanized. | | | | |
| 25S | — | 2,2 | 3606485440897 | **CSU795277** |

P140156

| | | | | |
|---|---|---|---|---|
| **Screw set W34** | | | | |
| Screw set to be used for the fastening of dividing strips on cable ladders KHZSP, KHZSPZ+, KHZPS and KHZPV. Set including screw MSCS 6x12 and nut M6MF 6. Material: Steel, hot-dip galvanized. | | | | |
| W34 | — | 0.8 | 7321677346462 | **734646** |

P140152

| | | | | |
|---|---|---|---|---|
| **Spring nut M8/M10** | | | | |
| Spring nut to be used for fastening of accessories (control panels, etc.) on Pendant/fixing rail 24/48. Material: Steel, hot-dip galvanized. | | | | |
| M8 | — | 2.7 | 7321677164073 | **716407** |

P140153

| | | | | |
|---|---|---|---|---|
| **Back nut M8** | | | | |
| Back nut to be used for fastening of vertical pieces, etc., in the rungs of cable ladders KHZSP, KHZSPZ+, KHZP, KHZPS and KHZPV. Material: Steel, hot-dip galvanized. | | | | |
| M8 | — | 2.5 | 7321677186327 | **718632** |

P140073

| | | | | |
|---|---|---|---|---|
| **Intermediate connection bolt 29** | | | | |
| Intermediate connection bolt to be used at the transition from a broad to a narrower cable ladder KHZ. Material: Steel, hot-dip galvanized. | | | | |
| 29-200 | M10x235 (length) | 14 | 7321677053926 | **705392** |
| 29-300 | M10x335 (length) | 19 | 7321677053940 | **705394** |
| 29-400 | M10x435 (length) | 24 | 7321677053957 | **705395** |
| 29-500 | M10x535 (length) | 29 | 7321677053964 | **705396** |
| 29-600 | M10x635 (length) | 34 | 7321677053971 | **705397** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Marking plate

B223240

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Marking plate 93** | | | | |
| Marking plates are part of a colour marking system that is easy to use when you want to mark out the type of cable that is placed on the cable ladder. Five different colours are available. | | | | |
| 93, yellow | 103/0.7/100 | 5 | 7321677377046 | **737704** |
| 93, orange | 103/0.7/100 | 5 | 7321677377053 | **737705** |
| 93, blue | 103/0.7/100 | 5 | 7321677377060 | **737706** |
| 93, green | 103/0.7/100 | 5 | 7321677377077 | **737707** |
| 93, black | 103/0.7/100 | 5 | 7321677377084 | **737708** |

## Marking label

P138944

| | | | | |
|---|---|---|---|---|
| **Marking label, equipotential** | | | | |
| Label to be used to show that a construction is equipotentially bonded. Available in Swedish (other languages on request).Printed on self-adhesive yellow vinyl, 250 labels per roll.<br>Material: Self-adhesive vinyl. | | | | |
| Marking label | 25/–/86 | – | 7321677868605 | **786860** |

## Mounting accessories

PTCSU-104

| | | | | |
|---|---|---|---|---|
| **Mounting rail WMS25L** | | | | |
| Mounting rail to be used for installation directly on wall for lashing of cables.<br>Material: Steel, Zink+. | | | | |
| WMS25L | 27/6/2000 | 35 | 3606489584955 | **CSU795597** |

P140075

| | | | | |
|---|---|---|---|---|
| **Threaded rod W76** | | | | |
| Threaded rod for M8 ceiling mounting of cable support. For fixing, use Flange Nut M8 and for extension, Distance nut M8.<br>Material: Steel, hot-dip galvanized. | | | | |
| W76/M8 | 8/8/1000<br>8/8/2000 | 32<br>64 | 3606480483783<br>3606480483776 | **CSU794697**<br>**CSU734698** |

P140154

| | | | | |
|---|---|---|---|---|
| **Flange nut** | | | | |
| Flange Nut M8 to be mounted on Threaded rod W76. Intended for ceiling mounting of cable support.<br>Material: Steel, hot-dip galvanized. | | | | |
| Flange nut M8 | 17/17/8 | 1 | 3606480483806 | **CSU794715** |

P140155

| | | | | |
|---|---|---|---|---|
| **Distance nut** | | | | |
| Distance nut M8 to be used as an extension and a coupler of Threaded rod W76. Intended for ceiling mounting of cable support.<br>Material: Steel, hot-dip galvanized. | | | | |
| Distance nut M8 | 15/15/30 | 4 | 3606480483790 | **CSU794699** |

# Hot Dip-galvanized - Corrosion class C3, C4

## Paint

P149450

### Anti-corrosive repair paint

Anti-corrosive repair paint Galvafroid for the repair of damages on pre-galvanized or hot-dip galvanized ladders and accessories.

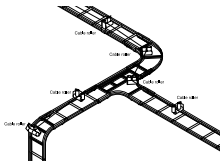
| | | | | |
|---|---|---|---|---|
| Galvafroid, 0.4 litre tin | — | 104 | 7321677176373 | **717637** |

## Tools

P129977

### Cable roller S

Cable roller used to facilitate the pulling of cables and lines. Easily installed on all Wibe cable ladders except the high-sided WHS ladders (outer mounting hole). Also suitable for external/internal profiles of all 90° bends, T-junctions, X-junctions and risers (inner mounting hole). With a height adjustment of 45 mm to leave room for cables to pass under the roller.
Material: Steel, electro-galvanized.



| | | | | |
|---|---|---|---|---|
| S | 230/80/204 | 230 | 7321677186600 | **718660** |

P149449

### Cable roller 38 Rig'n roll

Cable roller used for mounting on Wibe cable ladders with belonging junctions and branches.
Material: Stainless steel AISI316L (cable roller).

| | | | | |
|---|---|---|---|---|
| 38 Rig'n roll | 220/50/130 | 48 | 7321677359981 | **735998** |

P149452

| | | | | |
|---|---|---|---|---|
| Bag | 375/160/460 | 230 | 7321677801862 | **780186** |
| Set 66 (1 bag + 10 Cable rollers 38 Rig'n roll) | 375/160/460 | 710 | 7321677801879 | **780187** |

# Zinkpox - Corrosion class C5-I

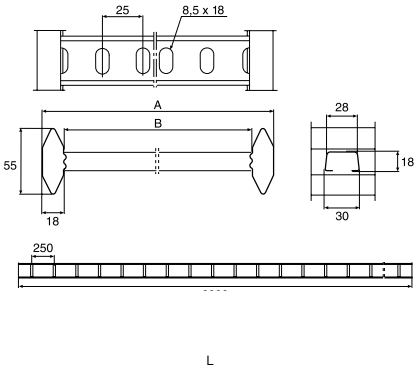
## Cable ladders

P140376

| Type | Dimensions A/B/C mm | Weight kg/100 m | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cable ladders KHZP** | | | | |
| Cable ladder for indoor or outdoor industrial applications. With closed side profiles and profile-shaped rungs. Must not be used as walkway.<br>Material: Steel, Zinkpox coated white. | | | | |
| KHZP-150 | 55/147/3000<br>55/147/6000 | 260 | 7321677835249<br>7321677185917 | **783524**<br>**718591** |
| KHZP-200 | 55/197/3000<br>55/197/6000 | 270 | 7321677835256<br>7321677185924 | **783525**<br>**718592** |
| KHZP-300 | 55/297/3000<br>55/297/6000 | 290 | 7321677835263<br>7321677185931 | **783526**<br>**718593** |
| KHZP-400 | 55/397/3000<br>55/397/6000 | 315 | 7321677835270<br>7321677185948 | **783527**<br>**718594** |
| KHZP-500 | 55/497/3000<br>55/497/6000 | 340 | 7321677835287<br>7321677185955 | **783528**<br>**718595** |
| KHZP-600 | 55/597/3000<br>55/597/6000 | 360 | 7321677835294<br>7321677185962 | **783529**<br>**718596** |
| KHZP-800 | 55/797/3000<br>55/797/6000 | 490 | 7321677835300<br>7321677280339 | **783530**<br>**728033** |
| KHZP-1000 | 55/997/3000<br>55/997/6000 | 560 | 7321677835317<br>7321677185979 | **783531**<br>**718597** |

## Dimension table

B223677




| Type | A mm | B mm | L mm | Ref. No. |
|---|---|---|---|---|
| KHZP-150 | 147 | 111 | 3000<br>6000 | **783524**<br>**718591** |
| KHZP-200 | 197 | 161 | 3000<br>6000 | **783525**<br>**718592** |
| KHZP-300 | 297 | 261 | 3000<br>6000 | **783526**<br>**718593** |
| KHZP-400 | 397 | 361 | 3000<br>6000 | **783527**<br>**718594** |
| KHZP-500 | 497 | 461 | 3000<br>6000 | **783528**<br>**718595** |
| KHZP-600 | 597 | 561 | 3000<br>6000 | **783529**<br>**718596** |
| KHZP-800 | 797 | 761 | 3000<br>6000 | **783530**<br>**728033** |
| KHZP-1000 | 997 | 961 | 3000<br>6000 | **783531**<br>**718597** |

# Zinkpox - Corrosion class C5-I

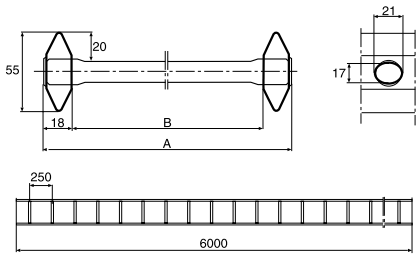
## Cable ladders

P140384

| Type | Dimensions A/B/C mm | Weight kg/100 m | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cable ladders KHZ** | | | | |
| Cable ladder for indoor or outdoor industrial applications. With closed side profiles and round rungs. Must not be used as walkway.<br>Material: Steel, Zinkpox coated white. | | | | |
| KHZ-150 | 55/147/6000 | 270 | 7321677140589 | **714058** |
| KHZ-200 | 55/197/6000 | 280 | 7321677140596 | **714059** |
| KHZ-300 | 55/297/6000 | 300 | 7321677140619 | **714061** |
| KHZ-400 | 55/397/6000 | 320 | 7321677140626 | **714062** |
| KHZ-500 | 55/497/6000 | 340 | 7321677140633 | **714063** |
| KHZ-600 | 55/597/6000 | 360 | 7321677140640 | **714064** |

## Dimension table

B223589

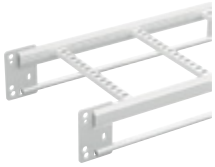



| Type | A mm | B mm | L mm | Ref. No. |
|---|---|---|---|---|
| KHZ-150 | 147 | 111 | 6000 | **714058** |
| KHZ-200 | 197 | 161 | 6000 | **714059** |
| KHZ-300 | 297 | 261 | 6000 | **714061** |
| KHZ-400 | 397 | 361 | 6000 | **714062** |
| KHZ-500 | 497 | 461 | 6000 | **714063** |
| KHZ-600 | 597 | 561 | 6000 | **714064** |

# Zinkpox - Corrosion class C5-I

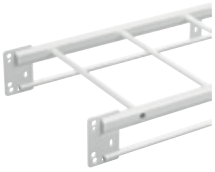
## Cable ladders

P140390



| Type | Dimensions A/B/C mm | Weight kg/100 m | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cable ladders KHZPV** | | | | |
| Reinforced cable ladder for indoor or outdoor industrial applications. Designed for extreme support distances and loadings. With closed side profiles and profile-shaped rungs. Must not be used as walkway. Material: Steel, Zinkpox coated white. | | | | |
| KHZPV-200 | 150/197/6000 | 426 | 7321677233908 | **723390** |
| KHZPV-300 | 150/297/6000 | 448 | 7321677233915 | **723391** |
| KHZPV-400 | 150/397/6000 | 470 | 7321677233922 | **723392** |
| KHZPV-500 | 150/497/6000 | 493 | 7321677233939 | **723393** |
| KHZPV-600 | 150/597/6000 | 515 | 7321677233946 | **723394** |
| KHZPV-1000 | 150/997/6000 | 703 | 7321677164011 | **716401** |

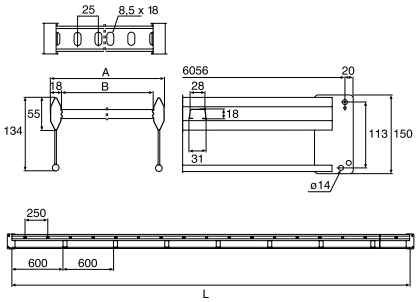
P140397



| | | | | |
|---|---|---|---|---|
| **Cable ladders KHZV** | | | | |
| Reinforced cable ladder for indoor or outdoor industrial applications. Designed for extreme support distances and loadings. With closed side profiles and round rungs. Must not be used as walkway. Material: Steel, Zinkpox coated white. | | | | |
| KHZV-200 | 150/197/6000 | 440 | 7321677141982 | **714198** |
| KHZV-300 | 150/297/6000 | 460 | 7321677142002 | **714200** |
| KHZV-400 | 150/397/6000 | 480 | 7321677142026 | **714202** |
| KHZV-500 | 150/497/6000 | 500 | 7321677142019 | **714201** |
| KHZV-600 | 150/597/6000 | 530 | 7321677142033 | **714203** |

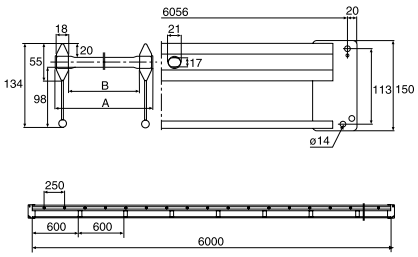
## Dimension table

B223676




| Type | A mm | B mm | L mm | Ref. No. |
|---|---|---|---|---|
| KHZPV-200 | 197 | 161 | 6000 | **723390** |
| KHZPV-300 | 297 | 261 | 6000 | **723391** |
| KHZPV-400 | 397 | 361 | 6000 | **723392** |
| KHZPV-500 | 497 | 461 | 6000 | **723393** |
| KHZPV-600 | 597 | 561 | 6000 | **723394** |
| KHZPV-1000 | 997 | 961 | 6000 | **716401** |

B223553




| | | | | |
|---|---|---|---|---|
| KHZV-200 | 197 | 161 | 6000 | **714198** |
| KHZV-300 | 297 | 261 | 6000 | **714200** |
| KHZV-400 | 397 | 361 | 6000 | **714202** |
| KHZV-500 | 497 | 461 | 6000 | **714201** |
| KHZV-600 | 597 | 561 | 6000 | **714203** |

# Zinkpox - Corrosion class C5-I

## Joints

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Joint 21** | | | | |
| Joint to be used for straight, rigid joining of cable ladders, bends, junctions and risers. It also reduced the transition resistance and prevents the ladders from slipping apart. M6 screws included. Material: Steel, Zinkpox coated white. | | | | |
| 21 | 64/22/300 | 46 | 7321677912001 | **791200** |
| **Joint 9** | | | | |
| Joint to be used for straight joining of cable ladders KHZ, KHZP and KHZPS. The teeth of the joint should face downwards. Under load, the ladders are prevented from slipping apart. If the joint is above a bracket, the teeth should face upwards. Material: Steel, Zinkpox coated white. | | | | |
| 9 | 52/4/200 | 16 | 7321677140664 | **714066** |
| **Dropper joint 32** | | | | |
| Dropper joint used to form vertical branches in centre posision under/on top of cable ladders. Screw M6 included. Material: Steel, Zinkpox coated white. | | | | |
| 32 | 130/22/200 | 75 | 7321677808748 | **780874** |
| **Joint 45** | | | | |
| Joint to be fitted as a joining plate in a cut KHZV/KHZPV ladder. Screws M8 and M12 + nuts are included. Material: Steel, Zinkpox coated white. | | | | |
| 45 | 150/4/95 | 50 | 7321677142279 | **714227** |

P140401

P140402 

P140403

P140404

## Couplings

| | | | | |
|---|---|---|---|---|
| **Coupling 22** | | | | |
| Coupling to be used for horizontal or vertical branches at any desired angle. M6 screws included. Material: Steel, Zinkpox coated white. | | | | |
| 22 | 60/24/150 | 21 | 7321677184101 | **718410** |
| **Junction coupling 14** | | | | |
| Junction coupling to be used for T- and X-junctions. Suitable for cable ladders KHZ, KHZP, KHZSP and KHZPS, all cable widths. M6 screws included. Material: Steel, Zinkpox coated white. | | | | |
| 14 | 65/73/350 | 49 | 7321677909063 | **790906** |
| **Coupling 44** | | | | |
| Coupling to be used for horizontal coupling of cable ladders KHZV/KHZPV. Also to be used for branches and as an end connection against a wall. Four screws M8x30 and nuts are included. Material: Steel, Zinkpox coated white. | | | | |
| 44 | 135/–/120 | 50 | 7321677208166 | **720816** |
| **Coupling 51** | | | | |
| Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV. Two screws M12 and nuts are included. Material: Steel, Zinkpox coated white. | | | | |
| 51 | 150/–/193+138 | 150 | 7321677319114 | **731911** |

P140405

P140406

P140407 

P140408 

## Clamps

| | | | | |
|---|---|---|---|---|
| **Profile clamp 42** | | | | |
| Profile clamp to be used for installations where the cable ladder is to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included. Material: Steel, Zinkpox coated white. | | | | |
| 42 | 55/55/30 | 56 | 3606485410357 | **CSU795243** |
| **Profile clamp 43** | | | | |
| Profile clamp to be used for installations where the cable ladders KHZV and KHZPV are to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included. Material: Steel, Zinkpox coated white. | | | | |
| 43 | 21/43/30 | 5 | 7321677141654 | **714165** |
| **Clamp 12** | | | | |
| Clamp to be used on the side profile of the cable ladder for installation of accessories. Bolt and nut included. Material: Steel, Zinkpox coated white. | | | | |
| 12/70 | 125/25/40 | 19 | 7321677329779 | **732977** |
| 12/120 | 175/25/40 | 24 | 7321677329786 | **732978** |

P150016

P140410

P140411 

# Zinkpox - Corrosion class C5-I

## Clamps

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Profile clamp 41** | | | | |
| Profile clamp to be used to install a pendant/fixing rail or mounting plate, etc., on the cable ladder profile. Material: Steel, Zinkpox coated white. | | | | |
| 41 | 125/16/30 | 10 | 7321677219452 | **721945** |
| **Profile support piece 46** | | | | |
| Profile support piece to be fitted between the ladder and the vault pipe when a support bracket is positioned between existing profile support pieces. For cable ladders KHZV and KHZPV. Material: Steel, Zinkpox coated white. | | | | |
| 46 | 72/18/30 | 15 | 7321677141791 | **714179** |

P140412

P140413

## Cantilever arms

| | | | | |
|---|---|---|---|---|
| **Cantilever arm 50 and 50F** | | | | |
| Cantilever arm for mounting on walls, pendant/fixing rails or vertical pieces. Material: Steel, Zinkpox coated white. | | | | |
| 50-100 | 85/150/40 | 24 | 7321677234400 | **723440** |
| 50-150 | 85/200/40 | 28 | 7321677234417 | **723441** |
| 50-200 | 85/250/40 | 34 | 7321677234424 | **723442** |
| 50-250 | 105/300/40 | 52 | 7321677234431 | **723443** |
| 50-300 | 105/350/40 | 60 | 7321677234448 | **723444** |
| 50-400 | 120/450/50 | 228 | 7321677234455 | **723445** |
| 50-500 | 140/550/50 | 172 | 7321677234462 | **723446** |
| 50-600 | 150/650/50 | 215 | 7321677234479 | **723447** |
| 50-700 | 150/750/50 | 270 | 7321677277827 | **727782** |
| 50-800 | 160/850/50 | 310 | 7321677277834 | **727783** |
| 50-900 | 160/950/50 | 350 | 7321677277841 | **727784** |
| 50-1000 | 170/1050/50 | 390 | 7321677277858 | **727785** |
| 50F-200 | 148/245/50 | 95 | 7321677140213 | **714021** |
| 50F-300 | 175/345/50 | 125 | 7321677147007 | **714700** |
| 50F-400 | 175/445/50 | 170 | 7321677140220 | **714022** |
| 50F-500 | 180/547/50 | 220 | 7321677187935 | **718793** |
| 50F-600 | 180/647/50 | 250 | 7321677140237 | **714023** |
| 50F-1000 | 240/1052/60 | 770 | 7321677140244 | **714024** |

P140414

P140417

## Wall and support brackets

| | | | | |
|---|---|---|---|---|
| **Support bracket 3** | | | | |
| Support bracket to be used for centre installation of cable ladders on pendant/fixing rails and vertical pieces. Material: Steel, Zinkpox coated white. | | | | |
| 3-150 | 92/57/150 | 26 | 7321677218622 | **721862** |
| 3-200 | 92/57/200 | 33 | 7321677218639 | **721863** |
| 3-300 | 92/57/300 | 58 | 7321677218646 | **721864** |
| 3-400 | 92/57/400 | 78 | 7321677218653 | **721865** |
| 3-500 | 92/57/500 | 120 | 7321677218660 | **721866** |
| 3-600 | 92/57/600 | 145 | 7321677218677 | **721867** |
| **Wall bracket 11/25 and 11/75** | | | | |
| Wall bracket to be used for vertical or horizontal installations of cable ladders against a wall. Maximum loads for vertical mounting: 300 kg (3 kN). For mounting against a rung the max. load is 500 kg (5 kN) for 11/25. Maximum loads for horizontal mounting: 11/25 250 kg (2.5 kN), 11/75 100 kg (1 kN). Material: Steel, Zinkpox coated white. | | | | |
| 11/25 | 85/71/40 | 24 | 7321677132089 | **713208** |
| 11/75 | 135/71/40 | 30 | 7321677132072 | **713207** |
| **Wall support 550** | | | | |
| Wall support for mounting of cantilever arm on porous walls or sandwich wall blocks, with six keyholes for easy fixation. When mounting cantilever arm on support, use screw set 25S (M8). Material: Steel, Zinkpox coated white. | | | | |
| Wall support 550 mm | 20/100/550 | 1047 | 3606480985294 | **CSU795366** |

P140418

P140420
P140421

P143290

# Zinkpox - Corrosion class C5-I

## Vertical pieces

P140422

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Vertical piece 2** | | | | |
| Vertical piece to be used for installation of Support bracket 3, symmetrical loading. Not suitable for cable ladders KHZV and KHZPV. Can be joined to Pendant/fixing rail 24/34 with Pendant joint 2J. Material: Steel, Zinkpox coated white. | | | | |
| 2-300 | 279/80/135 | 52 | 7321677162833 | **716283** |
| 2-400 | 392/80/135 | 62 | 7321677162840 | **716284** |
| 2-500 | 504/80/135 | 72 | 7321677162857 | **716285** |
| 2-700 | 729/80/135 | 93 | 7321677162864 | **716286** |
| 2-1000 | 1022/80/135 | 120 | 7321677162871 | **716287** |

P140423

| | | | | |
|---|---|---|---|---|
| **Vertical piece 2F** | | | | |
| Vertical piece to be used for installation of Support bracket 3 or Cantilever arm 50. Can be joined to Pendant/fixing rail 24/48 with Pendant joint 2FJ. Material: Steel, Zinkpox coated white. | | | | |
| 2F-280 | 280/80/135 | 80 | 7321677172016 | **717201** |
| 2F-370 | 370/80/135 | 100 | 7321677172023 | **717202** |
| 2F-505 | 505/80/135 | 130 | 7321677172030 | **717203** |
| 2F-730 | 730/80/135 | 170 | 7321677172047 | **717204** |
| 2F-1000 | 1000/80/135 | 220 | 7321677172054 | **717205** |
| 2F-1500 | 1495/80/135 | 290 | 7321677872770 | **787277** |

P140424

| | | | | |
|---|---|---|---|---|
| **Vertical piece 20** | | | | |
| Vertical piece, two-sided, to be used for vertical installation together with Cantilever arm 50, from a ceiling or on a floor. Can also be installed as a cantilever arm on a wall. Material: Steel, Zinkpox coated white. | | | | |
| 20-500 | 505/155/150 | 243 | 7321677162765 | **716276** |
| 20-700 | 730/155/150 | 324 | 7321677162772 | **716277** |
| 20-1000 | 1000/155/150 | 458 | 7321677162789 | **716278** |
| 20-1500 | 1495/155/150 | 652 | 7321677162796 | **716279** |
| 20-2000 | 1990/155/150 | 799 | 7321677162802 | **716280** |
| 20-3000 | 2980/155/150 | 1177 | 7321677162819 | **716281** |

P140425

| | | | | |
|---|---|---|---|---|
| **Vertical piece 20F** | | | | |
| Vertical piece, two-sided, to be used for mounting from the ceiling or on the floor. Suitable for rather heavy loads. Material: Steel, Zinkpox coated white. | | | | |
| 20F-1000 | 995/160/160 | 590 | 7321677184842 | **718484** |
| 20F-1500 | 1490/160/160 | 790 | 7321677184859 | **718485** |
| 20F-2000 | 1985/160/160 | 990 | 7321677184866 | **718486** |
| 20F-3000 | 2980/160/160 | 1240 | 7321677162826 | **716282** |

P140426

| | | | | |
|---|---|---|---|---|
| **Vertical piece 20FS** | | | | |
| Vertical piece, two-sided, to be used for mounting from the ceiling or on the floor. Suitable for very heavy loads. Material: Steel, Zinkpox coated white. | | | | |
| 20FS-1500 | 1495/270/150 | 1460 | 7321677205219 | **720521** |
| 20FS-2000 | 1990/270/150 | 1810 | 7321677205226 | **720522** |
| 20FS-2500 | 2485/270/150 | 2160 | 7321677205233 | **720523** |
| 20FS-3000 | 2980/270/150 | 2520 | 7321677205240 | **720524** |

# Zinkpox - Corrosion class C5-I

## Pendant/Fixing rails

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Pendant/Fixing rail 24/34** | | | | |
| Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, Zinkpox coated white. | | | | |
| 24/34 | 2970/16/42 | 240 | 7321677163090 | **716309** |
| **Pendant/Fixing rail 24/48** | | | | |
| Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, Zinkpox coated white. | | | | |
| 24/48 | 1000/26/48 | 175 | 3606481317896 | **CSU795568** |
| 24/48 | 2970/26/48 | 520 | 7321677163069 | **716306** |
| 24/48 | 5940/26/48 | 1120 | 7321677317240 | **731724** |
| **Pendant/Fixing rail 24/20** | | | | |
| Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, Zinkpox coated white. | | | | |
| 24/20 | 2970/55/48 | 1130 | 7321677163076 | **716307** |
| **Pendant/Fixing rail 24/20F** | | | | |
| Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, Zinkpox coated white. | | | | |
| 24/20F-3000 | 2970/89/48 | 1160 | 7321677163083 | **716308** |
| 24/20F-6000 | 5940/89/48 | 2370 | 7321677205257 | **720525** |
| **Pendant/Fixing rail 24/20FS** | | | | |
| Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, Zinkpox coated white. | | | | |
| 24/20FS | 5940/106/48 | 4200 | 7321677205264 | **720526** |

P140427



P140428

P140429

P140430

P140431

## Base plate

| | | | | |
|---|---|---|---|---|
| **Pendant base plate 520** | | | | |
| Pendant base plate to be used as a ceiling or floor base plate for Pendant/Fixing rail 24/20 in any desired length. Four screws MVBF 8x80 and nuts included. Material: Steel, Zinkpox coated white. | | | | |
| 520 | 278/160/160 | 400 | 7321677184880 | **718488** |

P140432

# Zinkpox - Corrosion class C5-I

## Pendant bar, rail fixing

P140433
P140434

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Pendant bar 1** | | | | |
| Pendant bar to be installed in order to reduce the deflection of heavily loaded vertical pieces. Installed with T-bolt and Expansion bolt.<br>Material: Steel, Zinkpox coated white. | | | | |
| 1-300 | 362/–/40 | 35 | 7321677176434 | **717643** |
| 1-500 | 568/–/40 | 53 | 7321677176441 | **717644** |
| 1-800 | 880/–/40 | 82 | 7321677176458 | **717645** |
| 1-1500 | 1296/35/50 | 560 | 7321677205301 | **720530** |

P140435

| | | | | |
|---|---|---|---|---|
| **Rail fixing support 24/20F, 24/20FS** | | | | |
| Rail fixing support to be used with Pendant/fixing rails 24/20F and 24/20FS respectively, for mounting between floor and ceiling.<br>Material: Steel, Zinkpox coated white. | | | | |
| 24/20F | 106/165/80 | 167 | 7321677205271 | **720527** |
| 24/20FS | 106/185/80 | 190 | 7321677205288 | **720528** |

## Brackets, pendant joint

P140436



| | | | | |
|---|---|---|---|---|
| **Angle bracket 5L** | | | | |
| Angle bracket to be used for steel wire installation in ceilings. Also used when assembling pendant/fixing rails to frames for switching cabinets and elecrical control centres and for fixing an upright between floor and ceiling. Assembled with a T-bolt.<br>Material: Steel, Zinkpox coated white. | | | | |
| 5L | 70/45/49 | 15 | 7321677317929 | **731792** |

P140437



| | | | | |
|---|---|---|---|---|
| **Angle bracket 5LS** | | | | |
| Angle bracket to be used when assembling pendant/fixing rails to frames for switching cabinets and elecrical control centres and for fixing an upright between floor and ceiling. Assembled with a T-bolt.<br>Material: Steel, Zinkpox coated white. | | | | |
| 5LS | 111/71/60 | 50 | 7321677205295 | **720529** |

P140438

| | | | | |
|---|---|---|---|---|
| **Bracket 60/40** | | | | |
| Bracket to be used together with Pendant/fixing rail 24/48 to reduce the deflection of long vertical pieces.<br>Material: Steel, Zinkpox coated white. | | | | |
| 60/40 | 95/23/40 | 10 | 7321677205318 | **720531** |

P140439
P140440
P140441

| | | | | |
|---|---|---|---|---|
| **Pendant joint 2J, 2FJ and 20J** | | | | |
| Pendant joint to be used for joining pendant/fixing rails and vertical pieces. Screws M8x16 (2J and 2FJ) or M8x70 (20J) and nuts included.<br>Material: Steel, Zinkpox coated white. | | | | |
| 2J | 200/48/18 | 43 | 7321677163038 | **716303** |
| 2FJ | 200/55/18 | 46 | 7321677163045 | **716304** |
| 20J | 200/55/36 | 94 | 7321677163021 | **716302** |

# Zinkpox - Corrosion class C5-I

## Ceiling brackets

| | Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|---|
| P140442  | **Ceiling bracket 5** | | | | |
| | Ceiling bracket to be used for installations with Pendant/Fixing rails 24/34 and 24/48. Screw not included. Material: Steel, Zinkpox coated white. | | | | |
| | 5 | 100/135/40 | 35 | 7321677162932 | **716293** |
| P140443 | **Ceiling bracket 5TP** | | | | |
| | Ceiling bracket to be used for installations of Vertical pieces 2, 2F and 20 in ceilings with a trapezoidal sheet profile. Material: Steel, Zinkpox coated white. | | | | |
| | 5TP | 75/35/50 | 12 | 7321677162956 | **716295** |

## Take-off hook

| | | | | | |
|---|---|---|---|---|---|
| P139657 | **Fixed take-off hook 4** | | | | |
| | Fixed take-off hook to be used for 90° horizontal branches. Material: Aluminium. | | | | |
| | 4 | 71/19/86 | 8 | 7321677140671 | **714067** |
| P140444 | **Take-off hook 47** | | | | |
| | Take-off hook to be used on cable ladders KHZV and KHZPV to make 90° branches. Screw M12 nd nuts are included. Material: Steel, Zinkpox coated white. | | | | |
| | 47 | 155/10/73 | 27 | 7321677914012 | **791401** |

## End connection

| | | | | | |
|---|---|---|---|---|---|
| P139964 | **End connection 10** | | | | |
| | End connection to be used for the connection of a ladder vertically to a floor, or horizontally to a wall. Material: Aluminium. | | | | |
| | 10 | 60/55/60 | 8 | 7321677140855 | **714085** |

## Lighting bracket

| | | | | | |
|---|---|---|---|---|---|
| P140445  | **Lighting bracket 200** | | | | |
| | Lighting bracket to be used for the installation of lighting fittings beneath cable ladders KHZV and KHZPV 200. Material: Steel, Zinkpox coated white. | | | | |
| | 200 | 24/25/215 | 16 | 7321677186440 | **718644** |

## Beam clamp

| | | | | | |
|---|---|---|---|---|---|
| P140446  | **Beam clamp 5BK** | | | | |
| | Beam clamp to be used for the installation of Vertical pieces 2, 2F or 20 on I-beams. For flange thickness max. 13 mm and 14-30 mm respectively. Material: Steel, Zinkpox coated white. | | | | |
| | 5BK-10 (max. 13 mm) | 30/50/45 | 15 | 7321677162949 | **716294** |
| | 5BK-30 (14-30 mm) | 50/50/45 | 18 | 7321677184873 | **718487** |

## Back plate

| | | | | | |
|---|---|---|---|---|---|
| P140447  | **Back plate 40** | | | | |
| | Back plate to be used for installation behind Cantilever arm 50 to reduce the surface pressure on porous walls. Material: Steel, Zinkpox coated white. | | | | |
| | 40 | 150/–/60 | 55 | 7321677140299 | **714029** |

# Zinkpox - Corrosion class C5-I

## Bends

P140448

### Riser 18

Riser piece to be fitted to the cable ladders by using Joint 21.
Material: Steel, Zinkpox coated white.

| | | | | |
|---|---|---|---|---|
| 18-150 | 452/147/452 | 180 | 7321677181841 | **718184** |
| 18-200 | 452/197/452 | 190 | 7321677181858 | **718185** |
| 18-300 | 452/297/452 | 210 | 7321677181872 | **718187** |
| 18-400 | 452/397/452 | 230 | 7321677181889 | **718188** |
| 18-500 | 452/497/452 | 250 | 7321677181896 | **718189** |
| 18-600 | 452/597/452 | 270 | 7321677181902 | **718190** |
| 18-800 | 452/897/452 | 310 | 7321677280346 | **728034** |
| 18-1000 | 452/1097/452 | 350 | 7321677181919 | **718191** |

P140449

### Riser coupling 49

Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV. Two screw sets M12 are needed.
Material: Steel, Zinkpox coated white.

| | | | | |
|---|---|---|---|---|
| 49-200 | 120/197/483 | 220 | 7321677163953 | **716395** |
| 49-300 | 120/297/483 | 230 | 7321677163960 | **716396** |
| 49-400 | 120/397/483 | 240 | 7321677163977 | **716397** |
| 49-500 | 120/497/483 | 245 | 7321677205189 | **720518** |
| 49-600 | 120/597/483 | 250 | 7321677163984 | **716398** |
| 49-1000 | 120/997/483 | 280 | 7321677163991 | **716399** |

P140450

### 90° bend 15, interior

Interior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Inner radius 268 mm.
Material: Steel, Zinkpox coated white.

| | | | | |
|---|---|---|---|---|
| 15-150 | 55/547/547 | 220 | 7321677160747 | **716074** |
| 15-200 | 55/597/597 | 240 | 7321677160754 | **716075** |
| 15-300 | 55/697/697 | 290 | 7321677160778 | **716077** |
| 15-400 | 55/797/797 | 340 | 7321677160785 | **716078** |
| 15-500 | 55/897/897 | 390 | 7321677160792 | **716079** |
| 15-600 | 55/997/997 | 440 | 7321677160808 | **716080** |
| 15-800 | 55/1197/1197 | 640 | 7321677280438 | **728043** |
| 15-1000 | 55/1397/1397 | 760 | 7321677160815 | **716081** |

# Zinkpox - Corrosion class C5-I

## Bends

P140451

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **90° bend 15, exterior** | | | | |
| Exterior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Material: Steel, Zinkpox coated white. | | | | |
| 15-150 | 55/703/703 | 320 | 7321677161867 | **716186** |
| 15-200 | 55/933/933 | 370 | 7321677161874 | **716187** |
| 15-300 | 55/1133/1133 | 460 | 7321677161898 | **716189** |
| 15-400 | 55/1333/1333 | 550 | 7321677161904 | **716190** |
| 15-500 | 55/1533/1533 | 640 | 7321677161911 | **716191** |
| 15-600 | 55/1733/1733 | 760 | 7321677161928 | **716192** |
| 15-800 | 55/2133/2133 | 1060 | 7321677280520 | **728052** |
| 15-1000 | 55/2533/2533 | 1280 | 7321677280537 | **728053** |

P140452

| | | | | |
|---|---|---|---|---|
| **90° bend 55, interior** | | | | |
| Interior bend piece to be fitted to cable ladders KHZV and KHZPV, creating a 90° horizontal bend. Material: Steel, Zinkpox coated white. | | | | |
| 55-200 | 150/625/625 | 510 | 7321677162482 | **716248** |
| 55-300 | 150/725/725 | 560 | 7321677162505 | **716250** |
| 55-400 | 150/825/825 | 620 | 7321677162512 | **716251** |
| 55-500 | 150/925/925 | 680 | 7321677162529 | **716252** |
| 55-600 | 150/1025/1025 | 750 | 7321677162536 | **716253** |
| 55-1000 | 150/1425/1425 | 1110 | 7321677162543 | **716254** |

P140453

| | | | | |
|---|---|---|---|---|
| **T-junction 16** | | | | |
| T-junction piece to be fitted to the cable ladders by using Joint 21. Material: Steel, Zinkpox coated white. | | | | |
| 16-150 | 55/944/547 | 300 | 7321677162017 | **716201** |
| 16-200 | 55/997/597 | 320 | 7321677162024 | **716202** |
| 16-300 | 55/1097/697 | 390 | 7321677162048 | **716204** |
| 16-400 | 55/1197/797 | 440 | 7321677162055 | **716205** |
| 16-500 | 55/1297/897 | 530 | 7321677162062 | **716206** |
| 16-600 | 55/1397/997 | 600 | 7321677162079 | **716207** |
| 16-1000 | 55/1797/1397 | 860 | 7321677162086 | **716208** |

P140454

| | | | | |
|---|---|---|---|---|
| **T-junction 56** | | | | |
| T-junction piece to be fitted to the cable ladder KHZV or KHZPV by using screw set M12. Material: Steel, Zinkpox coated white. | | | | |
| 56-200 | 150/1050/625 | 710 | 7321677162628 | **716262** |
| 56-300 | 150/1150/725 | 790 | 7321677162642 | **716264** |
| 56-400 | 150/1250/825 | 840 | 7321677162659 | **716265** |
| 56-500 | 150/1350/925 | 940 | 7321677162666 | **716266** |
| 56-600 | 150/1450/1025 | 1010 | 7321677162673 | **716267** |
| 56-1000 | 150/1850/1425 | 1300 | 7321677162680 | **716268** |

P140455



| | | | | |
|---|---|---|---|---|
| **X-junction 17** | | | | |
| X-junction piece to be fitted to the cable ladders by using Joint 21. Material: Steel, Zinkpox coated white. | | | | |
| 17-150 | 55/547/547 | 380 | 7321677162178 | **716217** |
| 17-200 | 55/997/997 | 400 | 7321677162185 | **716218** |
| 17-300 | 55/1097/1097 | 500 | 7321677162208 | **716220** |
| 17-400 | 55/1197/1197 | 550 | 7321677162215 | **716221** |
| 17-500 | 55/1297/1297 | 600 | 7321677162222 | **716222** |
| 17-600 | 55/1397/1397 | 860 | 7321677162239 | **716223** |
| 17-1000 | 55/1797/1797 | 1220 | 7321677162246 | **716224** |

# Zinkpox - Corrosion class C5-I

## Covers/Cover plates

P140456



| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cover 64** | | | | |
| Cover to be used for vertically mounted cable ladders.<br>Material: Steel, Zinkpox coated white. | | | | |
| 64-150 | 10/2000/151 | 290 | 7321677825691 | **782569** |
| 64-200 | 10/2000/201 | 370 | 7321677825707 | **782570** |
| 64-300 | 10/2000/301 | 540 | 7321677825714 | **782571** |
| 64-400 | 10/2000/401 | 710 | 7321677825721 | **782572** |
| 64-500 | 10/2000/501 | 1020 | 7321677825738 | **782573** |
| 64-600 | 10/2000/601 | 1210 | 7321677825745 | **782574** |
| 64-800 | 10/2000/801 | 1660 | 7321677825752 | **782575** |
| 64-1000 | 10/2000/1001 | 2000 | 7321677825769 | **782576** |

P140457



| | | | | |
|---|---|---|---|---|
| **Cover W5** | | | | |
| Cover to be used to protect the cable runs from dust, dirt, liquids, etc. Outdoors, it protects against rain and sun.<br>Suitable for all cable ladders.<br>Material: Steel, Zinkpox coated white. | | | | |
| W5-150 | 10/2000/151 | 190 | 7321677823659 | **782365** |
| W5-200 | 10/2000/201 | 250 | 7321677823666 | **782366** |
| W5-300 | 10/2000/301 | 360 | 7321677823673 | **782367** |
| W5-400 | 10/2000/401 | 680 | 7321677823680 | **782368** |
| W5-500 | 10/2000/501 | 880 | 7321677823697 | **782369** |
| W5-600 | 10/2000/601 | 1050 | 7321677823703 | **782370** |
| W5-800 | 10/2000/801 | 1420 | 7321677822140 | **782214** |
| W5-1000 | 10/2000/1001 | 1730 | 7321677823710 | **782371** |

P140458



| | | | | |
|---|---|---|---|---|
| **Cover 90° interior bend** | | | | |
| Cover to be used for 90° interior bends. To be installed with a Profile support piece 37, Cover clamp and Cover joint.<br>Material: Steel, Zinkpox coated white. | | | | |
| 150 | 10/420/420 | 65 | 7321677817511 | **781751** |
| 200 | 10/470/470 | 91 | 7321677817528 | **781752** |
| 300 | 10/570/570 | 143 | 7321677817535 | **781753** |
| 400 | 10/670/670 | 221 | 7321677817542 | **781754** |
| 500 | 10/770/770 | 299 | 7321677817559 | **781755** |
| 600 | 10/870/870 | 390 | 7321677817566 | **781756** |
| 800 | 10/1070/1070 | 460 | 7321677817948 | **781794** |
| 1000 | 10/1270/1270 | 871 | 7321677817573 | **781757** |

P140459



| | | | | |
|---|---|---|---|---|
| **Cover T-junction** | | | | |
| Cover to be used for T-junctions. To be installed with a Profile support piece 37, Cover clamp and Cover joint.<br>Material: Steel, Zinkpox coated white. | | | | |
| 150 | 10/400/651 | 182 | 7321677817658 | **781765** |
| 200 | 10/450/701 | 221 | 7321677817665 | **781766** |
| 300 | 10/550/801 | 312 | 7321677817672 | **781767** |
| 400 | 10/650/901 | 416 | 7321677817689 | **781768** |
| 500 | 10/750/1001 | 533 | 7321677817696 | **781769** |
| 600 | 10/850/1101 | 676 | 7321677817702 | **781770** |
| 800 | 10/1050/1301 | 710 | 7321677817979 | **781797** |
| 1000 | 10/1240/1501 | 1352 | 7321677817719 | **781771** |

P140460

| | | | | |
|---|---|---|---|---|
| **Profile support piece 37** | | | | |
| Profile support piece to be used when installing covers. To be mounted on approximately every 0.5 m along both sides of the cable ladder. Used together with cover clamp for locking covers.<br>Material: Steel, Zinkpox coated white. | | | | |
| 37 | 136/20/50 | 6 | 7321677823826 | **782382** |

P140461

| | | | | |
|---|---|---|---|---|
| **Cover clamp** | | | | |
| Cover clamps to be used when installing a cover on a Profile support piece 37.<br>Material: Steel, Zinkpox coated white. | | | | |
| Cover clamp | 32/10.5/20 | 1.5 | 3606489699420 | **CSU795599** |

# Zinkpox - Corrosion class C5-I

## Angle plate

P140462



| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Angle plate 33** | | | | |
| Angle plate to be used together with 90° horizontal T-junctions. Recommended for all cable ladders. Material: Steel, Zinkpox coated white. | | | | |
| 33/2 | 25/195/490 | 90 | 7321677141685 | **714168** |

## Mounting rail

P140463

| | | | | |
|---|---|---|---|---|
| **Mounting rail 40** | | | | |
| Mounting rail to be used for wall installation of cantilever arms on porous walls to reduce the surface pressure or to enable height adjustment of cantilever arms. Material: Steel, Zinkpox coated white. | | | | |
| 40 | 270/26/48 | 56 | 7321677290451 | **729045** |

## Reducers

P140464

| | | | | |
|---|---|---|---|---|
| **Reducer 31** | | | | |
| Reducer to be used for transition joining from a wide to a narrower cable ladder. Material: Steel, Zinkpox coated white. | | | | |
| 31-100 | 48/100/200 | 43 | 7321677354337 | **735433** |
| 31-200 | 48/200/200 | 59 | 7321677354344 | **735434** |
| 31-300 | 48/300/200 | 74 | 7321677354351 | **735435** |
| 31-400 | 48/400/200 | 89 | 7321677354368 | **735436** |

## Lashing wire

P140226
P140225

| | | | | |
|---|---|---|---|---|
| **Lashing wire** | | | | |
| Lashing wire to be used for lashing of wires on cable ladders. Material: Stainless steel, PVC. | | | | |
| HTR-2303, white PVC | Ø1.25 | 1.3/100 m | 7321677136865 | **713686** |
| HTR-2313, black PVC | Ø1.25 | 1.3/100 m | 7321677136872 | **713687** |
| Lashing wire to be used for lashing of wires on cable ladders. Material: PVC. | | | | |
| HT-2304, white | Ø1.5 | 1.8/100 m | 7321677136841 | **713684** |
| HT-2314, black | Ø1.5 | 1.8/100 m | 7321677136858 | **713685** |

P140226
P140225

## Profile protection

P140063

| | | | | |
|---|---|---|---|---|
| **Profile protection 28P** | | | | |
| Profile protection to be used to increase the contact surface of the cables, when pulled over the side profile of the ladder. Material: PVC, grey. | | | | |
| 28P | 60/28/2000 | 80 | 7321677321513 | **732151** |

## End plugs

P140064

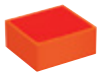


P140065
P140066

| | | | | |
|---|---|---|---|---|
| **End plug 28/28i** | | | | |
| End plug to be mounted on ladder ends for sealing or protection. Material: PP/TPE. | | | | |
| 28, red | 59/25/22 | 0.8 | 7321677090198 | **709019** |
| 28i, white<br>28i, red | 54/14/19 | 0.4 | 7321677354467<br>7321677319947 | **735446**<br>**731994** |
| **End plug 28C, D and E** | | | | |
| End plug to be mounted on pendant ends to provide protection against personal injury and to make the ends of the profiles more conspicuous. Material: PP/TPE, orange. | | | | |
| 28C for Vertical piece 2 and Pendant/fixing rail 24/34 | 25/19/46 | 0.5 | 7321677898756 | **789875** |
| 28D for Vertical piece 20 and Pendant/fixing rail 24/20 | 25/52/58 | 1 | 7321677090204 | **709020** |
| 28E for Vertical piece 2F and Pendant/fixing rail 24/48 | 24/30/52 | 0.5 | 7321677090211 | **709021** |

P140067

P140068



P140069

# Zinkpox - Corrosion class C5-I

## End plugs

| | Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|---|
| | **End plug 28F and J** | | | | |
| | End plug to be mounted on pendant ends to provide protection against personal injury and to make the ends of the profiles more conspicuous.<br>Material: PP/TPE, orange. | | | | |
| P140070 | 28F for Vertical piece 20FS and Pendant/fixing rail 24/20FS | 30/53/110 | 4 | 7321677898763 | **789876** |
| P138758 | 28J for Vertical piece 20F and Pendant/Fixing rail 24/20F | 27/53/95 | 2.1 | 3606480457531 | **CSU794520** |
| | **Cross member plug 27** | | | | |
| P140071 | Cross member plug to be installed at the ends of the rungs of KHZ and KHZV. Used in premises with a high corrosion risk.<br>Material: PE, grey. | | | | |
| | 27 | Ø20/10 | 0.15 | 7321677266685 | **726668** |

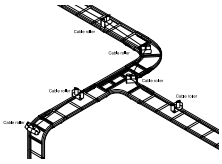
## Marking plates

| | | | | | |
|---|---|---|---|---|---|
| | **Marking plate 93** | | | | |
| B223240 | Marking plates are part of a colour marking system that is easy to use when you want to mark out the type of cable that is placed on the cable ladder. Five different colours are available. | | | | |
| | 93, yellow | 103/0.7/100 | 5 | 7321677377046 | **737704** |
| | 93, orange | 103/0.7/100 | 5 | 7321677377053 | **737705** |
| | 93, blue | 103/0.7/100 | 5 | 7321677377060 | **737706** |
| | 93, green | 103/0.7/100 | 5 | 7321677377077 | **737707** |
| | 93, black | 103/0.7/100 | 5 | 7321677377084 | **737708** |
| | **Marking label, equipotential** | | | | |
| P138944 | Label to be used to show that a construction is equipotentially bonded. Available in Swedish (other languages on request).<br>Printed on self-adhesive yellow vinyl, 250 labels per roll.<br>Material: Self-adhesive vinyl. | | | | |
| | Marking label | 25/–/86 | – | 7321677868605 | **786860** |

## Paint

| | | | | | |
|---|---|---|---|---|---|
| | **Repair paint** | | | | |
| B224226 | Repair paint for the repair of minor damages of powder-coated products. Colour white RAL 9003, gloss 30. | | | | |
| | Spray bottle, 0.4 litres | — | 60 | 7321677397136 | **739713** |

## Tools

| | | | | | |
|---|---|---|---|---|---|
| | **Cable roller S** | | | | |
| P129877 | Cable roller used to facilitate the pulling of cables and lines. Easily installed on all Wibe cable ladders except the high-sided WHS ladders (outer mounting hole). Also suitable for external/internal profiles of all 90° bends, T-junctions, X-junctions and risers (inner mounting hole). With a height adjustment of 45 mm to leave room for cables to pass under the roller.<br>Material: Steel, electro-galvanized.  | | | | |
| | S | 230/80/204 | 230 | 7321677186600 | **718660** |
| | **Cable roller 38 Rig'n roll** | | | | |
| P149449 | Cable roller used for mounting on Wibe cable ladders with belonging junctions and branches.<br>Material: Stainless steel AISI316L (cable roller). | | | | |
| | 38 Rig'n roll | 220/50/130 | 48 | 7321677359981 | **735998** |
| P149452 | Bag | 375/160/460 | 230 | 7321677801862 | **780186** |
| | Set 66 (1 bag + 10 Cable rollers 38 Rig'n roll) | 375/160/460 | 710 | 7321677801879 | **780187** |

# Stainless Steel AISI 304L - Corrosion class C5-M

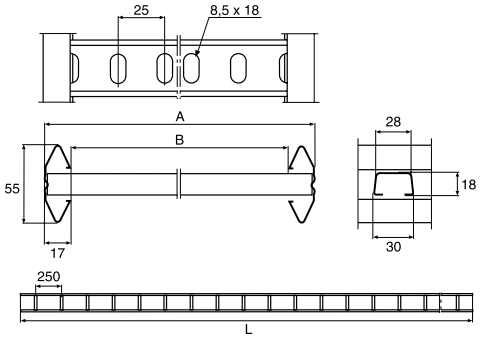
## Cable ladders

P139620

| Type | Dimensions A/B/C mm | Weight kg/100 m | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cable ladder KHZSP** | | | | |
| Cable ladder for both indoor and outdoor applications having high demands on corrosion resistance. With open side profiles provided with draining holes and profile-shaped rungs.<br>Material: Stainless steel, AISI304L. | | | | |
| KHZSP-200 | 198/164/2995<br>198/164/5995 | 198 | 3606481202512<br>3606481202567 | **CSU795543**<br>**CSU795548** |
| KHZSP-300 | 298/264/2995<br>298/264/5995 | 217 | 3606481202529<br>3606481202574 | **CSU795544**<br>**CSU795549** |
| KHZSP-400 | 398/364/2995<br>398/364/5995 | 237 | 3606481202536<br>3606481202581 | **CSU795545**<br>**CSU795550** |
| KHZSP-500 | 498/464/2995<br>498/464/5995 | 257 | 3606481202543<br>3606481202598 | **CSU795546**<br>**CSU795551** |
| KHZSP-600 | 598/564/2995<br>598/564/5995 | 277 | 3606481202550<br>3606481202604 | **CSU795547**<br>**CSU795552** |

## Dimension table

B224475




| Type | A mm | B mm | L mm | Ref. No. |
|---|---|---|---|---|
| KHZSP-200 | 198 | 164 | 2995<br>5995 | CSU795543<br>CSU795548 |
| KHZSP-300 | 298 | 264 | 2995<br>5995 | CSU795544<br>CSU795549 |
| KHZSP-400 | 398 | 364 | 2995<br>5995 | CSU795545<br>CSU795550 |
| KHZSP-500 | 498 | 464 | 2995<br>5995 | CSU795546<br>CSU795551 |
| KHZSP-600 | 598 | 564 | 2995<br>5995 | CSU795547<br>CSU795552 |

# Stainless Steel AISI 316L - Corrosion class C5-M

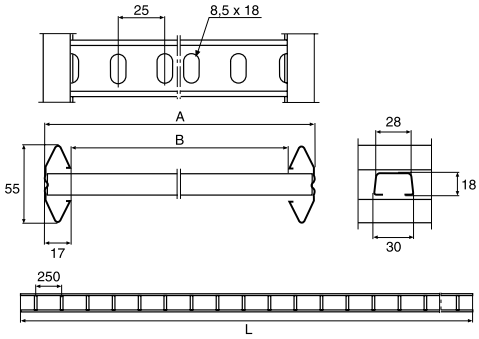
## Cable ladders AISI 316L C5-M

P139619

| Type | Dimensions A/B/C mm | Weight kg/100 m | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cable ladder KHZSP** | | | | |
| Cable ladder for both indoor and outdoor applications having high demands on corrosion resistance. With open side profiles provided with draining holes and profile-shaped rungs.<br>Material: Stainless steel, AISI316L. | | | | |
| KHZSP-200 | 198/164/2995<br>198/164/5995 | 198 | 3606480446795<br>3606480446856 | **CSU794439**<br>**CSU794445** |
| KHZSP-300 | 298/264/2995<br>298/264/5995 | 217 | 3606480446801<br>3606480446863 | **CSU794440**<br>**CSU794446** |
| KHZSP-400 | 398/364/2995<br>398/364/5995 | 237 | 3606480446818<br>3606480446870 | **CSU794441**<br>**CSU794447** |
| KHZSP-500 | 498/464/2995<br>498/464/5995 | 257 | 3606480446825<br>3606480446887 | **CSU794442**<br>**CSU794448** |
| KHZSP-600 | 598/564/2995<br>598/564/5995 | 277 | 3606480446832<br>3606480446894 | **CSU794443**<br>**CSU794449** |

## Dimension table

B224475




| Type | A mm | B mm | L mm | Ref. No. |
|---|---|---|---|---|
| KHZSP-200 | 198 | 164 | 2995<br>5995 | CSU794439<br>CSU794445 |
| KHZSP-300 | 298 | 264 | 2995<br>5995 | CSU794440<br>CSU794446 |
| KHZSP-400 | 398 | 364 | 2995<br>5995 | CSU794441<br>CSU794447 |
| KHZSP-500 | 498 | 464 | 2995<br>5995 | CSU794442<br>CSU794448 |
| KHZSP-600 | 598 | 564 | 2995<br>5995 | CSU794443<br>CSU794449 |

# Stainless Steel AISI 316L - Corrosion class C5-M

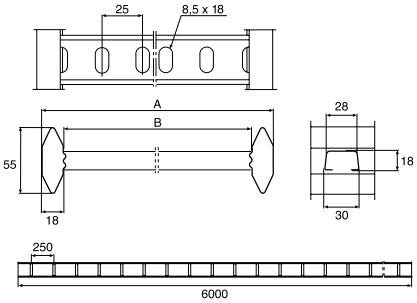
## Cable ladders

P139625

| Type | Dimensions A/B/C mm | Weight kg/100 m | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cable ladders KHZP** | | | | |
| Cable ladder for indoor or outdoor industrial applications. With closed side profiles and profile-shaped rungs. Must not be used as walkway. Material: Stainless steel AISI316L. | | | | |
| KHZP-150 | 55/147/6000 | 260 | 7321677273829 | **727382** |
| KHZP-200 | 55/197/6000 | 270 | 7321677273836 | **727383** |
| KHZP-300 | 55/297/6000 | 290 | 7321677273843 | **727384** |
| KHZP-400 | 55/397/6000 | 315 | 7321677273850 | **727385** |
| KHZP-500 | 55/497/6000 | 340 | 7321677273867 | **727386** |
| KHZP-600 | 55/597/6000 | 360 | 7321677273874 | **727387** |
| KHZP-800 | 55/797/6000 | 490 | 7321677821280 | **782128** |
| KHZP-1000 | 55/997/6000 | 560 | 7321677821297 | **782129** |

## Dimension table

B223677




| Type | A mm | B mm | L mm | Ref. No. |
|---|---|---|---|---|
| KHZP-150 | 147 | 111 | 6000 | **727382** |
| KHZP-200 | 197 | 161 | 6000 | **727383** |
| KHZP-300 | 297 | 261 | 6000 | **727384** |
| KHZP-400 | 397 | 361 | 6000 | **727385** |
| KHZP-500 | 497 | 461 | 6000 | **727386** |
| KHZP-600 | 597 | 561 | 6000 | **727387** |
| KHZP-800 | 797 | 761 | 6000 | **782128** |
| KHZP-1000 | 997 | 961 | 6000 | **782129** |

# Stainless Steel AISI 316L - Corrosion class C5-M

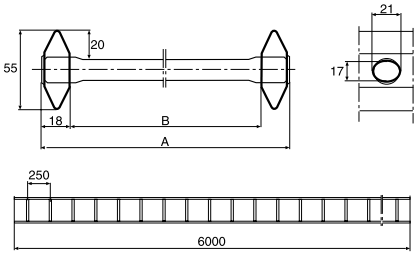
## Cable ladders

P139639

| Type | Dimensions A/B/C mm | Weight kg/100 m | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cable ladder KHZ** | | | | |
| Cable ladder for indoor or outdoor industrial applications. With closed side profiles and round rungs that do not penetrate the outer side of the side profile. Must not be used as walkway. Material: Stainless steel AISI316L. | | | | |
| KHZ-150 | 55/147/6000 | 270 | 7321677273768 | **727376** |
| KHZ-200 | 55/197/6000 | 280 | 7321677273775 | **727377** |
| KHZ-300 | 55/297/6000 | 300 | 7321677273782 | **727378** |
| KHZ-400 | 55/397/6000 | 320 | 7321677273799 | **727379** |
| KHZ-500 | 55/497/6000 | 340 | 7321677273805 | **727380** |
| KHZ-600 | 44/597/6000 | 360 | 7321677273812 | **727381** |

## Dimension table

B223589




| Type | A mm | B mm | L mm | Ref. No. |
|---|---|---|---|---|
| KHZ-150 | 147 | 111 | 6000 | **727376** |
| KHZ-200 | 197 | 161 | 6000 | **727377** |
| KHZ-300 | 297 | 261 | 6000 | **727378** |
| KHZ-400 | 397 | 361 | 6000 | **727379** |
| KHZ-500 | 497 | 461 | 6000 | **727380** |
| KHZ-600 | 597 | 561 | 6000 | **727381** |

# Stainless Steel AISI 316L - Corrosion class C5-M

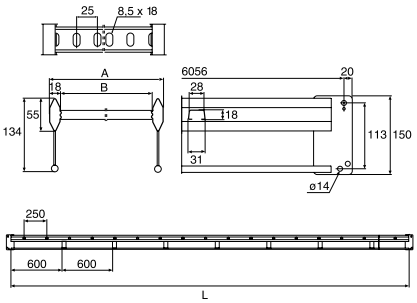
## Cable ladders

P139645

| Type | Dimensions A/B/C mm | Weight kg/100 m | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cable ladders KHZPV** | | | | |
| Reinforced cable ladder for indoor or outdoor industrial applications. Designed for extreme support distances and loadings. With closed side profiles and profile-shaped rungs. Must not be used as walkway. Material: Stainless steel AISI316L. | | | | |
| KHZPV-200 | 150/197/6000 | 426 | 7321677840663 | **784066** |
| KHZPV-300 | 150/297/6000 | 448 | 7321677840670 | **784067** |
| KHZPV-400 | 150/397/6000 | 470 | 7321677840687 | **784068** |
| KHZPV-500 | 150/497/6000 | 493 | 7321677840694 | **784069** |
| KHZPV-600 | 150/597/6000 | 515 | 7321677840700 | **784070** |
| KHZPV-800 | 150/797/6000 | 587 | 7321677840717 | **784071** |
| KHZPV-1000 | 150/997/6000 | 703 | 7321677840724 | **784072** |

## Dimension table

B223676




| Type | A mm | B mm | L mm | Ref. No. |
|---|---|---|---|---|
| KHZPV-200 | 197 | 161 | 6000 | **784066** |
| KHZPV-300 | 297 | 261 | 6000 | **784067** |
| KHZPV-400 | 397 | 361 | 6000 | **784068** |
| KHZPV-500 | 497 | 461 | 6000 | **784069** |
| KHZPV-600 | 597 | 561 | 6000 | **784070** |
| KHZPV-800 | 797 | 761 | 6000 | **784071** |
| KHZPV-1000 | 997 | 961 | 6000 | **784072** |

# Stainless Steel AISI 316L - Corrosion class C5-M

## Joints

| | Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|---|
| | **Joint 21** | | | | |
| P139655 | Joint to be used for straight, rigid joining of cable ladders, bends, junctions and risers. It also reduces the transition resistance and prevents the ladders from slipping apart. M6 screws included.<br>Material: Stainless steel AISI316L. | | | | |
| | 21 | 64/22/200 | 37 | 7321677257515 | **725751** |
| | **Joint 45** | | | | |
| P139919 | Joint to be fitted as a joining plate in a cut KHZPV ladder. Screws M8 and M12 + nuts are included.<br>Material: Stainless steel AISI316L. | | | | |
| | 45 | 150/4/95 | 50 | 7321677928736 | **792873** |

## Couplings

| | | | | | |
|---|---|---|---|---|---|
| | **Coupling 22** | | | | |
| P139656 | Coupling to be used for horizontal or vertical branches at any desired angle. M6 screws included.<br>Material: Stainless steel AISI316L. | | | | |
| | 22 | 60//24/150 | 21 | 7321677257607 | **725760** |
| | **Junction coupling 14** | | | | |
| P139920 | Junction coupling to be used for T- and X-junctions. Suitable for cable ladders KHZ, KHZP, KHZSP and KHZPS, all cable widths. M6 screws included.<br>Material: Stainless steel AISI316L. | | | | |
| | 14 | 65/73/350 | 49 | 7321677271955 | **727195** |
| | **Coupling 44** | | | | |
| P139921 | Coupling to be used for horizontal coupling of cable ladders KHZV/KHZPV. Also to be used for branches and as an end connection against a wall. Four screws M8x30 and nuts are included.<br>Material: Stainless steel AISI316L. | | | | |
| | 44 | 135/–/120 | 50 | 7321677928880 | **792888** |
| | **Coupling 51** | | | | |
| P139922 | Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV. Two screws M12 and nuts are included.<br>Material: Stainless steel AISI316L. | | | | |
| | 51 | 150/–/193+138 | 150 | 7321677319145 | **731914** |

## Clamps, support piece

| | | | | | |
|---|---|---|---|---|---|
| | **Profile clamp 42** | | | | |
| P139923 | Profile clamp to be used for installations where the cable ladder is to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included.<br>Material: Stainless steel AISI316L. | | | | |
| | 42 | 54/57/30 | 11 | 7321677257638 | **725763** |
| | **Profile clamp 43** | | | | |
| P139924 | Profile clamp to be used for installations where the cable ladders KHZV and KHZPV are to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included.<br>Material: Stainless steel AISI316L. | | | | |
| | 43 | 21/43/30 | 5 | 7321677928934 | **792893** |
| | **Clamp 12** | | | | |
| P139925 P139926 | Clamp to be used on the side profile of the cable ladder for installation of accessories. Bolt and nut included.<br>Material: Stainless steel AISI316L. | | | | |
| | 12/70 | 125/25/40 | 19 | 7321677286515 | **728651** |
| | 12/120 | 175/25/40 | 24 | 7321677286522 | **728652** |
| | **Profile clamp 41** | | | | |
| P139927 | Profile clamp to be used to install a pendant/fixing rail or mounting plate, etc., on the cable ladder profile.<br>Material: Stainless steel AISI316L. | | | | |
| | 41 | 125/16/30 | 10 | 7321677833740 | **783374** |
| | **Profile support piece 46** | | | | |
| P139928 | Profile support piece to be fitted between the ladder and the vault pipe when a support bracket is positioned between existing profile support pieces. For cable ladders KHZV and KHZPV.<br>Material: Stainless steel AISI316L. | | | | |
| | 46 | 72/18/30 | 15 | 7321677928774 | **792877** |

# Stainless Steel AISI 316L - Corrosion class C5-M

## Cantilever arms

P140016

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cantilever arm 50** | | | | |
| Cantilever arm for mounting on walls, pendant/fixing rails or vertical pieces. Material: Stainless steel AISI316L. | | | | |
| 50-100 | 85/150/40 | 24 | 7321677256181 | **725618** |
| 50-150 | 85/200/40 | 28 | 7321677256198 | **725619** |
| 50-200 | 85/250/40 | 34 | 7321677256204 | **725620** |
| 50-250 | 105/300/40 | 52 | 7321677256211 | **725621** |
| 50-300 | 105/350/40 | 60 | 7321677256228 | **725622** |
| 50-400 | 120/450/50 | 228 | 7321677256235 | **725623** |
| 50-500 | 140/550/50 | 172 | 7321677256242 | **725624** |
| 50-600 | 150/650/50 | 215 | 7321677256259 | **725625** |

## Wall and support brackets

P140622

| | | | | |
|---|---|---|---|---|
| **Support bracket 3** | | | | |
| Support bracket to be used for centre installation of cable ladders on pendant/fixing rails and vertical pieces. Material: Stainless steel AISI316L. | | | | |
| 3-150 | 70/39/154 | 15 | 7321677264339 | **726433** |
| 3-200 | 70/39/204 | 20 | 7321677264346 | **726434** |
| 3-300 | 70/40/306 | 47 | 7321677264353 | **726435** |
| 3-400 | 70/40/406 | 62 | 7321677264360 | **726436** |
| 3-500 | 70/40/506 | 103 | 7321677264377 | **726437** |
| 3-600 | 70/40/606 | 123 | 7321677264384 | **726438** |

P139934
P139933

| | | | | |
|---|---|---|---|---|
| **Wall bracket 11/25 and 11/75** | | | | |
| Wall bracket to be used for vertical or horizontal installations of cable ladders against a wall. Maximum loads for vertical mounting: 300 kg (3 kN). For mounting against a rung the max. load is 500 kg (5 kN) for 11/25. Maximum loads for horizontal mounting: 11/25 250 kg (2.5 kN), 11/75 100 kg (1 kN). Material: Stainless steel AISI316L. | | | | |
| 11/25 | 85/71/40 | 24 | 7321677257744 | **725774** |
| 11/75 | 135/71/40 | 30 | 7321677257751 | **725775** |

P143289

| | | | | |
|---|---|---|---|---|
| **Wall support 550** | | | | |
| Wall support for mounting of cantilever arm on porous walls or sandwich wall blocks, with six keyholes for easy fixation. When mounting cantilever arm on support, use screw set 25S (M8). Material: Stainless steel AISI316L. | | | | |
| Wall support 550 mm | 20/100/550 | 105 | 3606480985300 | **CSU795367** |

## Brackets

P139953

| | | | | |
|---|---|---|---|---|
| **Angle bracket 5L** | | | | |
| Angle bracket to be used for steel wire installation in ceilings. Also used when assembling pendant/fixing rails to frames for switching cabinets and elecrical control centres and for fixing an upright between floor and ceiling. Assembled with a T-bolt. Material: Stainless steel AISI316L. | | | | |
| 5L | 70/45/49 | 15 | 7321677317936 | **731793** |

P139954

| | | | | |
|---|---|---|---|---|
| **Angle bracket 5LS** | | | | |
| Angle bracket to be used when assembling pendant/fixing rails to frames for switching cabinets and elecrical control centres and for fixing an upright between floor and ceiling. Assembled with a T-bolt. Material: Stainless steel AISI316L. | | | | |
| 5LS | 111/71/60 | 50 | 7321677256365 | **725636** |

P139959
P139960

| | | | | |
|---|---|---|---|---|
| **Pendant joint 2J and 2FJ** | | | | |
| Pendant joint to be used for joining pendant/fixing rails and vertical pieces. Screws M8x16 and nuts included. Material: Stainless steel AISI316L. | | | | |
| 2J | 200/48/18 | 43 | 7321677264841 | **726484** |
| 2FJ | 200/55/18 | 46 | 7321677264858 | **726485** |

## Ceiling bracket

P139961

| | | | | |
|---|---|---|---|---|
| **Ceiling bracket 5** | | | | |
| Ceiling bracket to be used for installations with Pendant/Fixing rails 24/34 and 24/48. Screw not included. Material: Stainless steel AISI316L. | | | | |
| 5 | 100/135/40 | 35 | 7321677255733 | **725573** |

## Take-off hook

P139958

| | | | | |
|---|---|---|---|---|
| **Take-off hook 47** | | | | |
| Take-off hook to be used on cable ladders KHZV and KHZPV to make 90° branches. Screw M12 nd nuts are included. Material: Stainless steel AISI316L. | | | | |
| 47 | 155/10/73 | 27 | 7321677928750 | **792875** |

# Stainless Steel AISI 316L - Corrosion class C5-M

## Vertical pieces

P139937

### Vertical piece 2

Vertical piece to be used for installation of Support bracket 3, symmetrical loading. Not suitable for cable ladders KHZV and KHZPV. Can be joined to Pendant/fixing rail 24/34 with Pendant joint 2J.
Material: Stainless steel AISI316L.

| | | | | |
|---|---|---|---|---|
| 2-300 | 279/80/135 | 52 | 7321677255573 | **725557** |
| 2-400 | 392/80/135 | 62 | 7321677255580 | **725558** |
| 2-500 | 504/80/135 | 72 | 7321677255597 | **725559** |
| 2-700 | 729/80/135 | 93 | 7321677255603 | **725560** |
| 2-1000 | 1022/80/135 | 120 | 7321677255610 | **725561** |

P139938

### Vertical piece 2F

Vertical piece to be used for installation of Support bracket 3 or Cantilever arm 50. Can be joined to Pendant/fixing rail 24/48 with Pendant joint 2FJ.
Material: Stainless steel AISI316L.

| | | | | |
|---|---|---|---|---|
| 2F-280 | 280/80/135 | 80 | 7321677255627 | **725562** |
| 2F-370 | 370/80/135 | 100 | 7321677255634 | **725563** |
| 2F-505 | 505/80/135 | 130 | 7321677255641 | **725564** |
| 2F-730 | 730/80/135 | 170 | 7321677255658 | **725565** |
| 2F-1000 | 1000/80/135 | 220 | 7321677255665 | **725566** |
| 2F-1500 | 1495/80/135 | 290 | 7321677872787 | **787278** |

P139942

### Vertical piece 20

Vertical piece, two-sided, to be used for vertical installation together with Cantilever arm 50, from a ceiling or on a floor. Can also be installed as a cantilever arm on a wall.
Material: Stainless steel AISI316L.

| | | | | |
|---|---|---|---|---|
| 20-500 | 505/155/150 | 243 | 7321677255672 | **725567** |
| 20-700 | 730/155/150 | 324 | 7321677255689 | **725568** |
| 20-1000 | 1000/155/150 | 458 | 7321677255696 | **725569** |
| 20-1500 | 1495/155/150 | 652 | 7321677255702 | **725570** |
| 20-2000 | 1990/155/150 | 799 | 7321677255719 | **725571** |
| 20-3000 | 2980/155/150 | 1177 | 7321677255726 | **725572** |

## Pendant/Fixing rails

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|

P139945

### Pendant/Fixing rail 24/34

Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.
Material: Stainless steel AISI316L.

| | | | | |
|---|---|---|---|---|
| 24/34 | 293/16/42 | 23 | 7321677255740 | **725574** |
| 24/34 | 383/16/42 | 31 | 7321677255757 | **725575** |
| 24/34 | 495/16/42 | 40 | 7321677255764 | **725576** |
| 24/34 | 698/16/42 | 56 | 7321677255771 | **725577** |
| 24/34 | 990/16/42 | 80 | 7321677255788 | **725578** |
| 24/34 | 2970/16/42 | 240 | 7321677255795 | **725579** |

P139946

### Pendant/Fixing rail 24/48

Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.
Material: Stainless steel AISI316L.

| | | | | |
|---|---|---|---|---|
| 24/48 | 1000/26/48 | 175 | 3606481317872 | **CSU795566** |
| 24/48 | 2970/26/48 | 520 | 7321677285952 | **728595** |
| 24/48 | 5940/26/48 | 1120 | 7321677317271 | **731727** |

P140023

### Pendant bar 1

Pendant bar to be installed in order to reduce the deflection of heavily loaded vertical pieces. Installed with T-bolt and Expansion bolt.
Material: Stainless steel AISI316L.

| | | | | |
|---|---|---|---|---|
| 1-500 | 515/166/40 | 53 | 3606480911415 | **CSU795328** |

# Stainless Steel AISI 316L - Corrosion class C5-M

## Threaded rod

P140075
P140076

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Threaded rod B41** | | | | |
| Threaded rod according to metric standard 6G.<br>Material: Stainless steel AISI316L. | | | | |
| B41/M8 | 8/8/1000<br>8/8/2000 | 63 | 7332227015516<br>7332227015523 | **1149551**<br>**1149552** |
| B41/M10 | 10/10/1000<br>10/10/2000 | 99 | 7332227015615<br>7332227015622 | **1149561**<br>**1149562** |

P140154

| | | | | |
|---|---|---|---|---|
| **Flange nut B43** | | | | |
| Flange nut to be mounted onto Threaded rod B41 in order to lock it to the Support hook and the Ceiling fittings.<br>Package of 50 pcs.<br>Material: Stainless steel AISI316L. | | | | |
| B43/M8 | 17/17/8 | 0.68 | 7332227015547 | **1149554** |
| B43/M10 | 20/20/15 | 1.12 | 7332227015646 | **1149564** |

P140155

| | | | | |
|---|---|---|---|---|
| **Distance nut B42** | | | | |
| Distance nut to be used when joining Threaded rods.<br>Material: Stainless steel AISI316L. | | | | |
| B42/M8 | 15/15/30 | 1 | 7332227015554 | **1149555** |
| B42/M10 | 20/20/40 | 2 | 7332227015653 | **1149565** |

## Clamps

P140102

| | | | | |
|---|---|---|---|---|
| **Cable clamp ER** | | | | |
| Cable clamp for the installation of cables on cable ladders with round or perforated rungs.<br>Material: Stainless steel AISI316. | | | | |
| ER for cable 23-28 mm | 74/50/80 | 44 | 7321677364404 | **736440** |
| ER for cable 27-32 mm | 81/50/82 | 45 | 7321677364411 | **736441** |
| ER for cable 39-35 mm | 88/50/82 | 46 | 7321677364428 | **736442** |
| ER for cable 33-38 mm | 94/50/85 | 47 | 3303432467883 | **736443** |
| ER for cable 36-42 mm | 101/50/113 | 60 | 3303432467586 | **736444** |
| ER for cable 40-46 mm | 108/50/115 | 62 | 3303437364453 | **736445** |
| ER for cable 44-50 mm | 115/50/117 | 63 | 3303437364460 | **736446** |
| ER for cable 48-55 mm | 129/50/120 | 64 | 7321677364473 | **736447** |
| ER for cable 51-58 mm | 130/50/121 | 66 | 7321677364480 | **736448** |
| ER for cable 55-62 mm | 138/50/156 | 78 | 7321677364497 | **736449** |
| ER for cable 59-66 mm | 146/50/158 | 79 | 7321677364503 | **736450** |
| ER for cable 63-70 mm | 150/50/160 | 80 | 7321677364510 | **736451** |
| ER for cable 67-74 mm | 161/50/163 | 81 | 7321677364527 | **736452** |
| ER for cable 71-78 mm | 168/50/165 | 85 | 7321677364534 | **736453** |
| ER for cable 74-82 mm | 176/50/167 | 86 | 7321677364541 | **736454** |
| ER for cable 77-85 mm | 181/50/169 | 87 | 7321677364558 | **736455** |

P140103

| | | | | |
|---|---|---|---|---|
| Oval rung adaptor, screw set included, to be used when mounting Cable clamp ER on oval rungs on the KHZ range.<br>Material: PP. | | | | |
| Adaptor | 29.5/48/47 | 12 | 7321677364565 | **736456** |
| Screw set 74S to be used for the installation of cable clamp ER on perforated rungs. Two screws screw sets are required.<br>Material: Stainless steel AISI316. | | | | |
| 74S | 20/19/8 | 2 | 7321677371983 | **737198** |

P140104

| | | | | |
|---|---|---|---|---|
| **Clamp set M6** | | | | |
| Clamp set to be used for the installation of Support bracket 3 directly on a roof bolt. The set includes two clamps and four locking nuts. M6-25 must be used for Support bracket 3 in hot-dip and pre-galvanized surface finish, whereas M6-20 must be used for Support bracket 3 in stainless steel and Installation plate 60 in all surface treatments.<br>Material: Stainless steel AISI316L. | | | | |
| M6-25 | Ø29/M8 | 5 | 7321677207862 | **720786** |
| M6-20 | Ø24/M6 | 4 | 7321677255870 | **725587** |

# Stainless Steel AISI 316L - Corrosion class C5-M

## Box plates

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Junction box plate 35S** | | | | |
| Junction box plate, holed, to be installed upright or hanging from the profile. Locked with locking tabs. For junction boxes, electric light fittings, etc. Material: Stainless steel AISI316L. | | | | |
| 35S holed | 164/20/170 | 22 | 7321677257768 | **725776** |
| **Junction box plate 35P** | | | | |
| Junction box plate, unholed, to be installed between rungs. Locked with appropriate locking tabs for each ladder. For junction boxes, electric light fittings, etc. Material: Stainless steel AISI316L. | | | | |
| 35P unholed | 21/106/250 | 28 | 7321677257775 | **725777** |

P132524

P140487

## Bends

| | | | | |
|---|---|---|---|---|
| **Riser 18** | | | | |
| Riser piece to be fitted to the cable ladders by using Joint 21. Material: Stainless steel AISI316L. | | | | |
| 18-150 | 452/147/452 | 180 | 7321677273706 | **727370** |
| 18-200 | 452/197/452 | 190 | 7321677273713 | **727371** |
| 18-300 | 452/297/452 | 210 | 7321677273720 | **727372** |
| 18-400 | 452/397/452 | 230 | 7321677273737 | **727373** |
| 18-500 | 452/497/452 | 250 | 7321677273744 | **727374** |
| 18-600 | 452/597/452 | 270 | 7321677273751 | **727375** |
| **Riser coupling 49** | | | | |
| Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV. Two screw sets M12 are needed. Material: Stainless steel AISI316L. | | | | |
| 49-200 | 120/197/483 | 220 | 7321677928804 | **792880** |
| 49-300 | 120/297/483 | 230 | 7321677928811 | **792881** |
| 49-400 | 120/397/483 | 240 | 7321677928828 | **792882** |
| 49-500 | 120/497/483 | 245 | 7321677928835 | **792883** |
| 49-600 | 120/597/483 | 250 | 7321677928842 | **792884** |
| 49-800 | 120/797/483 | 265 | 7321677928859 | **792885** |
| 49-1000 | 120/997/483 | 280 | 7321677928866 | **792886** |
| **90° bend 15, interior** | | | | |
| Interior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Material: Stainless steel AISI316L. | | | | |
| 15-150 | 55/547/547 | 220 | 7321677273461 | **727346** |
| 15-200 | 55/597/597 | 240 | 7321677273478 | **727347** |
| 15-300 | 55/697/697 | 290 | 7321677273485 | **727348** |
| 15-400 | 55/797/797 | 340 | 7321677273492 | **727349** |
| 15-500 | 55/897/897 | 390 | 7321677273508 | **727350** |
| 15-600 | 55/997/997 | 440 | 7321677273515 | **727351** |
| **90° bend 15, exterior** | | | | |
| Exterior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Material: Stainless steel AISI316L. | | | | |
| 15-150 | 55/703/703 | 320 | 7321677273522 | **727352** |
| 15-200 | 55/933/933 | 370 | 7321677273539 | **727353** |
| 15-300 | 55/1133/1133 | 460 | 7321677273546 | **727354** |
| 15-400 | 55/1333/1333 | 550 | 7321677273553 | **727355** |
| 15-500 | 55/1533/1533 | 640 | 7321677273560 | **727356** |
| 15-600 | 55/1733/1733 | 760 | 7321677273577 | **727357** |

P140032

P140033

P140034

P140035

# Stainless Steel AISI 316L - Corrosion class C5-M

## Bends

P140036

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **90° bend 55, interior** | | | | |
| Interior bend piece to be fitted to cable ladders KHZV and KHZPV, creating a 90° horizontal bend. Material: Stainless steel AISI316L. | | | | |
| 55-200 | 150/625/625 | 510 | 7321677929030 | **792903** |
| 55-300 | 150/725/725 | 560 | 7321677929047 | **792904** |
| 55-400 | 150/825/825 | 620 | 7321677929054 | **792905** |
| 55-500 | 150/925/925 | 680 | 7321677929061 | **792906** |
| 55-600 | 150/1025/1025 | 750 | 7321677929078 | **792907** |
| 55-800 | 150/1225/1225 | 830 | 7321677929081 | **792908** |
| 55-1000 | 150/1425/1425 | 1110 | 7321677929092 | **792909** |

P140037

| | | | | |
|---|---|---|---|---|
| **T-junction 16** | | | | |
| T-junction piece to be fitted to the cable ladders by using Joint 21. Material: Stainless steel AISI316L. | | | | |
| 16-150 | 55/944/547 | 300 | 7321677273584 | **727358** |
| 16-200 | 55/997/597 | 320 | 7321677273591 | **727359** |
| 16-300 | 55/1097/697 | 390 | 7321677273607 | **727360** |
| 16-400 | 55/1197/797 | 440 | 7321677273614 | **727361** |
| 16-500 | 55/1297/897 | 530 | 7321677273621 | **727362** |
| 16-600 | 55/1397/997 | 600 | 7321677273638 | **727363** |

P140038

| | | | | |
|---|---|---|---|---|
| **T-junction 56** | | | | |
| T-junction piece to be fitted to the cable ladder KHZV or KHZPV by using screw set M12. Material: Stainless steel AISI316L. | | | | |
| 56-200 | 150/1050/625 | 640 | 7321677929207 | **792920** |
| 56-300 | 150/1150/725 | 710 | 7321677929214 | **792921** |
| 56-400 | 150/1250/825 | 760 | 7321677929221 | **792922** |
| 56-500 | 150/1350/925 | 850 | 7321677929238 | **792923** |
| 56-600 | 150/1450/1025 | 910 | 7321677929245 | **792924** |
| 56-800 | 150/1650/1225 | 1050 | 7321677929252 | **792925** |
| 56-1000 | 150/1850/1425 | 1170 | 7321677834846 | **783484** |

P140039

| | | | | |
|---|---|---|---|---|
| **X-junction 17** | | | | |
| X-junction piece to be fitted to the cable ladders by using Joint 21. Material: Stainless steel AISI316L. | | | | |
| 17-150 | 55/547/547 | 380 | 7321677273645 | **727364** |
| 17-200 | 55/997/997 | 400 | 7321677273652 | **727365** |
| 17-300 | 55/1097/1097 | 500 | 7321677273669 | **727366** |
| 17-400 | 55/1197/1197 | 550 | 7321677273676 | **727367** |
| 17-500 | 55/1297/1297 | 600 | 7321677273683 | **727368** |
| 17-600 | 55/1397/1397 | 860 | 7321677273690 | **727369** |

## Tele-conduits

P140041

| | | | | |
|---|---|---|---|---|
| **Tele-conduit 36** | | | | |
| Tele-conduit to be used where a separate tray is required for low-tension cables. Knock-out holes in the bottom of the channel permit the cables to pass through. Material: Stainless steel AISI316L. | | | | |
| 36-50 | 24/50/2000 | 94 | 7321677255900 | **725590** |
| 36-100 | 24/100/2000 | 142 | 7321677255917 | **725591** |
| 36-200 | 24/200/2000 | 238 | 7321677255924 | **725592** |

## Dividers

P140042

P140043

| | | | | |
|---|---|---|---|---|
| **Dividing strip 39** | | | | |
| Dividing strip to be used to separate low-tension and high-tension cables. Material: Stainless steel AISI316L. | | | | |
| 39/24 | 24/24/1750 | 46 | 7321677255931 | **725593** |
| 39/55 | 55/24/1750 | 73 | 7321677255948 | **725594** |

# Stainless Steel AISI 316L - Corrosion class C5-M

## Dividers

P140044

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Distance piece W39** | | | | |
| Distance piece to be used for the joining of Dividing strips 39.<br>Material: Plastic, natural coloured. | | | | |
| W39 | 37/–/330 | 3 | 7321677168248 | **716824** |

## Covers/Cover plates

P140045

| | | | | |
|---|---|---|---|---|
| **Cover 64** | | | | |
| Cover to be used for vertically mounted cable ladders.<br>Material: Stainless steel AISI316L. | | | | |
| 64-150 | 10/151/2000 | 290 | 7321677825851 | **782585** |
| 64-200 | 10/201/2000 | 370 | 7321677825868 | **782586** |
| 64-300 | 10/301/2000 | 540 | 7321677825875 | **782587** |
| 64-400 | 10/401/2000 | 710 | 7321677825882 | **782588** |
| 64-500 | 10/501/2000 | 1020 | 7321677825899 | **782589** |
| 64-600 | 10/601/2000 | 1210 | 7321677825905 | **782590** |
| 64-800 | 10/801/2000 | 1660 | 7321677825912 | **782591** |
| 64-1000 | 10/1001/2000 | 2000 | 7321677825929 | **782592** |

P140046

| | | | | |
|---|---|---|---|---|
| **Cover W5** | | | | |
| Cover to be used to protect the cable runs from dust, dirt, liquids, etc. Outdoors, it protects against rain and sun.<br>Suitable for all cable ladders.<br>Material: Stainless steel AISI316L. | | | | |
| W5-150 | 10/151/2000 | 190 | 7321677322916 | **732291** |
| W5-200 | 10/201/2000 | 250 | 7321677322923 | **732292** |
| W5-300 | 10/301/2000 | 360 | 7321677322930 | **732293** |
| W5-400 | 10/401/2000 | 680 | 7321677322947 | **732294** |
| W5-500 | 10/501/2000 | 840 | 7321677322954 | **732295** |
| W5-600 | 10/601/2000 | 700 | 7321677322961 | **732296** |
| W5-800 | 10/801/2000 | 1420 | 7321677833757 | **783375** |
| W5-1000 | 10/1001/2000 | 1730 | 7321677322978 | **732297** |

P140105

| | | | | |
|---|---|---|---|---|
| **Cover 90° interior bend** | | | | |
| Cover to be used for 90° interior bends. To be installed with a Profile support piece 37, Cover clamp and Cover joint.<br>Material: Stainless steel AISI316L. | | | | |
| 150 | 10/420/420 | 44 | 7321677886395 | **788639** |
| 200 | 10/470/470 | 62 | 7321677886401 | **788640** |
| 300 | 10/570/570 | 105 | 7321677886418 | **788641** |
| 400 | 10/670/670 | 223 | 7321677886425 | **788642** |
| 500 | 10/770/770 | 310 | 7321677886432 | **788643** |
| 600 | 10/870/870 | 408 | 7321677886449 | **788644** |
| 800 | 10/1070/1070 | 643 | 7321677886456 | **788645** |
| 1000 | 10/1270/1270 | 926 | 7321677886463 | **788646** |

P140106

| | | | | |
|---|---|---|---|---|
| **Cover T-junction** | | | | |
| Cover to be used for T-junctions. To be installed with a Profile support piece 37, Cover clamp and Cover joint.<br>Material: Stainless steel AISI316L. | | | | |
| 150 | 10/400/651 | 95 | 7321677886470 | **788647** |
| 200 | 10/450/701 | 126 | 7321677886487 | **788648** |
| 300 | 10/550/801 | 196 | 7321677886494 | **788649** |
| 400 | 10/650/901 | 394 | 7321677886500 | **788650** |
| 500 | 10/750/1001 | 525 | 7321677886517 | **788651** |
| 600 | 10/850/1101 | 672 | 7321677886524 | **788652** |
| 800 | 10/1050/1301 | 1011 | 7321677886531 | **788653** |
| 1000 | 10/1240/1501 | 1414 | 7321677886548 | **788654** |

P138935

| | | | | |
|---|---|---|---|---|
| **Profile support piece 37** | | | | |
| Profile support piece to be used when installing covers. To be mounted on approximately every 0.5 m along both sides of the cable ladder. Used together with cover clamp for locking covers.<br>Material: Stainless steel AISI316L. | | | | |
| 37 | 136/20/50 | 6 | 7321677301904 | **730190** |

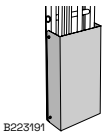
# Stainless Steel AISI 316L - Corrosion class C5-M

## Covers/Cover plates

| Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|
| **Cover clamp** | | | | |
| Cover clamps to be used when installing a cover on a Profile support piece 37. Material: Stainless steel AISI316L. | | | | |
| Cover clamp | 32/10.5/20 | 1.5 | 7321677285860 | **728586** |
| **Cover plate 65** | | | | |
| Cover plate to be used on vertical cable ladder installations as protection of cables near the floor. To be mounted in the side profile with self-tapping screw ST4.2. Material: Stainless steel AISI316L. | | | | |
| 65-200 | 1000/120/200 | 930 | 7321677324811 | **732481** |
| 65-300 | 1000/120/300 | 1140 | 7321677324828 | **732482** |
| 65-400 | 1000/120/400 | 1350 | 7321677324835 | **732483** |
| 65-500 | 1000/120/500 | 1560 | 7321677324842 | **732484** |
| 65-600 | 1000/120/600 | 1780 | 7321677324859 | **732485** |

P140049

P140052




## Angle plates

| | | | | |
|---|---|---|---|---|
| **Angle plate 33** | | | | |
| Angle plate to be used together with 90° horizontal T-junctions. Recommended for all cable ladders. Material: Stainless steel AISI316L. | | | | |
| 33/1 | 28/150/290 | 50 | 7321677273409 | **727340** |
| 33/2 | 25/195/490 | 90 | 7321677271979 | **727197** |

P140366

P140054

## Fittings for mesh trays

| | | | | |
|---|---|---|---|---|
| **Combi-fittings B21** | | | | |
| Combi-fitting to be used when mounting mesh trays onto cable ladders. Material: Stainless steel AISI316L. | | | | |
| B21 | 250/50/20 | 45 | 7332227013598 | **1149359** |
| B21 90 degrees | 120/50/135 | 45 | 7332227013918 | **1149391** |

P140021

P140022

## Installation system HT

| | | | | |
|---|---|---|---|---|
| **Pipe HTR-68** | | | | |
| Pipe for easy locking of wires. Material: Stainless steel AISI316L. | | | | |
| HTR-68 | Ø15/25 | 1.3 | 7321677136780 | **713678** |
| **Steel wire HT-2309** | | | | |
| Hard steel wire to be installed as carrier of one or more cables. Breaking loads, see below. Material: Stainless steel. | | | | |
| HT-2322 Breaking load 450 kg | Dim. 2.5 | 3.9/100 m | 7321677136810 | **713681** |
| HT-2323 Breaking load 700 kg | Dim. 3.0 | 5.6/100 m | 7321677136827 | **713682** |
| HT-2324 Breaking load 1200 kg | Dim. 4.0 | 10.0/100 m | 7321677136834 | **713683** |

P140060

P140227

## Bar fixings

| | | | | |
|---|---|---|---|---|
| **Round bar fixing** | | | | |
| Round bar fixing to be used for mounting in underground cavities and tunnels. Material: Stainless steel AISI316L. | | | | |
| For ceilings | 6/60/325 | 90 | 7321677928644 | **792864** |
| For floors | 6/140/130 | 91 | 7321677928668 | **792866** |
| For walls | 61/60/161 | 68 | 7321677928682 | **792868** |

P131546

P131551

P131555

# Stainless Steel AISI 316L - Corrosion class C5-M

## Lashing wire

| | Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|---|
| | **Lashing wire** | | | | |
| P140226 P140225 | Lashing wire to be used for lashing of wires on cable ladders.<br>Material: Stainless steel, PVC. | | | | |
| | HTR-2303, white PVC | Ø1.25 | 1.3/100 m | 7321677136865 | **713686** |
| | HTR-2313, black PVC | Ø1.25 | 1.3/100 m | 7321677136872 | **713687** |
| P140226 P140225 | Lashing wire to be used for lashing of wires on cable ladders.<br>Material: PVC. | | | | |
| | HT-2304, white | Ø1.5 | 1.8/100 m | 7321677136841 | **713684** |
| | HT-2314, black | Ø1.5 | 1.8/100 m | 7321677136858 | **713685** |

## Profile protection

| | | | | | |
|---|---|---|---|---|---|
| | **Profile protection 28P** | | | | |
| P140063 | Profile protection to be used to increase the contact surface of the cables, when pulled over the side profile of the ladder.<br>Material: PVC, grey. | | | | |
| | 28P | 60/28/2000 | 80 | 7321677321513 | **732151** |

## End plugs

| | | | | | |
|---|---|---|---|---|---|
| | **End plug 28/28i** | | | | |
| | End plug to be mounted on ladder ends for sealing or protection.<br>Material: PP/TPE. | | | | |
| P140064 | 28, red | 59/25/22 | 0.8 | 7321677090198 | **709019** |
| P140065 P140066 | 28i, white<br>28i, red | 54/14/19 | 0.4 | 7321677354467<br>7321677319947 | **735446**<br>**731994** |
| | **End plug 28C, D, E, F and J** | | | | |
| | End plug to be mounted on pendant ends to provide protection against personal injury and to make the ends of the profiles more conspicuous.<br>Material: PP/TPE, orange. | | | | |
| P140067 | 28C for Vertical piece 2 and Pendant/fixing rail 24/34 | 25/19/46 | 0.5 | 7321677898756 | **789875** |
| P140068 | 28D for Vertical piece 20 and Pendant/fixing rail 24/20 | 25/52/58 | 1 | 7321677090204 | **709020** |
| P140069 | 28E for Vertical piece 2F and Pendant/fixing rail 24/48 | 24/30/52 | 0.5 | 7321677090211 | **709021** |
| P140070 | 28F for Vertical piece 20FS and Pendant/fixing rail 24/20FS | 30/53/110 | 4 | 7321677898763 | **789876** |
| P138758 | 28J for Vertical piece 20F and Pendant/Fixing rail 24/20F | 27/53/95 | 2.1 | 3606480457531 | **CSU794520** |
| | **Cross member plug 27** | | | | |
| P140071 | Cross member plug to be installed at the ends of the rungs of KHZ and KHZV. Used in premises with a high corrosion risk.<br>Material: PE, grey. | | | | |
| | 27 | Ø20/10 | 0.15 | 7321677266685 | **726668** |

## Screws, bolts and nuts

| | | | | | |
|---|---|---|---|---|---|
| | **T-bolt 26U** | | | | |
| T-bolt single-08 | T-bolt to be used for the mounting of Cantilever arm 50 on Pendant/Fixing rail 24/48 and all vertical pieces except Vertical piece 2.<br>Material: Stainless steel AISI316. | | | | |
| | 26U M8 | M8x30 | 5 | 3606489579784 | **CSU795596** |
| | 26U M10 | M10x30 | 5 | 3606489579746 | **CSU795592** |
| | 26U M10 | M10x50 | 7 | 3606489579753 | **CSU795593** |
| | **Screw set W34** | | | | |
| P140156 | Screw set to be used for the fastening of dividing strips on cable ladders KHZSP, KHZP and KHZPV.<br>Set including screw MSCS 6x12 and nut M6MF 6.<br>Material: Stainless steel AISI316. | | | | |
| | W34 | — | 0.8 | 7321677255894 | **725589** |

# Stainless Steel AISI 316L - Corrosion class C5-M

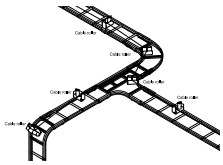
## Screws, bolts and nuts

| | Type | Dimensions A/B/C mm | Weight kg/100 pcs | EAN code | Ref. No. |
|---|---|---|---|---|---|
| | **Screw set M12** | | | | |
| P140148 | Screw set to be used for all joints with cable ladders KHZPV. Set including four bolts M6S 12x25 and four nuts M6M 12. Material: Stainless steel AISI316. | | | | |
| | M12 | — | 20 | 7321677287673 | **728767** |
| | **Screw set 22S** | | | | |
| P140151 | Screw set to be used for installation of Support bracket 3 on Vertical piece 2, Support bracket 3 and Ceiling bracket 5 on Pendant/fixing rails 24/34 and 24/48, Angle bracket 5L against the back of Pendant/fixing rails, Pendant/fixing rails back to back. Set including screw MVBF 8x16 and nut M6MF8. Material: Stainless steel AISI316. | | | | |
| | 22S | — | 1.9 | 7321677255825 | **725582** |
| | **Screw set 25S** | | | | |
| PTOLC-273 | Screw set to be used for installation of Cantiliver arm 30, 50i and 50 on Wall support plate. Set including screw MVBF 8x25 and nut M6MF8. Material: Stainless steel AISI316. | | | | |
| | 25S | — | 2,2 | 3606489567057 | **CSU795587** |
| | **Spring nut M8/M10** | | | | |
| P140152 | Spring nut to be used for fastening of accessories (control panels, etc.) on Pendant/fixing rail 24/48. Material: Stainless steel AISI316. | | | | |
| | M10 | — | 3.9 | 7321677286225 | **728622** |
| | **Screw M10x20** | | | | |
| P140486 | Screw to be used with Spring nut M10 for the installation of Cantilever arm 50 on Pendant/fixing rail 24/48. Material: Stainless steel AISI316. | | | | |
| | M6S | — | 2.2 | 7321677286492 | **728649** |

## Marking plate

| | | | | | |
|---|---|---|---|---|---|
| | **Marking plate 93** | | | | |
| B223240 | Marking plates are part of a colour marking system that is easy to use when you want to mark out the type of cable that is placed on the cable ladder. Five different colours are available. | | | | |
| | 93, yellow | 103/0.7/100 | 5 | 7321677377046 | **737704** |
| | 93, orange | 103/0.7/100 | 5 | 7321677377053 | **737705** |
| | 93, blue | 103/0.7/100 | 5 | 7321677377060 | **737706** |
| | 93, green | 103/0.7/100 | 5 | 7321677377077 | **737707** |
| | 93, black | 103/0.7/100 | 5 | 7321677377084 | **737708** |
| | **Marking label, equipotential** | | | | |
| P138944 | Label to be used to show that a construction is equipotentially bonded. Available in Swedish (other languages on request).Printed on self-adhesive yellow vinyl, 250 labels per roll. Material: Self-adhesive vinyl. | | | | |
| | Marking label | 25/–/86 | – | 7321677868605 | **786860** |

## Tools

| | | | | | |
|---|---|---|---|---|---|
| | **Cable roller S** | | | | |
| P129977 | Cable roller used to facilitate the pulling of cables and lines. Easily installed on all Wibe cable ladders except the high-sided WHS ladders (outer mounting hole). Also suitable for external/internal profiles of all 90° bends, T-junctions, X-junctions and risers (inner mounting hole). With a height adjustment of 45 mm to leave room for cables to pass under the roller. Material: Steel, electro-galvanized.  | | | | |
| | S | 230/80/204 | 230 | 7321677186600 | **718660** |
| | **Cable roller 38 Rig'n roll** | | | | |
| P149449 | Cable roller used for mounting on Wibe cable ladders with belonging junctions and branches. Material: Stainless steel AISI316L (cable roller). | | | | |
| | 38 Rig'n roll | 220/50/130 | 48 | 7321677359981 | **735998** |
| P149452 | Bag | 375/160/460 | 230 | 7321677801862 | **780186** |
| | Set 66 (1 bag + 10 Cable rollers 38 Rig'n roll) | 375/160/460 | 710 | 7321677801879+ | **780187** |

# The right surface treatment – crucial for a successful outcome

A cable support installation is considered to be a long-lasting solution and the life expectancy is dependent on the environment in which it is placed. A thorough investigation of the setting in terms of corrosion, pollution, humidity, salt, sanitary regulations etc will help you make the best choice. Our range of cable ladders and accessories covers all types of surface treatments, enabling a reliable, cost-efficient and long-lasting cable support solution.

## C1 Electro-galvanized

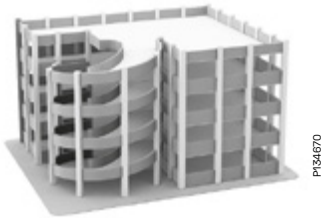
**Indoor environments: Schools, shops, hotels, offices, sports halls etc.**

- Very low environmental corrosion.
- Heated areas.
- Arid atmosphere.
- Insignificant quantities of pollutant.
- ISO 2081.

## C2 Pre-galvanized

**Partly outdoor environments: Industries, sports halls, warehouses, shops, rural outdoor areas etc.**

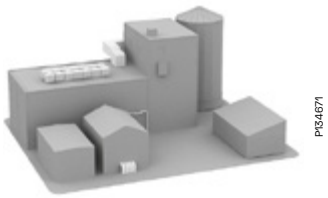
- Low environmental corrosion.
- Non-heated areas with fluctuating levels of temperature and humidity.
- Few instances of condensation and low levels of airborn pollution.
- SS-EN 10346




## C3 Hot-dip galvanized

**Indoor- and outdoor environments: Urban and light industrial areas, breweries, dairies, laundries etc.**

- Average environmental corrosion.
- Areas with average levels of humidity and some airborn pollution caused by production processes.
- Atmospheres containing some salt or average levels of airborne pollution.
- EN-ISO1461/EN 10346 (Z+)



## C4 Hot-dip galvanized

**Indoor- and outdoor environments: Chemical plants, industrial and coastal areas, swimming pools, farms, dockyards etc.**

- High environmental corrosion.
- Areas with high levels of humidity and considerable airborn pollution.
- Atmospheres with average salt content or discernible levels of airborne pollution.
- EN-ISO1461

P134672

## C5-I Zinkpox® (Hot dip galv. + powder coated) Stainless steel AISI 304

**Indoor- and outdoor environments: Chemical and heavy industries, tunnels, swimming pools, dockyards etc.**

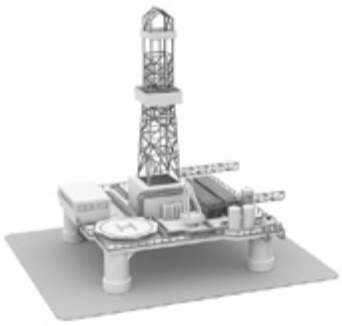
- Very high (industrial) environmental corrosion.
- Areas with almost permanent condensation, large quantities of airborn pollution, high levels of humidity and aggressive atmospheres
- EN 1.4301 acc. to EN 10088/AISI 304

P134675

## C5-M Stainless steel AISI 316L

**Indoor- and outdoor environments: Heavy industries, coastal and offshore areas, purifying plants etc.**

- Very high (marine) environmental corrosion.
- Areas with almost permanent condensation and large quantities of airborn pollution. Atmospheres with high salt content.
- EN 1.4404 acc. to EN 10088/AISI 316L



# Corrosion Classes

The life expectancy of a cable support system is dependent on the environment in which it is placed. Therefore, it is important to establish the corrosive properties of an environment to ensure that the right treatment and the right material are chosen.
Do not use components finish above of the corrosion class targeted. The table below shows various corrosion classes. As a guide, we have included the surface treatment recommended by Wibe Group for the different classes.

On the next page, we briefly outline the various surface treatments and materials.
As regards environmental corrosion, a steel design component can usually be assigned to one of the corrosion classes (C1 to C5-M) as shown in table A. Reference values for the average level of corrosion in steel and zinc are given in table B.
The corrosion classes comply with those stipulated in SS-EN ISO 12944-2.

**Table A**
Corrosion classes as stipulated by SS-EN ISO 12944-2 with atmospheric corrosion levels and examples of the environment in which they are most suitable for use.

| Corrosion class | Environmental corrosion | Examples of typical environments in temperate climates (informative) | |
|---|---|---|---|
| | | Outdoors | Indoors |
| C1 | Very low | – | Heated areas with arid atmosphere and insignificant quantities of pollutant, e.g. offices, shops, schools and hotels. |
| C2 | Low | Atmospheres with low levels of airborne pollution. Rural areas. | Non-heated areas with fluctuating levels of temperature and humidity. Few in-stances of condensation and low levels of airborne pollution, e.g. sports halls and warehouses. |
| C3 | Average | Atmospheres containing some salt or average levels of air-borne pollution. Urban and light industrial areas. Areas affected by coastal conditions. | Areas with average levels of humidity and some airborne pollution resulting from pro-duction processes, e.g. breweries, dairies, laundries. |
| C4 | High | Atmospheres with average salt content or discernible levels of airborne pollution. Industrial and coastal areas. | Areas of high humidity and considerable airborne pollution as the result of production processes, e.g. chemical plants, swimming pools and dockyards. |
| C5-I | Very high (industrial) | Industrial areas with high levels of humidity and aggressive atmospheres. | Areas with almost permanent condensation and large quantities of airborne pollution. |
| C5-M | Very high (marine) | Coastal and offshore areas with high salt content. | Areas with almost permanent condensation and large quantities of airborne pollution. |

| Wibe Group designation | |
|---|---|
| **Electro-galvanized** DIN 50961/ISO 2081 | |
| **Pre-galvanized** Z 275 in accordance with EN 10346 | |
| **Hot-dip galvanized** after manufacture in accordance with EN-ISO 1461 | Zinc+ coating |
| **Zinkpox®** HDG+powder coating | |
| **Stainless steel** EN 1.4301/AISI 304 | |
| **Stainless steel** EN 1.4404/AISI 316L | |

**Table B**
Mass losses for steel and zinc in various corrosion classes

| Corrosion class | Mass loss per surface unit and thickness reduction (1 year of exposure)[1] | | | |
|---|---|---|---|---|
| | Steel | | Zinc | |
| | Mass loss (g/m²) | Thickness reduction (µm) | Mass loss (g/m²) | Thickness reduction (µm) |
| C1 | ≤ 10 | ≤ 1.3 | ≤ 0.7 | ≤ 0.1 |
| C2 | > 10 to 200 | > 1.3 to 25 | > 0.7 to 5 | > 0.1 to 0.7 |
| C3 | > 200 to 400 | > 25 to 50 | > 5 to 15 | > 0.7 to 2.1 |
| C4 | > 400 to 650 | > 50 to 80 | > 15 to 30 | > 2.1 to 4.2 |
| C5-I | > 650 to 1500 | > 80 to 200 | > 30 to 60 | > 4.2 to 8.4 |
| C5-M | > 650 to 1500 | > 80 to 200 | > 30 to 60 | > 4.2 to 8.4 |

[1] Corrosion speed is generally higher when the material is first exposed

# Surface treatments

### Wibe Cable Ladders - Technical and material data

| Specification | |
|---|---|
| Cold formed steel:<br>Structural steels: | DX5xD acc. to EN 10346, DC0x acc. to EN 10130, DD1x acc. to EN 10111<br>S235 and S355 acc. to EN 10025-2 AISI 316L acc. to EN ISO10088-2 |
| Density: | 7.7-7.85 kg/m³ |
| Surface treatment: | • Pre galvanized (>20 µm): EN 10346<br>• Hot-dip galvanized (55-70 µm): EN ISO 1461<br>• Zinc+ (>25 µm): EN 10346<br>• Zinkpox, hot-dip galvanized (55-70 µm) + polyester coating, white RAL9010<br>• Pickled (Stainless steel), except KHZSP ladder range |
| Resistance to impact: | 20 J (IEC 61537) |
| Temperature range: | From –40°C to +120°C. |

**Electro-galvanized**
Products are manufactured in accordance with ISO 2081. Such products are intended for use only in warm, dry areas with negligible pollutant levels.

**Pre-galvanized**
Products are manufactured from Z 275 pre-galvanized sheet steel in accordance with SS-EN 10346. Under normal conditions, surface sections created during cutting and drilling will repair themselves, providing superb anti-corrosion protection.

**Hot-dip galvanized**
Wibe Group has one of the most modern hot-dip galvanization plants in the Nordic countries. The hot-dip process is continuous, guaranteeing a high and even quality. The manufactured products are hot-dip galvanized in accordance with EN-ISO 1461:2009 whilst nuts and bolts are hot-dip galvanized in accordance with SS-EN ISO 10684. This form of galvanization affords very good value-for-money anti-corrosion protection in atmospheres with a pH value of between 6 and 13. However, in acidic environments where pH levels fall below 6 and in alkaline environments where the pH value exceeds 13, the protective zinc layer breaks down relatively quickly. When cuts/perforations or other kind of operation that damage or remove coating in HDG items suitable to be installed in aggressive corrosion class, must be repaired with a zinc rich paint.

**Zinc+**
Zinc+ surface treatment for some accessories (EN 10346) with a metallic Zinc-based coating containing aluminium and magnesium that offers ultimate corrosion resistance in aggressive environments (e.g. chloride & highly alkaline). In many cases a good alternative to hot-dip galvanization. Excellent surface finish with self-repairing protection of cut edges (galvanic protection).

**Zinkpox®**
The Zinkpox® method involves applying a homogenous polyester coating to the zinc layer. Besides resisting light-initiated degeneration and weathering, this powder coating has excellent mechanical properties as regards impact resistance and adhesion. It is also resistant to most chemicals. Compared to hot-dip galvanizing, applying a polyester coating to the zinc layer more than doubles the service life of treated components. The zinc layer prevents the development of filiform corrosion. This might otherwise degrade the coating. Consequently, the polyester coating is subject only to atmospheric attack and thus protects the zinc layer. The certified coating plant that treats our components uses a modern and environment-friendly process. Before powder coating, the galvanized components undergo meticulous pre-treatment. This ensures superb adhesion. In addition to extremely good corrosion protection, the Zinkpox® method also offers a choice of colours. Powder coating is a very environment-friendly way of achieving a coloured surface. Because the coating contains no solvents, it has largely replaced solventbased liquid coatings. Where installations are visible, cable ladders and fittings can be finished in a coating that matches the surrounding décor.

**Stainless steel**
Products manufactured in accordance with AISI 304 acc. to ASTM / 1.4301 acc.to EN 10088-3 or /AISI 316L acc. to ASTM / 1.4404 acc. to EN 10088-3 are designed for use in highly aggressive environments, either indoors or outdoors, on industrial sites where there are high levels of potent airborne pollution such as in certain chemical industries, cellulose-related industries, refineries or artificial fertilizer factories, high humidity tunnels, etc. Stainless steel products are also ideal for use in environments where special hygiene requirements are in force, such as dairies, abattoirs, other food industries and pharmaceutical factories.

**Stainless steel AISI 304 or AISI 316L**
The deciding factor in choosing between stainless steel AISI 304 or AISI 316L is the aggressiveness of the environment in which it is to be used, and for this atmospheric chlorine content plays a significant role. Environments with a high chlorine content, coastal areas being a prime example, are aggressive and usually require the use of AISI 316L materials. When assessing the needs of factories, consideration should be given to the materials previously used to suspend equipment such as pipe tubing, and from this determine whether stainless steel AISI 304 or AISI 316L material is required.

**To consider when installing Stainless Steel Cable Laddes**
**1. Transport/handling:** Make sure that no iron objects come into contact with the stainless steel products.
**2. Storing:** Never store stainless steel products close to where iron products are machined, for example close to cutting and grinding operations
**3. Welding:** Welding during installation should be avoided where possible. If welding must be performed, make sure that only methods suitable for stainless steel are used.
**4. Tools:** When cutting or grinding, always use cutting wheels and grinding tools which are free from iron. Do not use tools that have been previously used for cutting or grinding products containing iron. When drilling, use an HSS-drill. To maximize the useful life of the drill, employ a cooling fluid during drilling. When installing, conventional assembly tools can be used. However, when using a nut tightener, ensure that the thread is first lubricated to prevent jamming.

**Never mix untreated or galvanized products with stainless steel.**

**5. Measures:** If a blue annealing appears when cutting, grinding or drilling, re-move it with pickling paste, making sure that the paste is then carefully washed away with water. If selective corrosion appears it can be removed by:

a) Washing away with water (high-pressure if possible).

b) Polishing with a cleaning cloth or a fine emery paper (wet or dry) and washing with water.

c) Grinding with a fine-grained wheel and washing with water.

d) Pickling with pickling paste, making sure that the pickling paste is then carefully washed away with water.

**6.** When using pickling paste or similar products, always study the safety code for the product prior to use.

# Installation regulations

**Installation of cables on a cable ladder**
The installation of cables on cable ladders lies within the IEC 60364-5-52 standard for power cable installation only. Because Wibe cable ladders have rungs which occupy less than 10% of the plan area under the cables, the installation is defined as cables in “free air”. Cable spaces do not require any de-rating factor for installation.

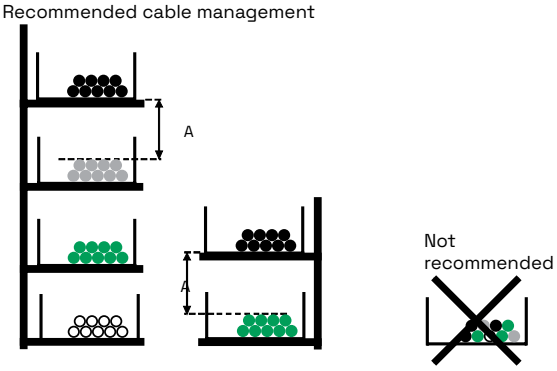
| Method of installation | Correction Factor Cg<br>Number of circuits of multicare cables | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Single layer multicare touching on ladder supports | 0,87 | 0,82 | 0,80 | 0,80 | 0,79 | 0,79 | 0,78 | 0,78 |

Cables touching must be de-rated in accordance with the table below.
For installation of a combination of power and communication cables on a cable ladder the separating distances should be according to EN 50174-2, see table below.

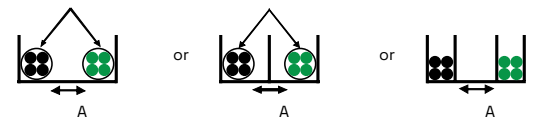
| Communication cable type | Number of power circuits (1-phase 20A, 230V) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1-3 | 4-6 | 7-9 | 10-12 | 13-15 | 16-30 | 31-45 | 46-60 | 61-75 | >75 |
| | Minimum separation distance (mm), see figure A below this table | | | | | | | | | |
| Category 5e/6 unshielded | 20 | 40 | 60 | 80 | 100 | 200 | 300 | 400 | 500 | 600 |
| Category 5e/6/$6_A$ shielded | 10 | 20 | 30 | 40 | 50 | 100 | 150 | 200 | 250 | 300 |
| Category $7_A$ shielded | 2 | 4 | 6 | 8 | 10 | 20 | 30 | 40 | 50 | 60 |

**Minimum separation distance (mm), figure A**

Recommended cable management




Recommended cable management on common cable ladder




The cables need to be fixed to the ladder or bundled

No fixing or bunlding needed.

- Power cables
- Data cables
- Control cables
- Sensitive cables like instrumentation cables

A Separation distance

**Installation of cable ladder**
Full design data is given according to EN 61537 in the Range part in this catalogue showing all maximum and recommended loadings. Graphs are given in this catalogue to show the deflection against loading for various support distances. Any support system which is supported at intervals and loaded will deflect between the support intervals. Test model II is used for all ladder ranges.

**Installation recommendations for cable ladders**
The cable ladders should be installed in such a way that, as often as possible, the cables can be laid directly in place rather than being pulled through. Ladders for current carrying cables along the ceiling should be installed in such a way that the distance from the top of the ladder to the ceiling is not less than 300 mm. The free vertical distance between parallel ladders shall be at least 200 mm. Ladders near walls should be installed with a minimum free distance of 50 mm to the wall, so that cables can pass between the ladders and the wall. Ladders along partition walls should be installed with a minimum free distance of 100 mm to the wall. Sharp edges and screw ends on ladders should be removed before the cables can be installed. Expansion bolts for the installation of brackets/fixings should be installed with such a distance between them, that the designated load for ladders will not be exceeded. When selecting the distance between cantilever arms or brackets/fixings, the bearing strength and designated load of the ladders must be taken into consideration.

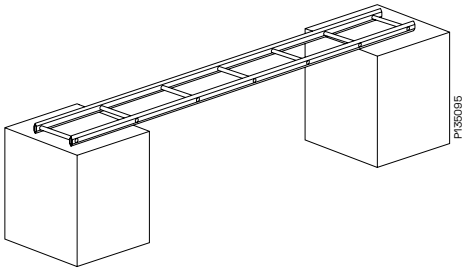
# Electro-magnetic compatibility EMC

**Electromagnetic Compatibility**

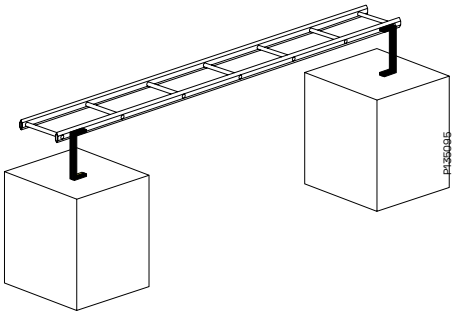
Wibe Group has performed measurements at EMC Services in Gothenburg regarding EMC requirements, report RE-10273-17181.
The results show that the shielding performance of both incoming and emitted fields is good concerning Wibe cable ladders.

When correctly installed Wibe cable ladders products work as a protective earth structure. This means that Wibe Group products can be used to achieve good engineering practice in accordance with the EMC directive 2004/108/EG.

**Recommended installation examples**

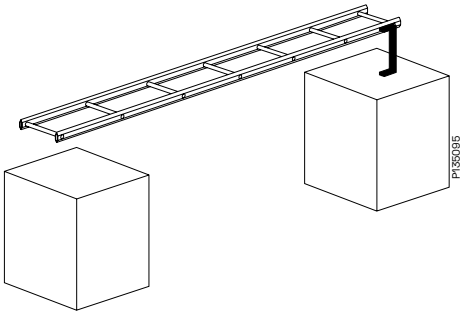



Metal against metal connection
- the ultimate installation

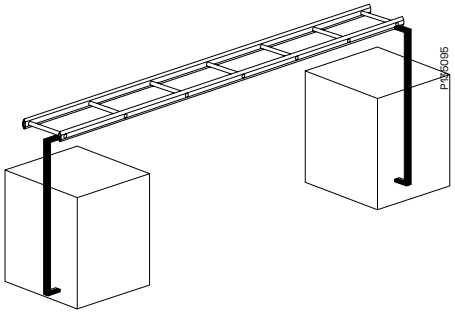



Short double connection
- realistic installation

**Not recommended installation examples**




Single connection
- poor installation




Long double connection
- in best case EMC neutral

# Potential balancing

**Electrical continuity and earthing**
The standard EN 61537 establishes that for cable ladders with electrical continuity characteristics (metal), this continuity should be guaranteed by means of an equipotential connection and one or several connections to earth in accordance with the use of the ladder system.

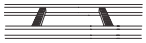
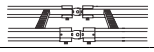
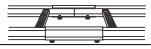
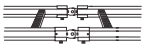
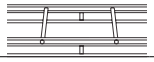
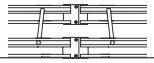
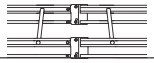
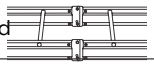
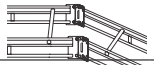
The impedance must not exceed:
- 50 mΩ through the joint.
- 5 mΩ x metre of cable ladders.(*)

(*) Currently this valour is studied through document IEC/SC23A/WG12, CLC/TC213/WG-5 – 765. It will be changed to 50 mΩ x metre.

The metre length and joining systems for the different sections that Wibe Group has, as well as the joints of the different accessories supplied, comply with the electrical continuity test established in the afore-mentioned standard, guaranteeing the impedance established. To guarantee these impedance values tightening torque values of no less than 5 Nm are recommended, always using the joins recommended for each ladder type, and taking sizes into account.

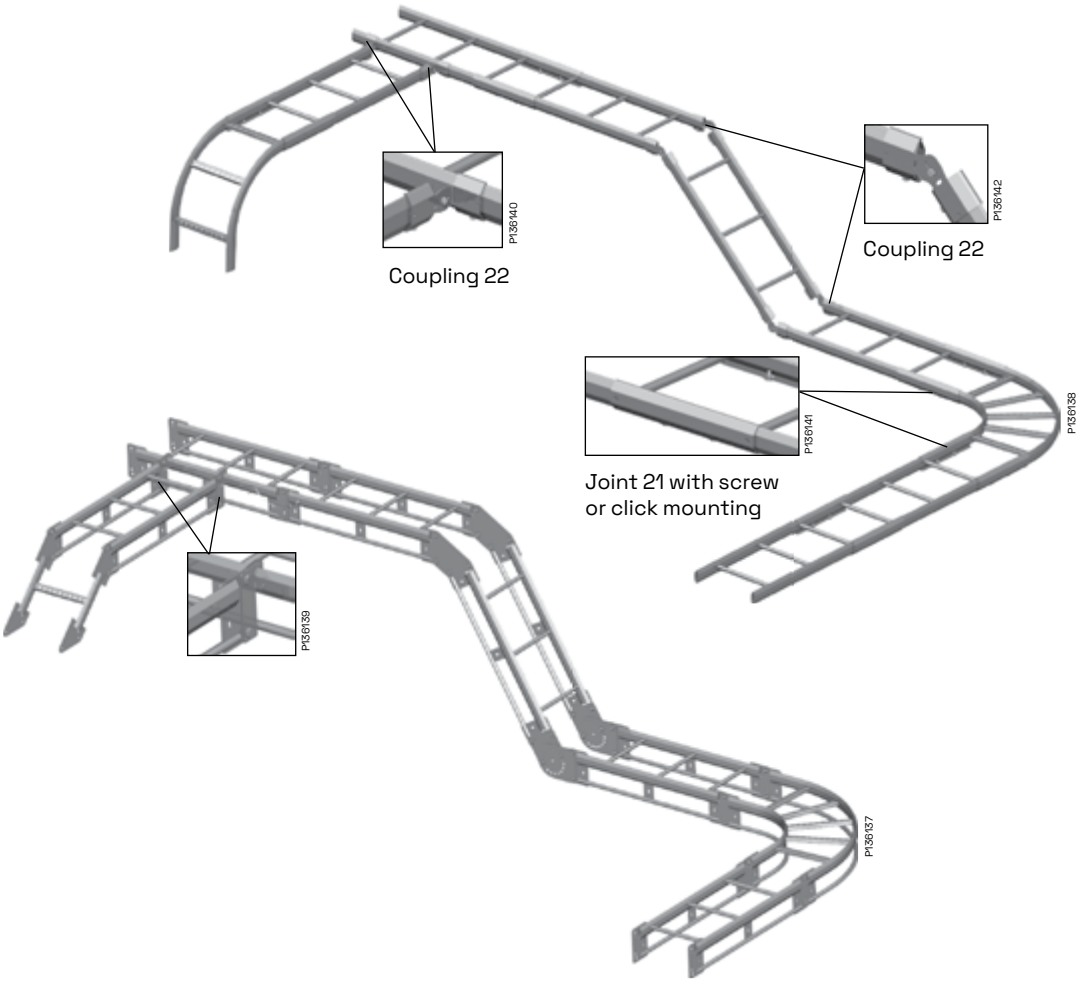
To guarantee a safe installation, Wibe Group recommends a proper earthing of all the elements that make up the system (sections and accessories), using the accessories designed specifically for this purpose.
Ensure that all connections are well fixed and proper values are matching according to local legislation

WIBE GROUP RECOMMENDS NOT TO USE THE LADDER AS EARTH OR NEUTRAL CONDUCTORS. Wibe Group IS NOT RESPONSIBLE OF ANY DAMAGE IF YOU USE ACCESSORIES FROM OTHER MANUFACTURERS.

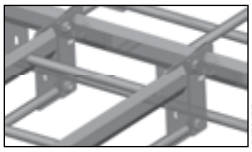
| Product | | Ohm/m |
|---|---|---|
| Cable Ladder KHZSP without joint, pre-galvanized |  | 0.00089 |
| Cable Ladder KHZSP with Joint 21, pre-galvanized | | 0.00100 |
| Cable Ladder KHZSP with Coupling 22, pre-galvanized |  | 0.00160 |
| Cable Ladder KHZ/KHZP without joint, hot-dip galvanized | | 0.00050 |
| Cable Ladder KHZ/KHZP with Joint 21, hot-dip galvanized |  | 0.00040 |
| Cable Ladder KHZ/KHZP with Coupling 22, hot-dip galvanized |  | 0.00073 |
| Cable Ladder KHZV without joint, hot-dip galvanized |  | 0.00038 |
| Cable Ladder KHZV joined with Screw set M12, hot-dip galvanized |  | 0.00039 |
| Cable Ladder KHZV with Joint 45, against welded joint, hot-dip galvanized |  | 0.00057 |
| Cable Ladder KHZV with Joint 45, (without welded joint), hot-dip galvanized |  | 0.00083 |
| Cable Ladder KHZV with Coupling 44, hot-dip galvanized |  | 0.00043 |

# Potential balancing

**For pre-galv, hot-dip galv and stainless steel AISI 316L**
Resistance testing of Wibe Cable Ladders has been performed and approved according to norm IEC61537 for cable ladders in pre-galv, Hot-dip galv and Stainless steel AISI 316L.

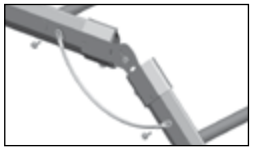



**For zinkpox coating**
Installation of cable ladders with Zinkpox coating

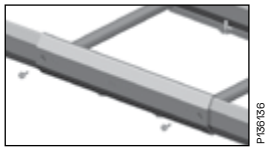



Take-off hook 47 is mounted with self-drilling screw 4.8x13

For installation of joints, couplings, junctions and bends self-drilling screw 4.8x13 and ground wire, cable area ≥10 mm², must be used.

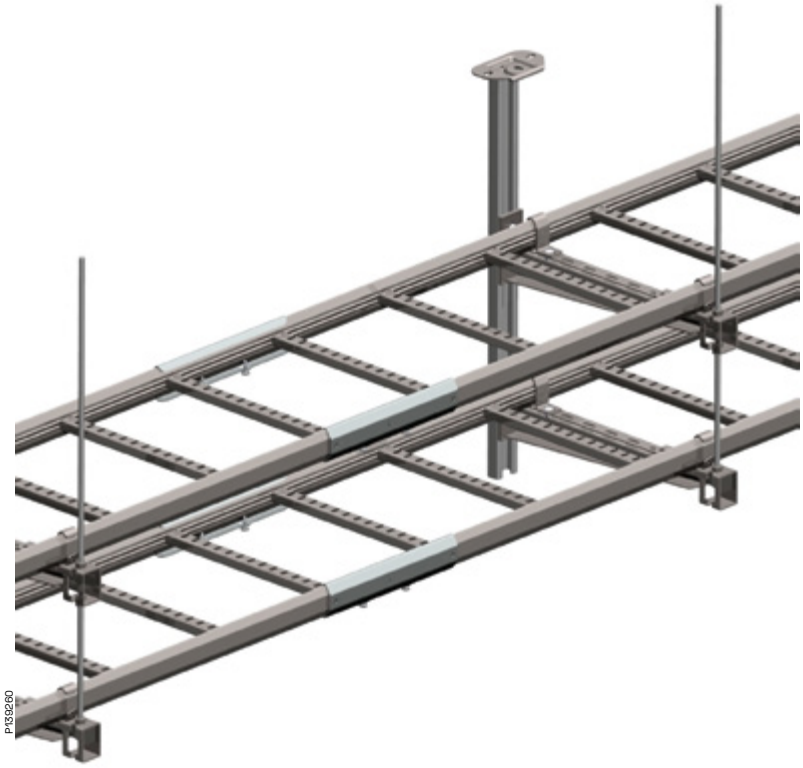



Self-drilling screw 4.8x13 and ground wire, cable area ≥10 mm², are used for installation of Coupling 22.




Joint 21 is mounted with self-drilling screw 4.8x13 in the grounding holes. When joining KHZ ladders Joint 21 must be moved approx.
20 mm from centre.

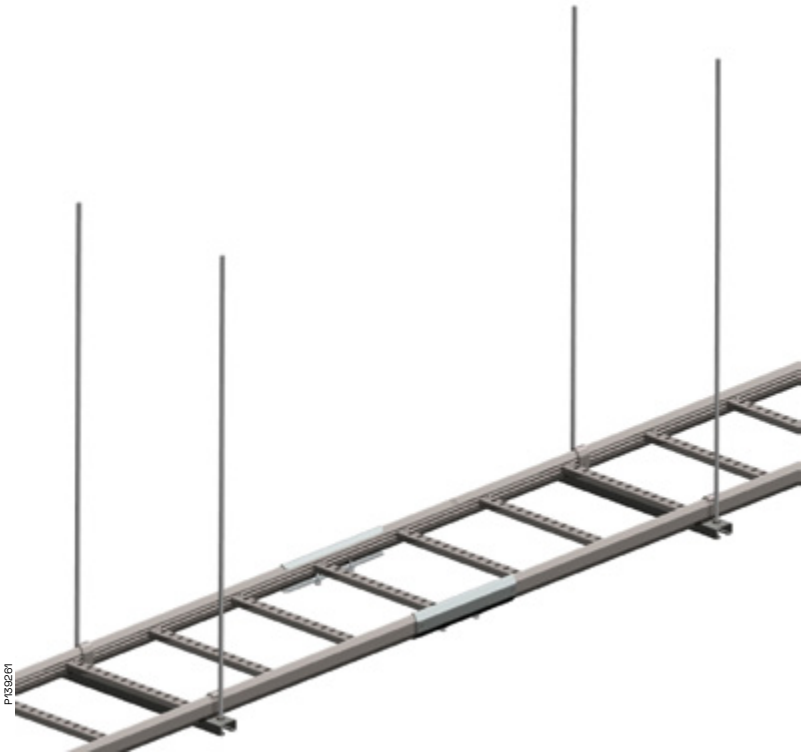
# E-30 and E-90 fire test




## Ceiling suspended, vertical piece, cantilver arm

| | |
|---|---|
| Cable ladder KHZPS-150, 6 m | 725350 |
| Cable ladder KHZPS-200, 6 m | 725351 |
| Cable ladder KHZPS-300, 6 m | 725352 |
| Cable ladder KHZPS-400, 6 m | 725353 |
| Joint 21 | 791196 |
| Joint 21 ZM | CSU795051 |
| Cantilever arm 50-150 | 723433 |
| Cantilever arm 50-200 | 723434 |
| Cantilever arm 50-300 | 723436 |
| Cantilever arm 50-400 | 723437 |
| Profile clamp 42 | CSU795240 |
| Vertical piece 2F-280 | 717196 |
| Vertical piece 2F-370 | 717197 |
| Vertical piece 2F-505 | 717198 |
| Vertical piece 2F-640 | CSU794202 |
| Vertical piece 2F-730 | 717199 |
| Rod bracket 82 | 786768 |
| Threded rod W76-1000 | 725079 |
| Threded rod W76-2000 | 716792 |
| Nut M10 | 723938 |
| Nut M10 | 1149464 |
| Screw set 22S | 713694 |
| Bolt MVBF M8-50 | CSU795132 |
| Nut M6MF M8 | CSU794715 |

# E-30 and E-90 fire test




## Ceiling suspended, support bracket, threded rod

| | |
|---|---|
| Cable ladder KHZPS-150, 6 m | 725350 |
| Cable ladder KHZPS-200, 6 m | 725351 |
| Cable ladder KHZPS-300, 6 m | 725352 |
| Cable ladder KHZPS-400, 6 m | 725353 |
| Joint 21 | 791196 |
| Joint 21 ZM | CSU795051 |
| Support bracket HSO-150 | 791063 |
| Support bracket HSO-200 | 791064 |
| Support bracket HSO-300 | 791065 |
| Support bracket HSO-400 | 791066 |
| Profile clamp 42 | CSU795240 |
| Threded rod W76-1000 | 725079 |
| Threded rod W76-2000 | 716792 |
| Nut M10 | 723938 |
| Nut M10 | 1149464 |

iBMB MPA TU BRAUNSCHWEIG

Allgemeines bauaufsichtliches Prüfzeugnis

Prüfzeugnis Nummer: P-3233/499/11-MPA BS

Gegenstand: Kabelanlage mit integriertem Funktionserhalt der Funktionserhaltsklasse „E 30" bzw. „E 60" bzw. „E 90" nach DIN 4102-12: 1998-11 entsprechend Baurgelliste (BRL) A, Teil 3, lfd. Nr. 2.9 - Ausgabe 2011/1

Antragsteller: Schneider Electric Sverige AB
CMS Product department
Tillverkarvägen 2
61129 Nyköping, SCHWEDEN

Ausstellungsdatum: 30. Oktober 2011

Geltungsdauer bis: 30. Oktober 2016

Dieses allgemeine bauaufsichtliche Prüfzeugnis umfasst 11 Seiten und 13 Anlagen.

## Test conditions

- E30 and E90 according to DIN 4102-12
- IBMB test institute
- Dätwyler Pyrofil KERAM cables
- Load 20 kg/m
- Support distance 1,5 m

# Standards and Quality

**Wibe Cable ladder system meets the following standards:**

IEC 61537
NEMA VE 1/CSA 22.2
DIN 4102-12 for fire resistance E30-E90

| Tests and Certificates | Test made by |
|---|---|
| Test concerning fire resistance according to E30-E90.<br>Certificate nº: ABP P-3233/499/11-MPA BS.<br>Certificate nº: ABP-2400/702/18-MPA BS. | IBMB, Germany |
| EMC performance- Shielding test.<br>Report nº RE-10273-17181. | EMC Services Elmiljöteknik AB, Sweden |
| Seismic load test.<br>Report nº P603276. | SP, Sweden |
| Short circuit test.<br>- 1268 Report nº 992531-4 & 20001215-7. | British short circuit testing station BS/F 1265 |
| Wibe cable ladder is tested<br>according to Underwriters Laboratories,<br>UL E-212854 Sec.1. | UL, USA & Canada |
| Wibe cable ladder is approved by Det Norske Veritas (DNV) for offshore and ship-yard use.<br>Certificate nº TAE00000MM. | DNV, Norway |

**Management system - Quality and Environment**
Wibe Group has a third-party certified management system for quality and environment in accordance with OHSASISO 50001:2011, ISO 45001:2018, ISO 9001:2015 and ISO 14001:2015.

**CE-marking of products**
The CE-marking of products is placed on the product or on the packing according to "Declaration of Conformity" (DOC), applicable to Wibe Group Cable Support System.

**Low voltage directive 2014/35/EU**
Wibe Group fullfils the demands according to harmonized standard EN 61537.

# Technical Information

## Use and Installation

# Use and installation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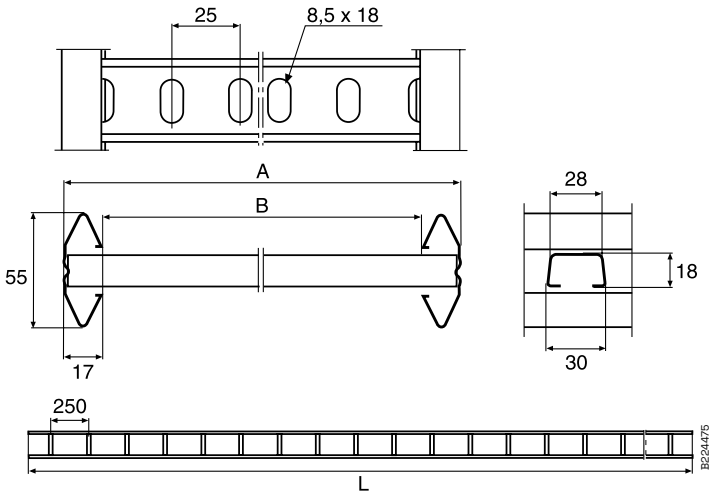
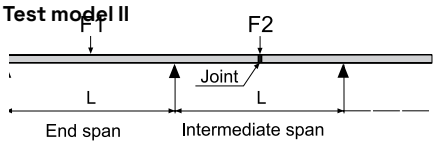
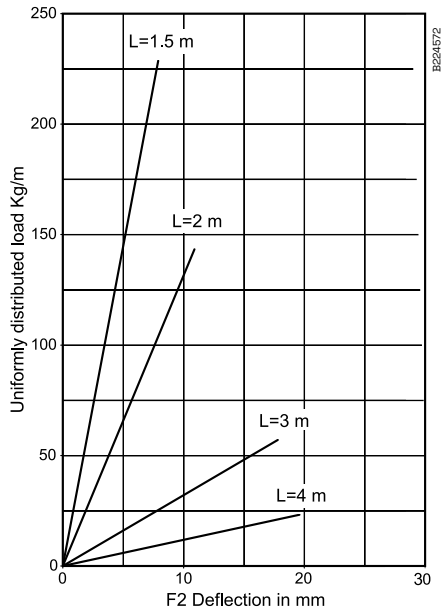
# Use and installation

## KHZSP/ KHZSPZ+




**Test model II**




| Type | L m | A mm | B mm |
|---|---|---|---|
| KHZSP 200 | 3, 4, 6 | 198 | 164 |
| KHZSP 300 | 3, 4, 6 | 298 | 264 |
| KHZSP 400 | 3, 4, 6 | 398 | 364 |
| KHZSP 500 | 3, 4, 6 | 498 | 464 |
| KHZSP 600 | 3, 4, 6 | 598 | 564 |
| | | | |
| KHZSPZ+ 200 | 6 | 198 | 164 |
| KHZSPZ+ 300 | 6 | 298 | 264 |
| KHZSPZ+ 400 | 6 | 398 | 364 |
| KHZSPZ+ 500 | 6 | 498 | 464 |
| KHZSPZ+ 600 | 6 | 598 | 564 |

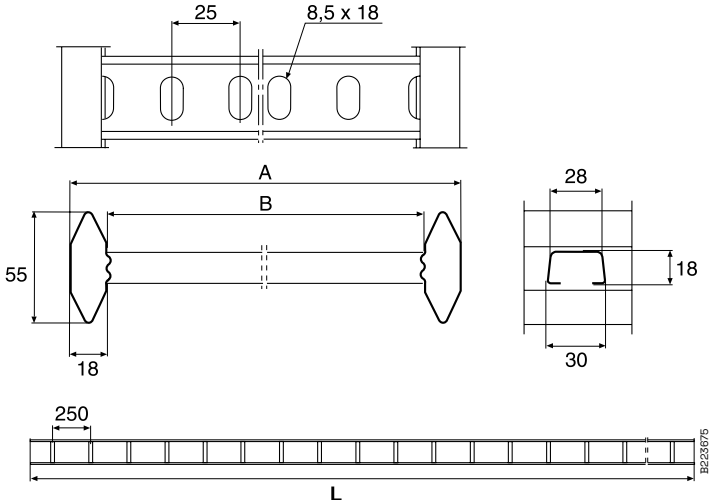
**Loadings**
The ladders are tested according to IEC 61537, test model II - a joint in the intermediate span (F2).

**Guaranteed load**
Guaranteed uniformly distributed load includes a minimum safety factor of 1.7 towards rupture. The diagram shows the deflection with Joint 21 for all ladder widths.

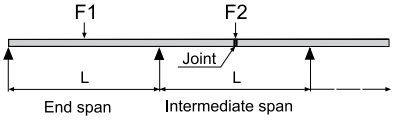
The cable ladders must not be used as walkways.

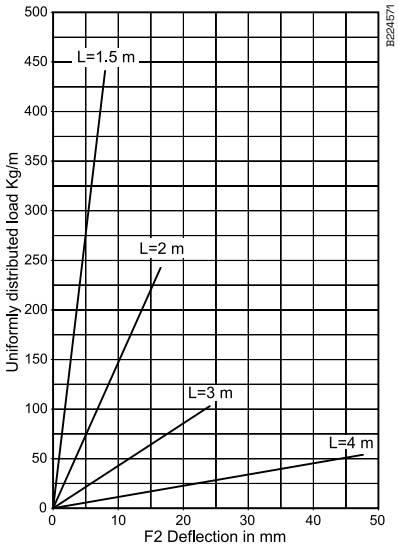
# Use and installation

## KHZP / KHZPS

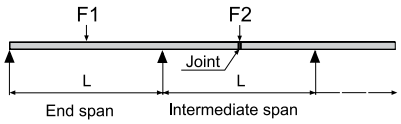


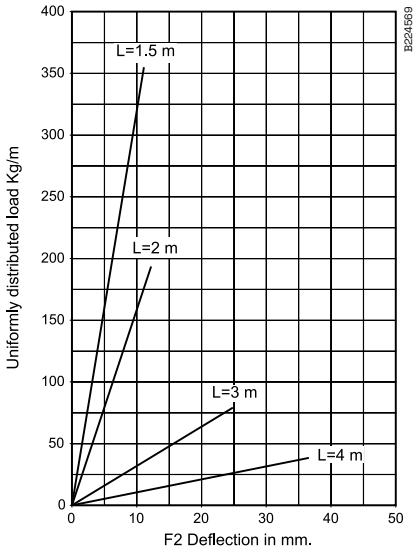

**KHZP Test model II**




**KHZPS Test model II**



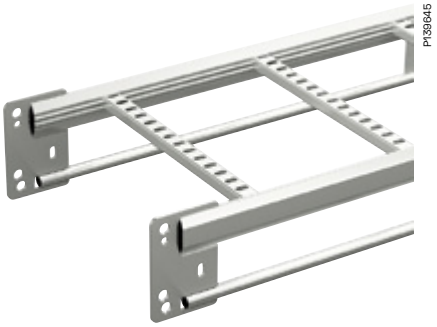

| Type | L m | A mm | B mm |
|---|---|---|---|
| KHZP/KHZPS 150 | 6 | 147 | 111 |
| KHZP/KHZPS 200 | 6 | 197 | 161 |
| KHZP/KHZPS 300 | 6 | 297 | 261 |
| KHZP/KHZPS 400 | 6 | 397 | 361 |
| KHZP/KHZPS 500 | 6 | 497 | 461 |
| KHZP/KHZPS 600 | 6 | 597 | 561 |
| KHZP/KHZPS 800 | 6 | 797 | 761 |
| KHZP/KHZPS 1000 | 6 | 997 | 961 |
| | | | |
| KHZP 150 | 3 | 147 | 111 |
| KHZP 200 | 3 | 197 | 161 |
| KHZP 300 | 3 | 297 | 261 |
| KHZP 400 | 3 | 397 | 361 |
| KHZP 500 | 3 | 497 | 461 |
| KHZP 600 | 3 | 597 | 561 |
| KHZP 800 | 3 | 797 | 761 |
| KHZP 1000 | 3 | 997 | 961 |

**Loadings**
The ladders are tested according to IEC 61537, test model II - a joint in the intermediate span (F2).

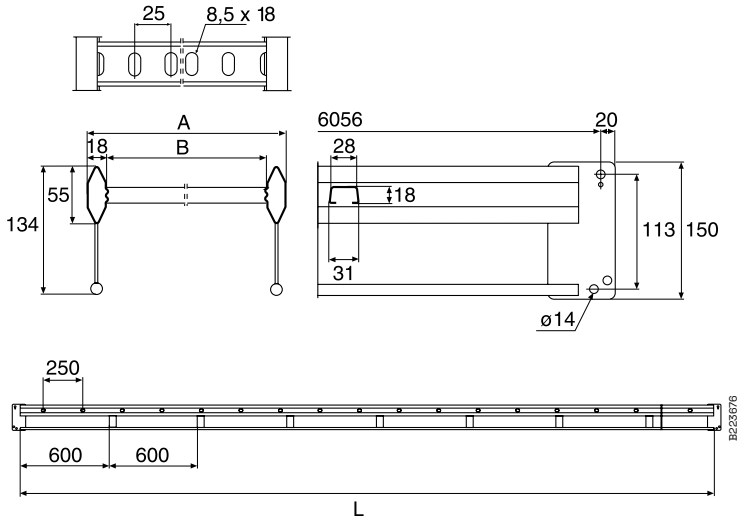
**Guaranteed load**
Guaranteed uniformly distributed load includes a minimum safety factor of
1.7 towards rupture. The diagrams shows the deflection with Joint 21 for all ladder widths.

The cable ladders must not be used as walkways.

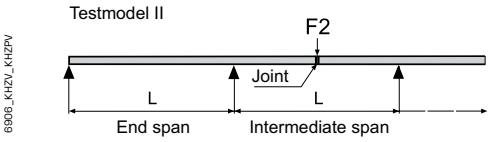
# Use and installation

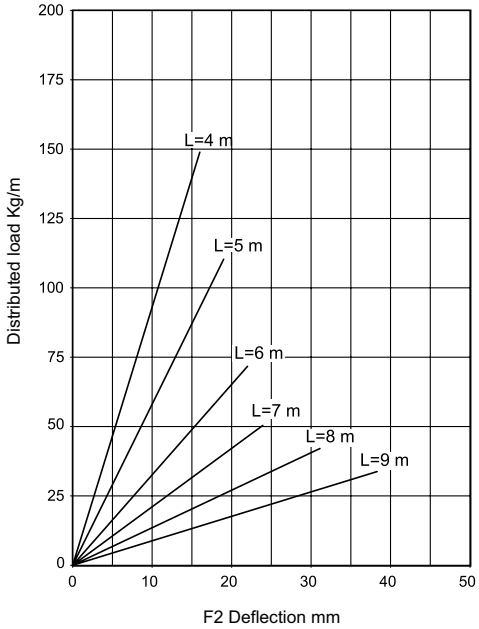



## KHZPV




| Type | L m | A mm | B mm |
|---|---|---|---|
| KHZPV 200 | 6 | 197 | 161 |
| KHZPV 300 | 6 | 297 | 261 |
| KHZPV 400 | 6 | 397 | 361 |
| KHZPV 500 | 6 | 497 | 461 |
| KHZPV 600 | 6 | 597 | 561 |
| KHZPV 1000 | 6 | 997 | 961 |



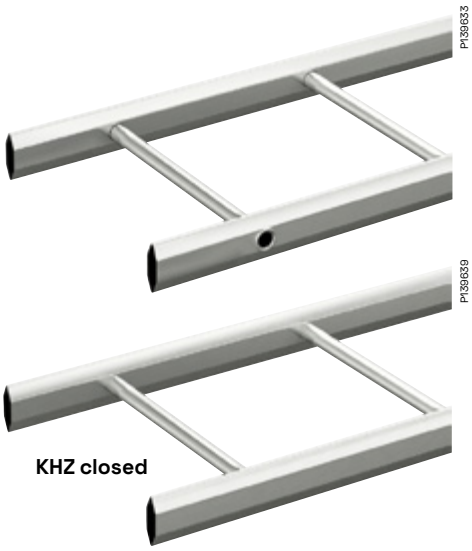

**Loadings**
The ladders are tested according to IEC 61537, test model II - a joint in the intermediate span (F2).

**Guaranteed load**
Guaranteed uniformly distributed load includes a minimum safety factor of 1.7 towards rupture. The diagrams shows the deflection for cable ladder widths up to 600 mm.

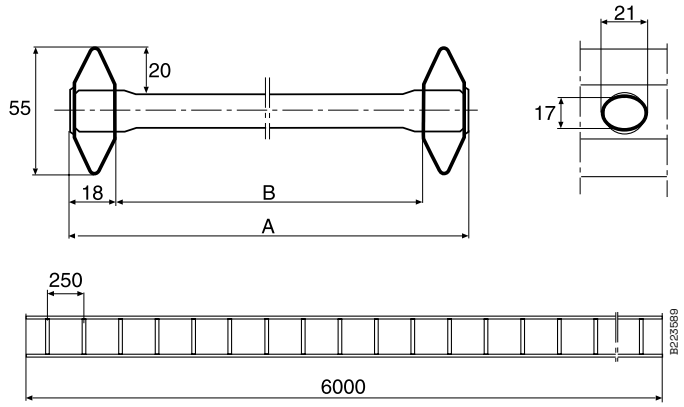
For widths greater than 600 mm contact Wibe Group or distributor.

The cable ladders must not be used as walkways.

# Use and installation

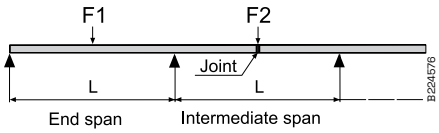


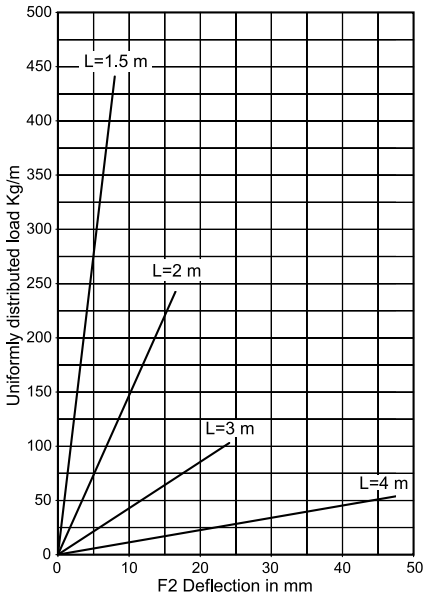

## KHZ




| Type | L m | A mm | B mm |
|---|---|---|---|
| KHZ 150 | 6 | 147 | 111 |
| KHZ 200 | 6 | 197 | 161 |
| KHZ 300 | 6 | 297 | 261 |
| KHZ 400 | 6 | 397 | 361 |
| KHZ 500 | 6 | 497 | 461 |
| KHZ 600 | 6 | 597 | 561 |

**Test model II**



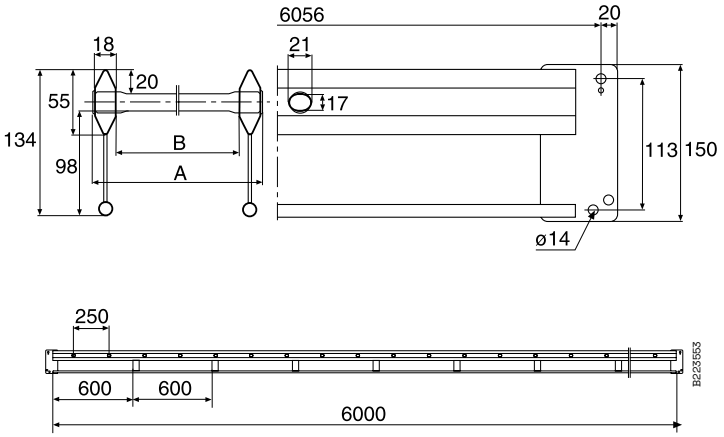

**Loadings**
The ladders are tested according to IEC 61537, test model II - a joint in the intermediate span (F2).

**Guaranteed load**
Guaranteed uniformly distributed load includes a minimum safety factor of 1.7 towards rupture. The diagrams shows the deflection with Joint 21 for cable ladder widths up to 600 mm. For widths greater than 600 mm contact Wibe Group or distributor.

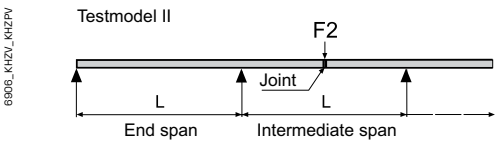
The cable ladders must not be used as walkways.

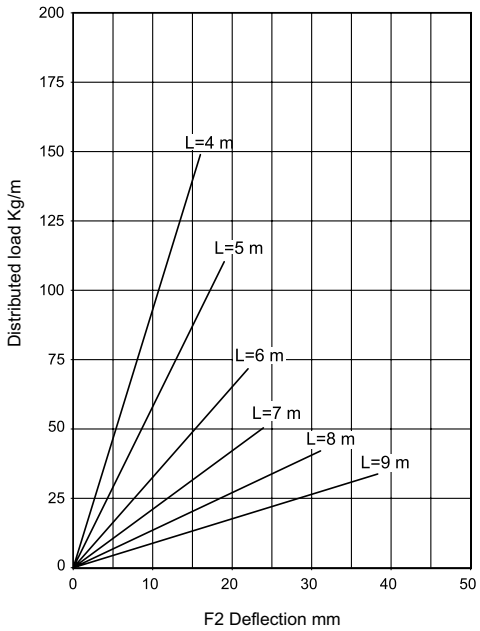
# Use and installation

## KHZV




| Type | L m | A mm | B mm |
|---|---|---|---|
| KHZV 200 | 6 | 197 | 161 |
| KHZV 300 | 6 | 297 | 261 |
| KHZV 400 | 6 | 397 | 361 |
| KHZV 500 | 6 | 497 | 461 |
| KHZV 600 | 6 | 597 | 561 |




**Loadings**
The ladders are tested according to IEC 61537, test model II - a joint in the intermediate span (F2).

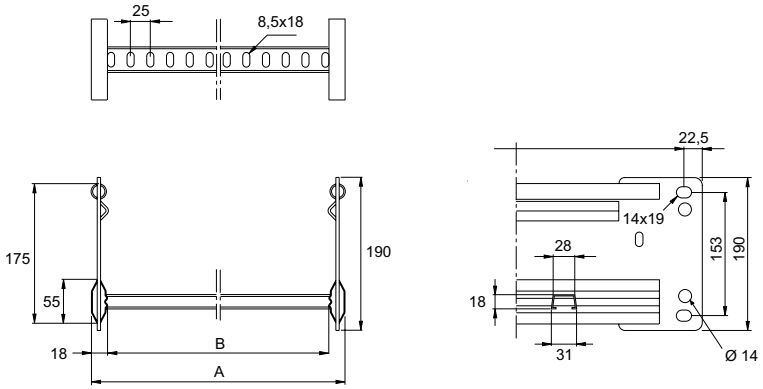
**Guaranteed load**
Guaranteed uniformly distributed load includes a minimum safety factor of 1.7 towards rupture. The diagrams shows the deflection for cable ladder widths up to 600 mm.

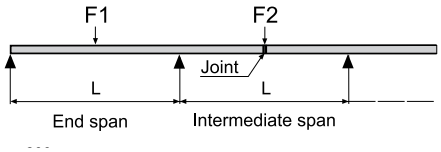
The cable ladders must not be used as walkways.

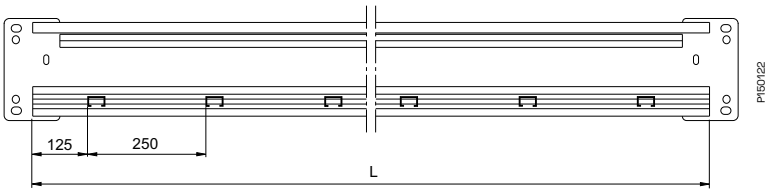
# Use and installation

P143117

## KHZP-20C

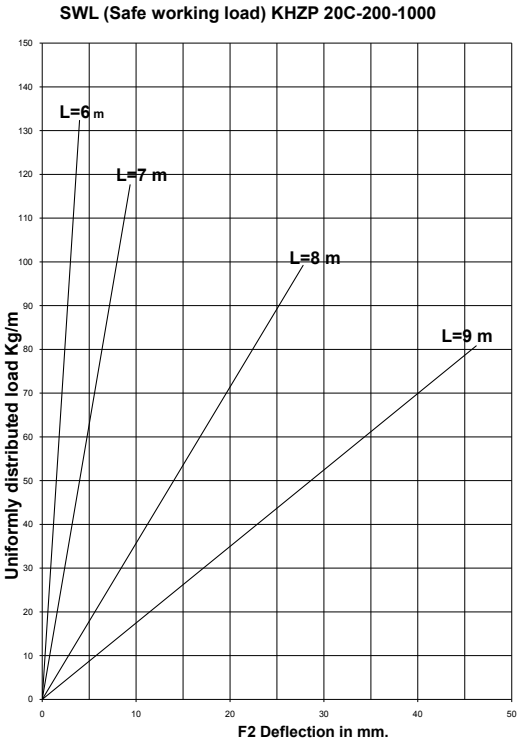



P150122

**Test model II**




| Type | L m | A mm | B mm |
|---|---|---|---|
| KHZP 20C-200 | 6 | 197 | 161 |
| KHZP 20C-300 | 6 | 297 | 261 |
| KHZP 20C-400 | 6 | 397 | 361 |
| KHZP 20C-500 | 6 | 497 | 461 |
| KHZP 20C-600 | 6 | 597 | 561 |
| KHZP 20C-800 | 6 | 797 | 761 |
| KHZP 20C-1000 | 6 | 997 | 961 |

To be able to take the load requirements the system shall be supported close to all transition points like Bends, T-junctions, Risers, Take-off hooks, Angle plates and Couplers.

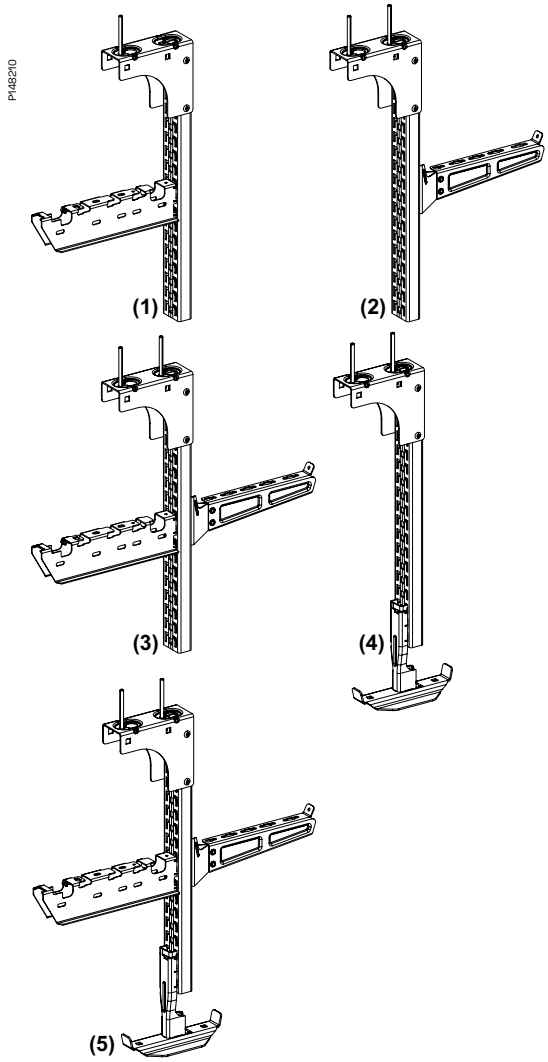
**Loadings IEC 61537**
The ladders are tested according to IEC 61537, test model II.

**Guaranteed load**
Guaranteed uniformly distributed load supported includes a minimum safety factor of 1.7 towards rupture. The diagram shows the deflection for ladder widths.

**Loadings according NEMA V1 20C**
Test result at 6 meter support distance 173 kg/m
(safety factor of 1.5).

The cable ladders must not be used as walkways.

# Use and installation CLX³ Click suspension




## CLX³ General information

### Standards

CLX³ installation system is tested and following the classification according to the IEC 61537.

### Usage of gloves

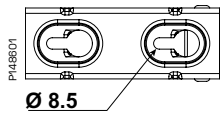
According to IEC 61537 it is always recommended to use protective gloves when handling and manipulating cable support systems.

### Handling and storage

- Store in dry and covered places.
- Avoid moisture and pollutants.
- Do not remove the packing until installation.
- Take care when storing and handling so that the CLX³ components are well protected from damage.

### CLX³ Pendant loading configurations

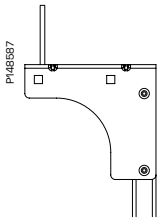
CLX³ pendant is primarily designed for installation of the CLX³ support system, but can also be used for T-bolt installation.
The system can be installed in different configurations:
b Click direction **(1)**: the cantilever and the ceiling plate are in the same direction
b T-bolt direction **(2)**: a cantilever is fixed with a T-bolt to the rail, in the opposite direction of the ceiling plate
b T installation **(3)**: combination of the first 2 installations
b Central suspension **(4)**: the pendant is completed by a central suspension bracket
b T and central suspension **(5)**.




### Fixation to the ceiling

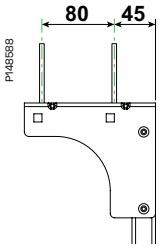
**Keyhole design**

Keyhole design is facilitating easy mounting of the pendant to the ceiling by allowing the bolts to be pre-fixed before finally placing the pendant and tightening the bolts.
For concrete ceiling, use bolts type IMT38051.
For other bolts where bolthead is < 16 mm use washer u 16 mm.




**One bolt fixation**

For click direction installation of CLX³ Cantilever arm **(1)**, use a single bolt, in the outer hole position on the ceiling plate.




**Two bolt fixation**

For T-bolt suspension, central suspension, T installation and T and central suspension installation **(2)**, **(3)**, **(4)**, **(5)**, always fix the ceiling plate to the ceiling using 2 bolts.

Use the angle adaptor when the ceiling is not horizontal to level out the suspended pendant.

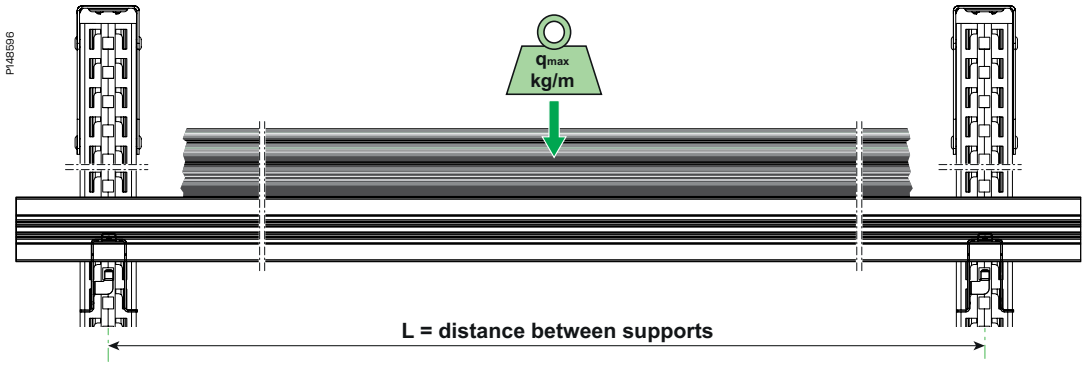
# Use and installation CLX³ Click suspension

## Pendant load calculation

To verify that the load applied to each pendant is within performance, it is necessary to calculate and consolidate the total **tensile load force** and the total **moment-force** on each pendant and for each cantilever and after that compare the calculated values with the defined loading limitations to ensure a safe installation.

### Total tensile force Ft calculation method

This is calculated as the sum of all forces applied to the pendant from the weight of cables on the length material.




**Ft** (total load in N) **= L** (span or supports distance in meters) x **qmax** (load in kg/m)
**x 10.**

**In case of several layers are installed on the pendant then the sum of the Ft tensile load from all layers shall be calculated.**

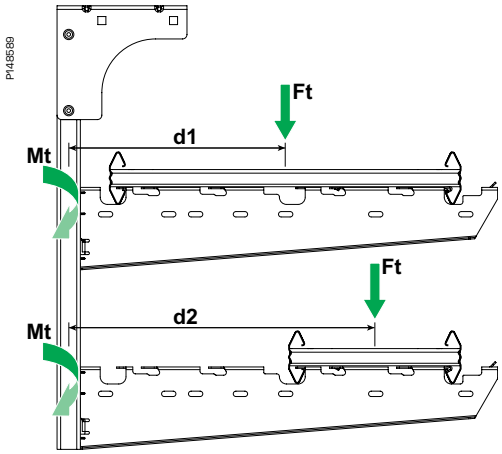
### Total momentum force Mt calculation method

This is calculated as the sum of all the torsion forces applied to the pendant from the weight of cables on the length material and the offset distance created by the cantilever arm.

**Mt** (momentum in N.m) **= Ft** (N) x **d** (distance between axis center and point load in meters)

"**d**" depends of the position of the length material on the cantilever arm.

The distance **d** can be different depending on installation method.
When the length material is installed on the full width of the cantilever, use **d1**.
For length material that are installed at the outer end of the arm, use **d2**.

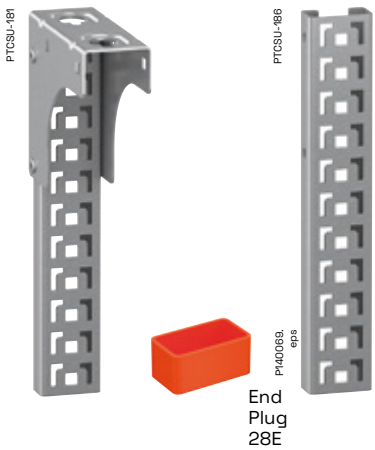


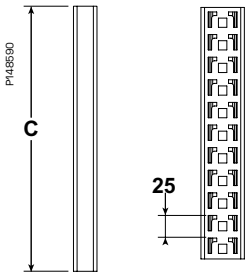

| Model | PG | d1 (m) | d2 (m) |
|---|---|---|---|
| CLX³ cantilever arm 200 | CSU795647 | 0.140 | NA |
| CLX³ cantilever arm 300 | CSU795648 | 0.190 | |
| CLX³ cantilever arm 400 | CSU795649 | 0.240 | 0.340 |
| CLX³ cantilever arm 500 | CSU795650 | 0.290 | 0.440 |
| CLX³ cantilever arm 600 | CSU795651 | 0.340 | 0.490 |

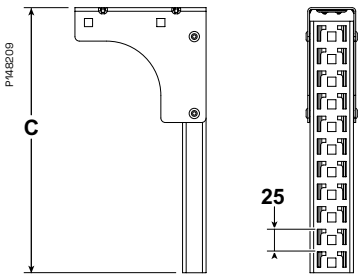
**In case of several layers are installed on the pendant then the sum of the Mt momentum force from all layers shall be calculated.**

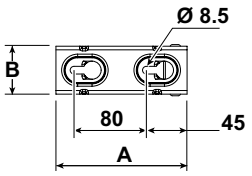
**Ensure that the installation is designed so that ⍰Mt and ⍰Ft are under the limits.**

# Use and installation CLX³ Click suspension




## CLX³ Pendant 24/48

Vertical piece with a perforated pattern to be used for installation of CLX³ cantilever arms or CLX³ central suspension adapter. The open side of the rail can be used for installation of cantilever arms and brackets together with T-bolt.
Can be joined to CLX³ Rail 24/48 with pendant joint 2FJ.

| Model | PG | High (mm) A | Width (mm) B | Length (mm) C |
|---|---|---|---|---|
| **CLX³ pendant** | | | | |
| CLX³ pendant 24/48 300 mm PG | CSU795632 | 145 | 53 | 295 |
| CLX³ pendant 24/48 400 mm PG | CSU795633 | | | 395 |
| CLX³ pendant 24/48 500 mm PG | CSU795634 | | | 495 |
| CLX³ pendant 24/48 700 mm PG | CSU795635 | | | 695 |
| CLX³ pendant 24/48 1000 mm PG | CSU795636 | | | 995 |
| CLX³ pendant 24/48 1500 mm PG | CSU795638 | | | 1495 |
| **CLX³ rail** | | | | |
| CLX³ rail 24/48 300 mm PG | CSU795640 | 26 | 48 | 280 |
| CLX³ rail 24/48 1000 mm PG | CSU795641 | | | 980 |
| CLX³ rail 24/48 3000 mm PG | CSU795637 | | | 2980 |

### Pendants Safe Working Load (SWL)

**SWL for bending moment of the pendant Mt.**

| Model | PG | Moment (N.m) Click side | Deflection (mm) |
|---|---|---|---|
| CLX³ pendant 24/48 300 mm PG | CSU795632 | 235 | 2 |
| CLX³ pendant 24/48 400 mm PG | CSU795633 | | 4 |
| CLX³ pendant 24/48 500 mm PG | CSU795634 | | 7 |
| CLX³ pendant 24/48 700 mm PG | CSU795635 | | 15 |
| CLX³ pendant 24/48 1000 mm PG | CSU795636 | | 30 |
| CLX³ pendant 24/48 1500 mm PG | CSU795638 | 200 | 30 |

Tested according to IEC 61537 standard.

**SWL bending moment for Adjustable ceiling plate Mt.**

| Model | PG | Moment (N.m) Click side |
|---|---|---|
| CLX³ adjustable ceiling plate | CSU795639 | 235 |

**SWL pendant tensile strength Ft.**

| Model | PG | Tensile load SWL (N) 1 bolt CLX³ | Tensile load SWL (N) 2 bolts CLX³ |
|---|---|---|---|
| CLX³ pendant 24/48 300 mm PG | CSU795632 | 2000 | 5000 |
| CLX³ pendant 24/48 400 mm PG | CSU795633 | | |
| CLX³ pendant 24/48 500 mm PG | CSU795634 | | |
| CLX³ pendant 24/48 700 mm PG | CSU795635 | | |
| CLX³ pendant 24/48 1000 mm PG | CSU795636 | | |
| CLX³ pendant 24/48 1500 mm PG | CSU795638 | | |

# Use and installation CLX³ Click suspension

## Pendant limits, torque and deflection

In the diagram below it is possible to check if ⍰**Mt** is below the momentum limitation of the pendant (end of line). It is also possible to see the deflection on the pendant at max ⍰**Mt** and all values below.

### Calculation example

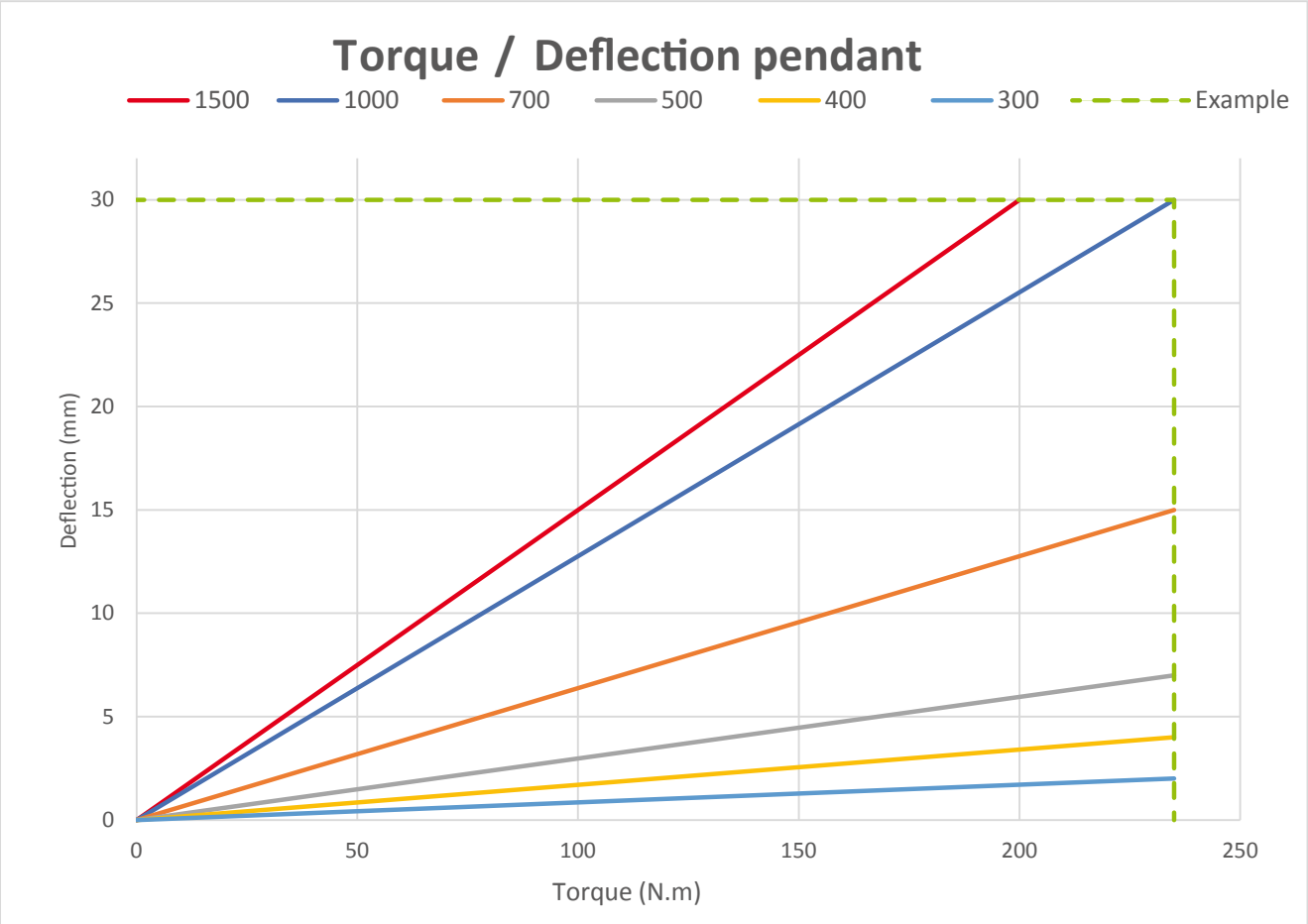
For a cantilever size 600, full size ladder installation, 3 m span, load of 23 kg/m on a 1000 mm pendant.

1) ⍰**F**: 3 m (span) x 23 kg/m (load) x10 = 690 N will be the load for each pendant system.
2) ⍰**Mt**: 690 (N) x 0.34 (m) = 234 N.m.

⍰**F** = 690 N ≤ 2000 N and ⍰**Mt** = 234 Nm ≤ 235 N.m.

3) Drawing of the lines on the graph: for 234 N.m, the deflexion on the pendant is **30 mm**.

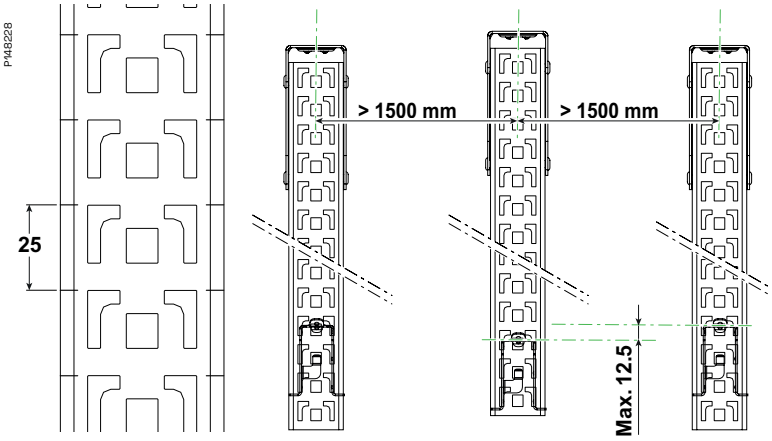
P148686

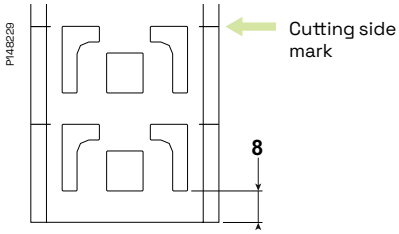


# Use and installation CLX³ Click suspension

## Distance between rails and offset

CLX³ rail have a pitch between the patterns of 25 mm.
The support distance between the pendants should be at least than 1.5 m. If the length material can't be installed on the exact same level, the length material should be installed on the closest offset- pitch and never at more than 12.5 mm vertically from the previous pattern.



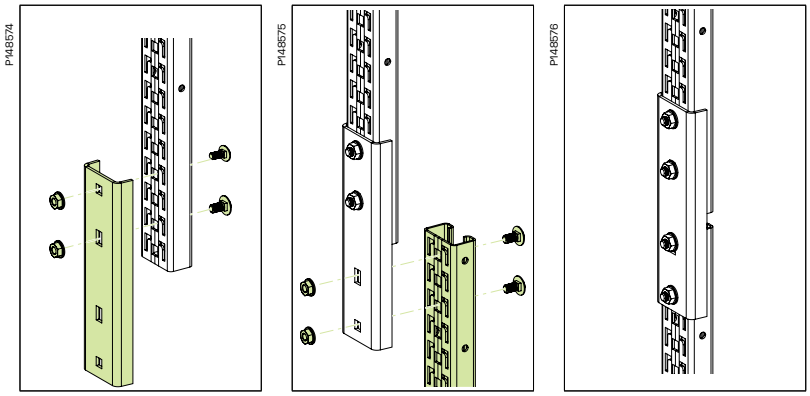




## Cutting of the pendant or rail

Cutting of the rail or the pendant should be made at 8 mm under the last pattern needed, as the side marks are showing. This to assure that there is enough material below the bottom pattern to secure proper fixation of the cantilever arm.

## Installation of the rail joint

CLX³ rails can be joined together with pendant joint 2FJ.




Place the joint on the rail in place, make sure the 2 top holes are in front of slots to install the included bolts and nuts.

Install the second rail as high as possible and install the other bolts and nuts.

Torque of the nuts **11 N.m.**

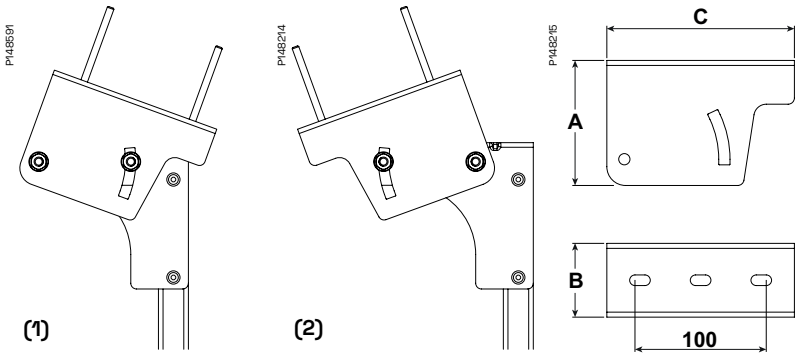
Note: extending the pendant with the rail joint will decrease the load capacity of the pendant. For SWL information when extending the pendants, contact Technical support.

# Use and installation CLX³ Click suspension

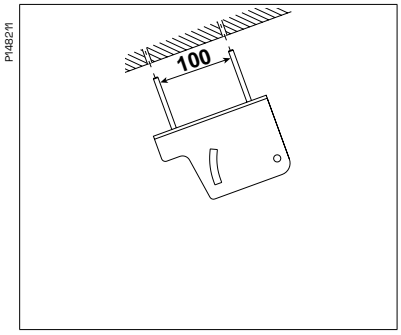
## CLX³ Adjustable ceiling plate

Adjustable ceiling plate is used together with CLX³ pendant to allow for angle correction up to 25°. The adjustable ceiling plate is fixed to the CLX³ pendant with
4 screw set 22S to be ordered separately. The pendant can be fixed to the adjustable ceiling plate in both possible directions (**1**) and (**2**).

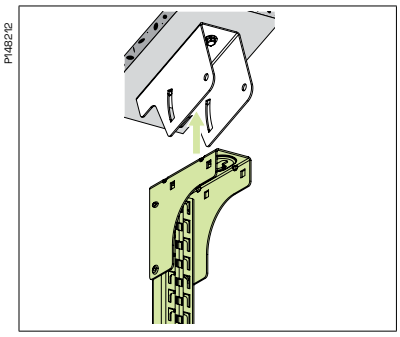
| Model | PG | High (mm) A | Width (mm) B | Length (mm) C |
|---|---|---|---|---|
| CLX³ adjustable ceiling plate PG | CSU795639 | 100 | 59 | 150 |



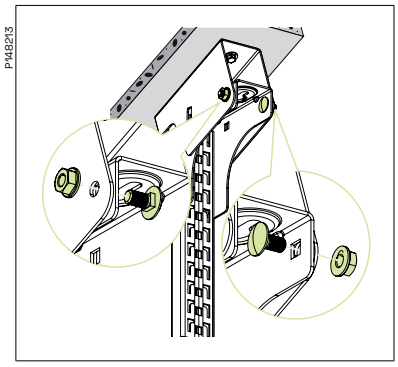

### Installation of the adjustable ceiling plate

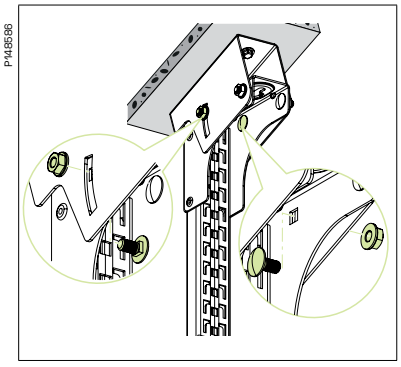



Fix the adjustable ceiling plate to the ceiling with 2 bolts.
(c-c: 100 mm).



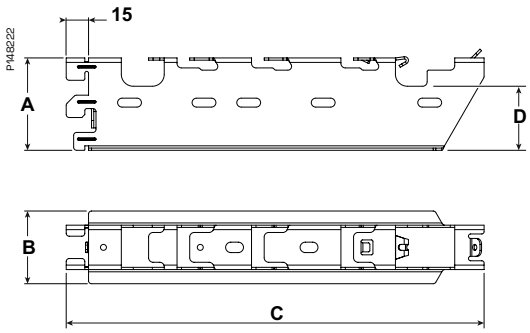

Insert the pendant into the adjustable ceiling plate.




Fix the pendant to the adjustable ceiling plate with 4 bolt sets 22S and align the pendant to the vertical plane before tightening the bolts.
**Recommended torque 20 N.m.**

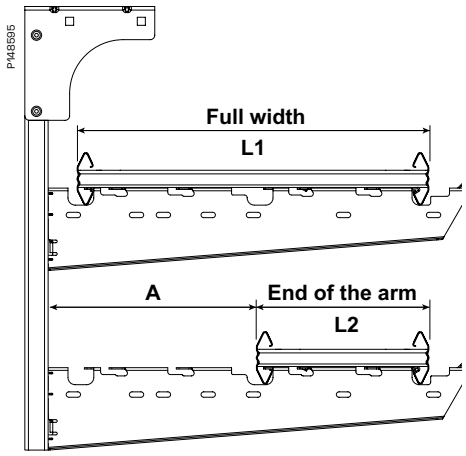
# Use and installation CLX³ Click suspension




## CLX³ Cantilever arm

The CLX³ cantilever arm is a screw-less cantilever that clicks into the pattern in the CLX³ pendant and rail. The cantilever arm is used to fix either the KHZSP ladder, the Defem mesh tray or the Stago height 60 trays. It can also be used for the Performa mesh trays together with fixation bolts.

| Model | PG | High (mm) A | Width (mm) B | Length (mm) C | Height below ladder (mm) D |
|---|---|---|---|---|---|
| CLX³ cantilever arm 200 PG | CSU795647 | 62 | 49 | 280 | 43 |
| CLX³ cantilever arm 300 PG | CSU795648 | 62 | 49 | 380 | 43 |
| CLX³ cantilever arm 400 PG | CSU795649 | 92 | 49 | 480 | 73 |
| CLX³ cantilever arm 500 PG | CSU795650 | 92 | 49 | 580 | 73 |
| CLX³ cantilever arm 600 PG | CSU795651 | 92 | 49 | 680 | 73 |




### Cantilever arm size compatibility

The click pattern on the cantilever arm is in some cases fitting more than one ladder width to make it possible to avoid pillars or obstacles on the wall. See the table and illustration below.

The table also clarifies which cantilever arm to use for each with of Defem mesh tray.

| Model | PG | Compatible ladder | | Space to the offset ladder (mm) | Defem size compati-bility |
|---|---|---|---|---|---|
| | | | (offset) | | |
| | | L1 | L2 | A | |
| CLX³ cantilever arm 200 PG | CSU795647 | 200 | NA | NA | 220 |
| CLX³ cantilever arm 300 PG | CSU795648 | 300 | NA | NA | 320 |
| CLX³ cantilever arm 400 PG | CSU795649 | 400 | 200 | 232 | 420 |
| CLX³ cantilever arm 500 PG | CSU795650 | 500 | 200 | 332 | 520 |
| CLX³ cantilever arm 600 PG | CSU795651 | 600 | 300 | 332 | 620 |

### Cantilever arms Safe Working Load (SWL)

**SWL of the cantilever bracket**

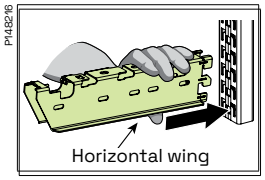
| Model | PG | Safety working load as wall bracket (full width) (N) | Safety working load as wall bracket (end of the arm) (N) |
|---|---|---|---|
| CLX³ cantilever arm 200 PG | CSU795647 | 1800 | NA |
| CLX³ cantilever arm 300 PG | CSU795648 | 1250 | |
| CLX³ cantilever arm 400 PG | CSU795649 | 1250 | 1000 |
| CLX³ cantilever arm 500 PG | CSU795650 | 1250 | 750 |
| CLX³ cantilever arm 600 PG | CSU795651 | 1000 | 700 |

Tested according to IEC 61537 standard.

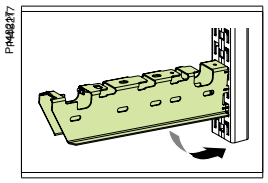
# Use and installation CLX³ Click suspension

## Installation of cantilever arms

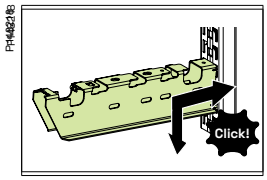
CLX³ cantilever arms are clicked to the CLX³ pendants and rails. Make sure to select a pattern allowing all hooks to grip and the full cantilever back to be supported by the rail. The horizontal wing must touch the rail.



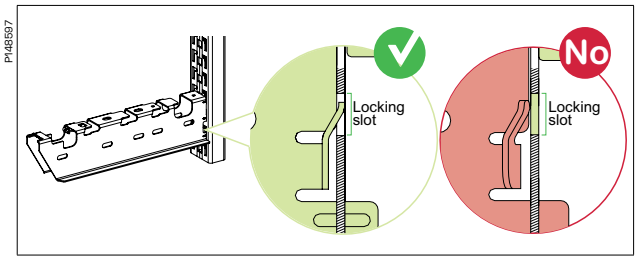

Hold the cantilever close to the hooks and insert the hooks in the rail.




Press the cantilever until the horizontal/ top surface touch the rail.



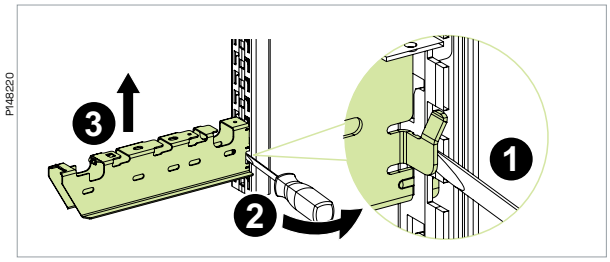

Press against the rail and pull it down until the locking lip go inside the slot in the rail.




Visually check that the cantilever arm is properly positioned and the locking lip is positioned inside of the slot of the CLX³ rail.

**Apply caution with unintended upward movements as it can cause the cantilever arm to unlock and therefore be released from the rail.**

## Uninstallation of CLX³ cantilever arm using screwdriver




❶ Fit the head of the screwdriver between the rail and the locking lip of the cantilever.
Use the screwdriver as a lever to ❷ push the lip out of the rail. Deform the lip as little as possible and ❸ push the cantilever up to be able to unhook the cantilever arm.

**Before reinstalling a cantilever that has been removed after installation, make sure the lip is locking properly. If not, correct the lip to the initial position.**

# Use and installation CLX³ Click suspension

## Installation of KHSZP ladders on cantilever arms

CLX³ cantilever arms are designed to fix KHZSP ladders without need of tools or bolts.

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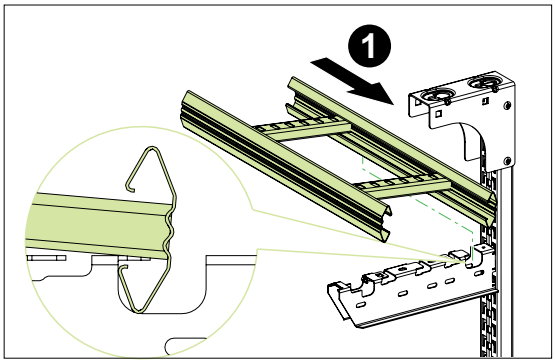
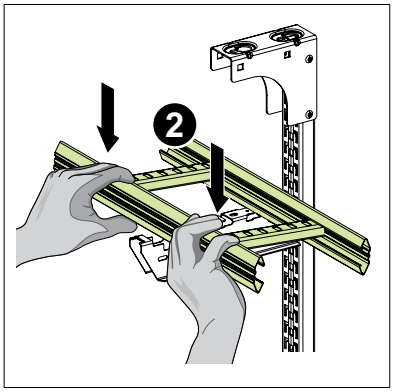
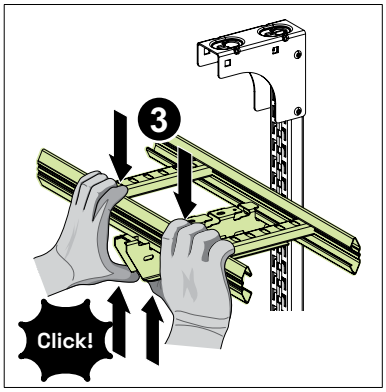



❶ Insert the ladder on the rail side.
Pull it on the outside direction to lock this side in the lip.

P148224

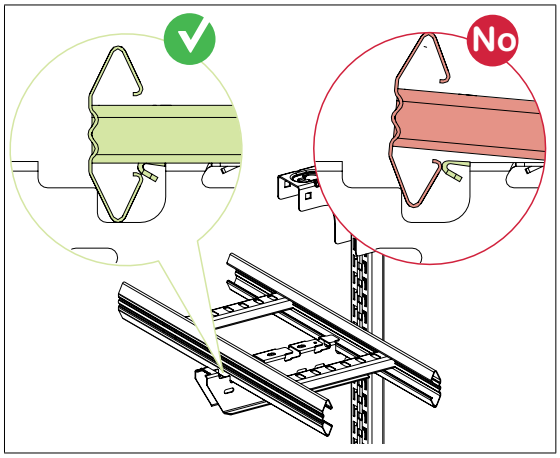



P148224_bis




❷ Squeeze the free side of the ladder strongly down on the outer end of the cantilever until ❸ the ladder overpasses the locking lip.

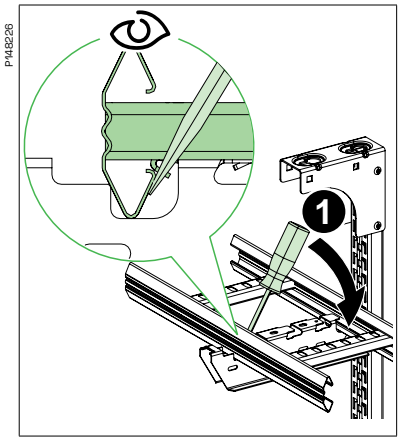
P148600



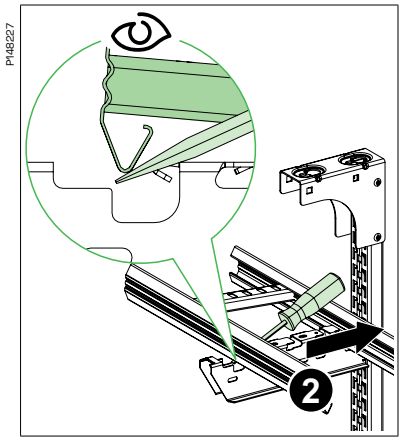

Visually check that the ladder is properly positioned, and the locking lip is positioned inside of the ladder profile.

# Use and installation CLX³ Click suspension

**Uninstallation of KHSZP ladder of cantilever arms**
Remove the ladder from the cantilever arm, by using a flat screwdriver.

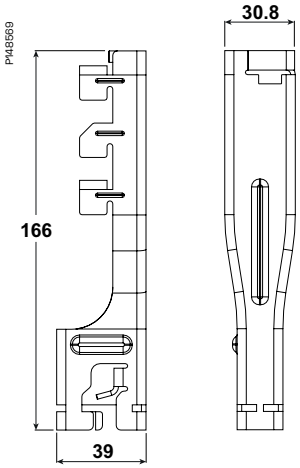



❶ Fit the head of the screwdriver between the ladder and the top surface of the cantilever as in the picture.
Use the screwdriver as a lever to pull out the ladder of the locking lip until the ladder snaps out.




After releasing the outer side of the ladder, ❷ push the ladder in the direction of the rail to unlock the other side.

# Use and installation CLX³ Click suspension



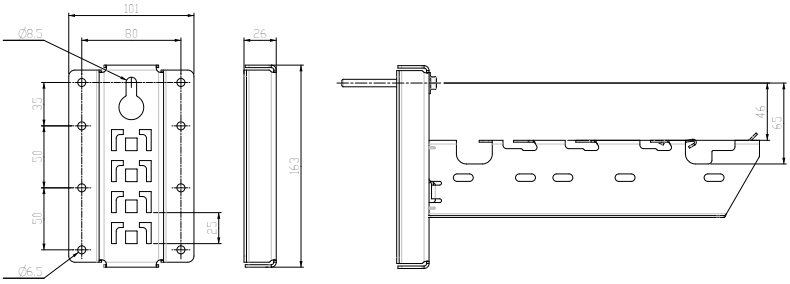

## CLX³ Central suspension adapter

The CLX³ central suspension adapter is clicked together with the central suspension brackets to create a central suspension piece that can be clicked to the rail or pendant.

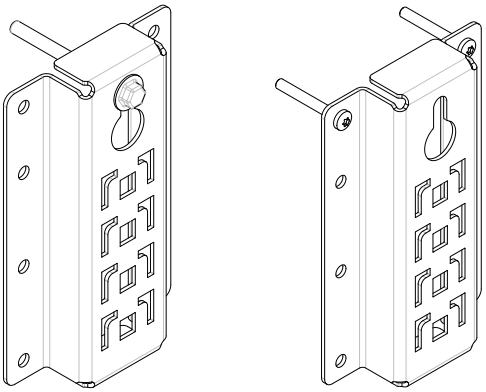
| Model | PG | High (mm) A | Width (mm) B | Length (mm) C |
|---|---|---|---|---|
| CLX³ Central suspension adapter PG | CSU795700 | 166 | 31 | 39 |

## Installation of the Wall bracket

The Wall bracket is made to directly fix a Cantilever arm to a wall, without using a full-size rail. The Wall bracket doesn't reduce the SWL of the cantilever arm and the distance between the back of the cantilever and the wall is the same as with a rail.




The wall bracket can be fixed in two different ways:
With the keyhole (A) or with the lateral holes (B).



(A) (B)

The keyhole design allows to pre-fix the bolt in the wall, before installing the bracket.
**For concrete wall, use bolts IMT38051.**
**For non-concrete wall, M8 bolts with washer >Ø16 should be used.**

For the lateral holes, the bracket should always be fixed with at least the two top Ø6mm holes (same hight as the keyhole). The left and right bolts should be horizontally separated by 80mm (axis to axis).

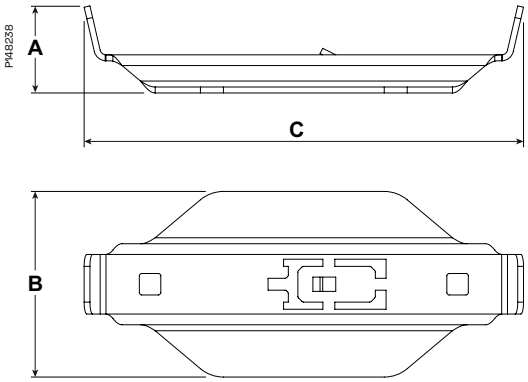
# Use and installation CLX³ Click suspension

## CLX³ KHZSP ladder central suspension bracket

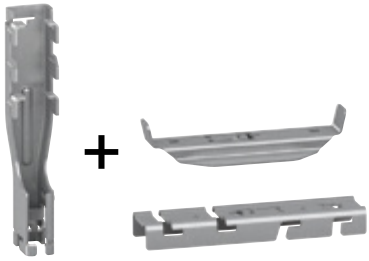
Bracket to be used for central suspension of KHZSP ladders. The bracket shall be used together with the CLX³ central suspension adapter.

| Model | PG | High mm A | Width mm B | Length mm C |
|---|---|---|---|---|
| CLX³ KHZSP central suspension bracket 200 PG | CSU795655 | 37 | 78 | 185 |
| CLX³ KHZSP central suspension bracket 300 PG | CSU795656 | 37 | 78 | 285 |
| CLX³ KHZSP central suspension bracket400 PG | CSU795657 | 37 | 78 | 385 |
| CLX³ KHZSP central suspension bracket500 PG | CSU795658 | 37 | 78 | 485 |
| CLX³ KHZSP central suspension bracket 600 PG | CSU795659 | 37 | 78 | 585 |

| Central suspension bracket | SWL symmetric load (N) |
|---|---|
| 200 | 1500 |
| 300 | 1500 |
| 400 | 1500 |
| 500 | 1250 |
| 600 | 1200 |



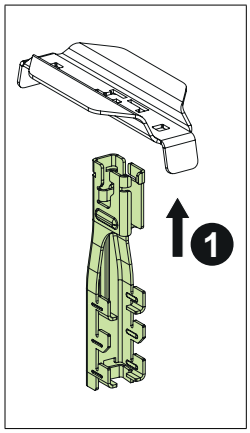
# Use and installation CLX³ Click suspension



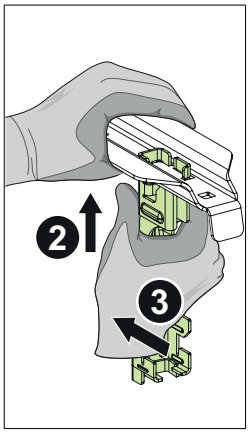
## Installation of adaptor to central suspension brackets

The CLX³ central suspension bracket is installed without tools by clicking it to the central suspension. The method is the same for Central suspension bracket ladder -mesh or -tray. In the illustration below, the CSB for ladder is used.

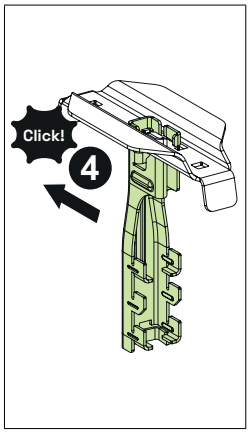
P148613



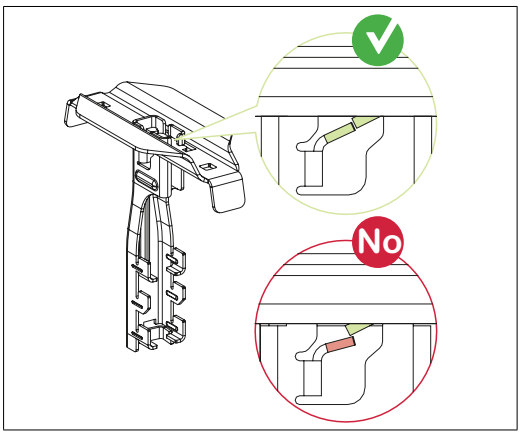

P148614




P148615




P148616




❶ Insert the adaptor in the pattern on the central suspension bracket.

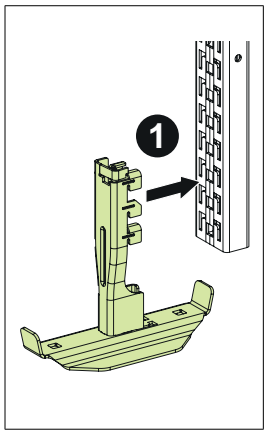
❷ Press the pieces together and ❸ slide the adaptor until the click lip of the adaptor pass over the locking lip of the central suspension bracket with a ❹ click.

Visually check and secure that the adaptor is properly positioned, and the click lip has overpassed the locking lip.

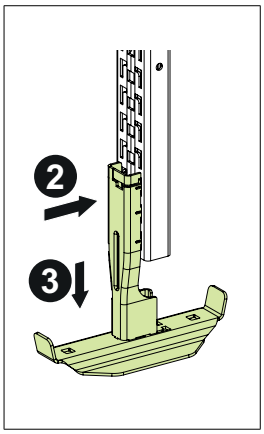
## Installation of central suspension adapters to the CLX³ rail

The CLX³ central suspension adaptors is installed to the rail without tools, by clicking. To ensure proper installation a hooks must be inserted in the rail:

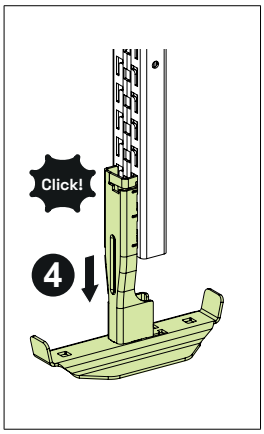
P148618



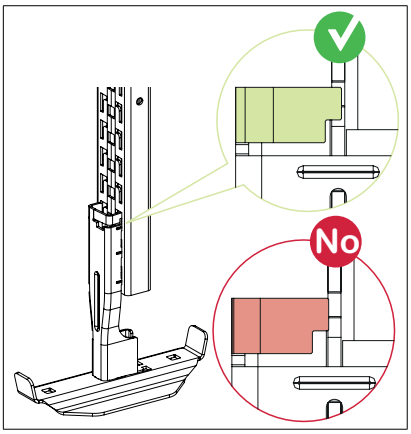

P148619




P148620




P148621




❶ Push the central suspension piece until the hooks are fully inserted in the pattern and the surface touches the rail.

❷ Press towards the rail and ❸ pull down until the click lip.

❹ Pass inside the slot in the rail.

Visually check and secure that the adaptor is properly positioned, and the click lip is properly positioned inside of the slot of the CLX³ rail.

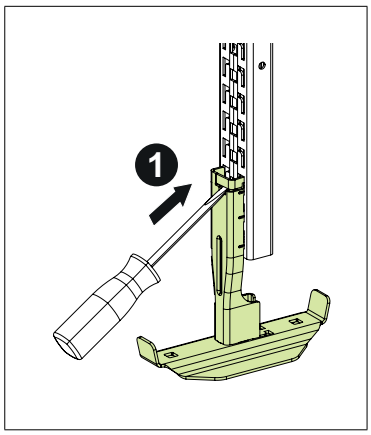
**Apply caution with unintended upward movements as it can cause the adaptor to unlock and therefore be released from the rail**

# Use and installation CLX³ Click suspension

## Uninstallation of adapter from the CLX³ rail

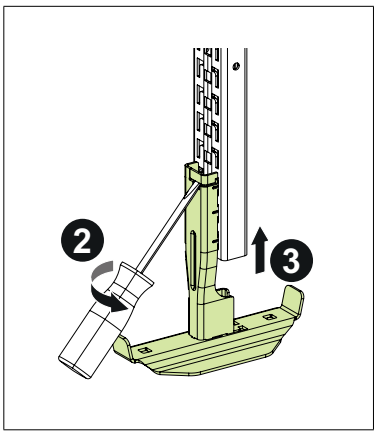
CLX³ central suspension adapters can be removed, by using a flat screwdriver.

P148623



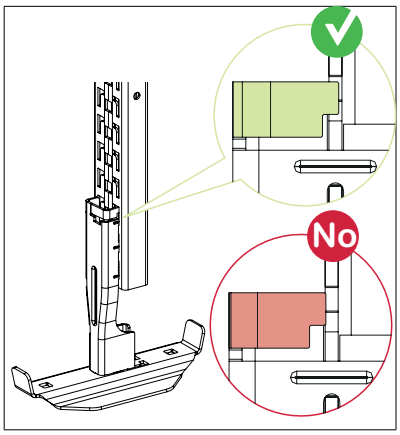

❶ Fit the screwdriver's head in the slot of the adaptor.

P148624




Use the screwdriver as a lever to ❷ gently release the click lip from the rail. Then ❸ push the adaptor up to release the L hooks from the rail.

P148621

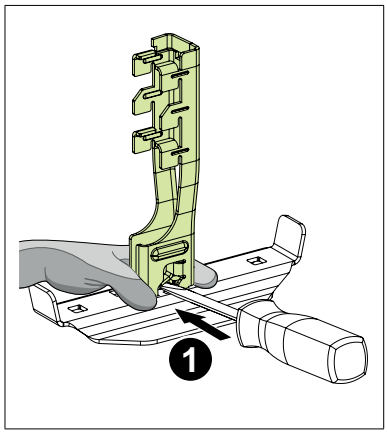



If the adapter needs to be reinstalled, correct the click lip to the initial position and make sure the click lip is locking properly.

## Uninstallation of adaptor from central suspension brackets

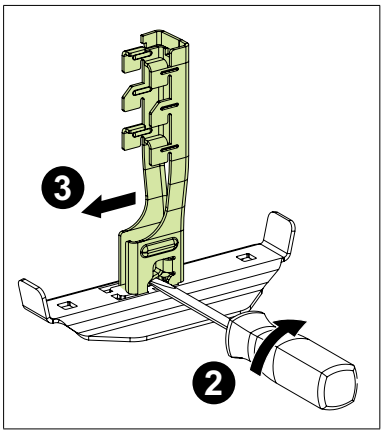
CLX³ central suspension brackets can be removed, by using a flat screwdriver.

P148626



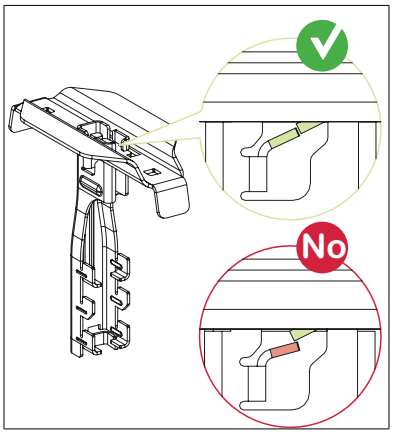

❶ Hold the bracket, fit the screwdriver's head between the adaptor lip and the bracket.

P148627



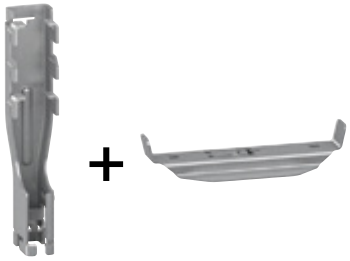

❷ Twist the screwdriver to use it as a lever on the click lip until it passes over the bracket's locking lip and ❸ pull the adaptor sideways to release it.

P148616




When the bracket needs to be reinstalled, correct the click lip to the initial position and make sure the click lip is locking properly.

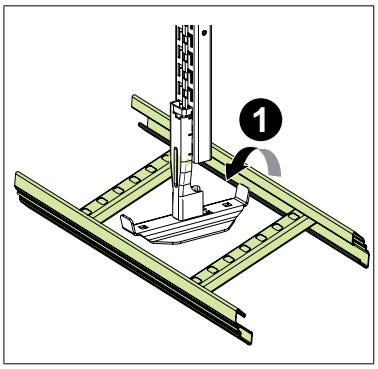
# Use and installation CLX³ Click suspension



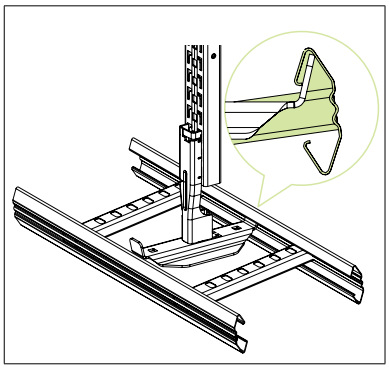
## Installation of KHZSP ladders on central suspension brackets

CLX³ brackets are made to fix ladders KHZSP without tool.

P148646

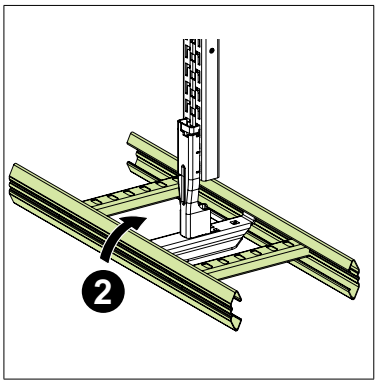


P148647



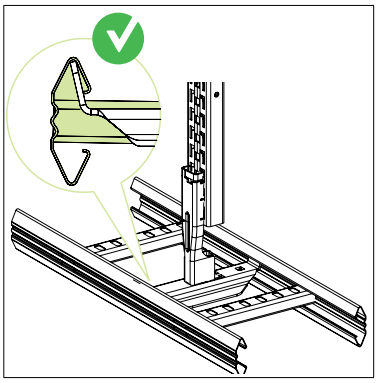
❶ Insert one inside side of the ladder on one lips of the bracket.

P148648



❷ Pull up the other side and snap the ladder on the other lip.

P148649



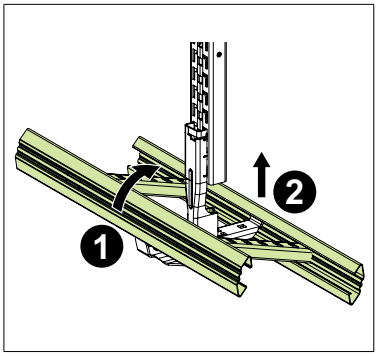
Visually check if the bracket lip is inside the ladder profile.
Profile clamp 43 can be used to fix the cable ladder to the support bracket.

**Apply caution with unintended upward movements as it can cause the bracket to unlock and therefore be released from the rail**

## Uninstallation of KHZSP ladder from the central suspension bracket

KHZSP ladder can be removed from the bracket.

P148650

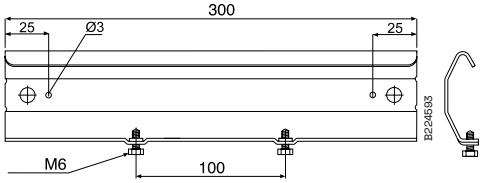


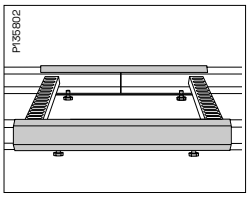
❶ Push one side of the ladder up until the ladder leave the lip of the bracket.
❷ Release the other side of the ladder from the lip.

# Use and installation

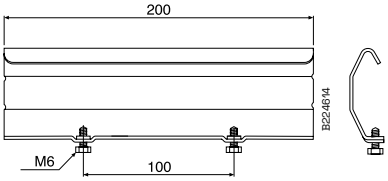
## Joint 21, with screws or screwless

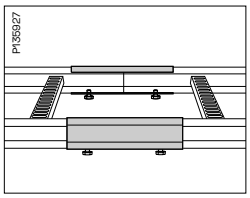
Joint to be used for straight, rigid joining of cable ladders, bends, junctions and risers. No extra earthing needed.



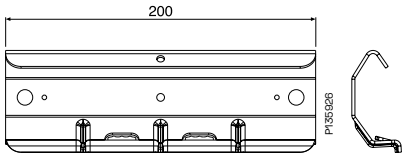



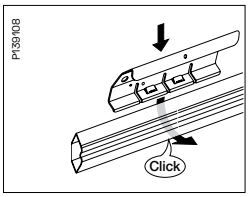
Joint 21 in stainless steel

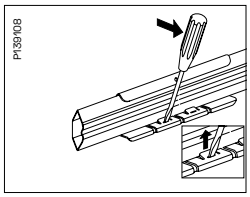


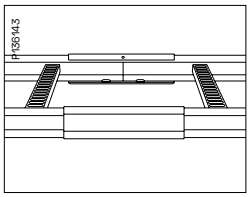



Joint 21 screwless joint



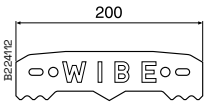



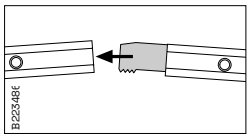




## Joint 9

Joint to be used for straight joining of cable ladders KHZ, KHZP and KHZPS. The teeth of the joint should face downwards. Under load, the ladders are prevented from slipping apart. If the joint is above a bracket, the teeth should face upwards.



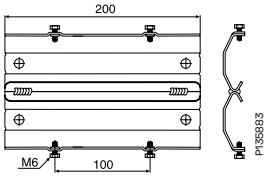

Joint 9 is used in straight joints of KHZ, KHZP and KHZPS.

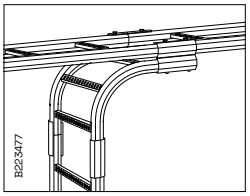
NOTE! The teeth shall face downwards as shown in the figure. Under load, the ladders are prevented from slip- ping apart. If the joint is above a bracket, the teeth should face upwards.

# Use and installation

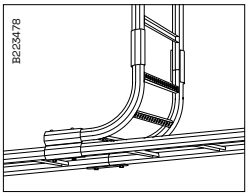
## Dropper joint 32

Dropper joint used to form vertical branches in centre posision under/on top of cable ladders.



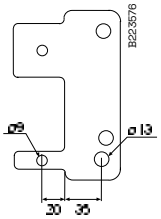

To be used together with Riser 18 to form vertical branches under Cable ladder KHZ, KHZP, KHZSP, KHZSPZ+ and KHZPS.

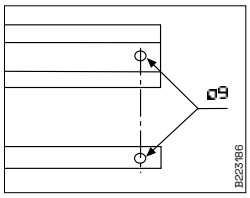



May also be used together with Riser 18 to form vertical branches on top of Cable ladder KHZ, KHZP, KHZSP, KHZSPZ+ and KHZPS.

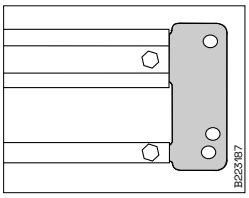
## Joint 45

Joint to be fitted as a joining plate in a cut KHZV/KHZPV ladder.

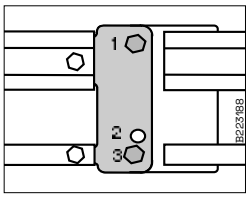


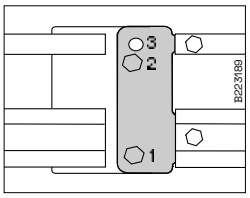

Cable ladders can be joined using separate joints.
- Cut the ends clean.
- Place the joints outside the ladders and mark where the holes shall be drilled.
- Drill 9 mm dia. holes.




- Insert the joint plates into the ladders and bolt them fast.




The holes are laterally displaced to avoid play in joints. If the ladders are mounted with arch pipes facing downwards, use holes 1 and 3.

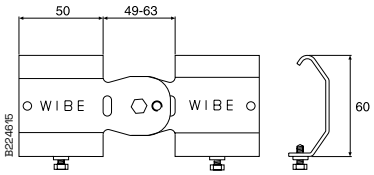


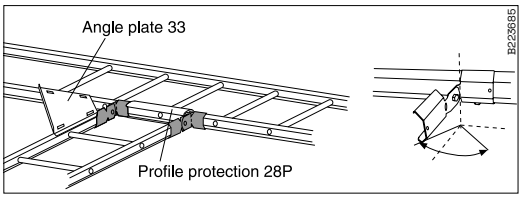

If the ladders are mounted with arch pipes facing up-wards, use holes 1 and 2.

# Use and installation

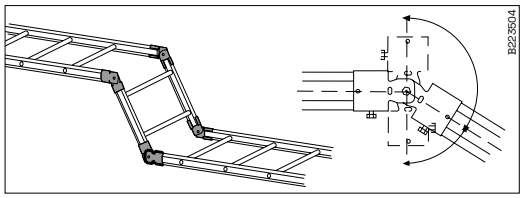
## Coupling 22

Coupling to be used for horizontal or vertical branches at any desired angle.

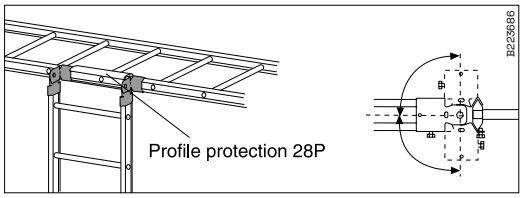


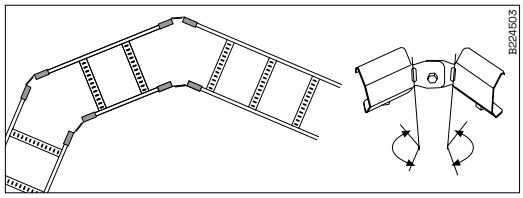

Coupling 22 is used for horizontal branching to the required angle. The cut length of the ladder ends determines the angle. Angle plate 33 is always recommended for horizontal branches. Use Profile protection 28P.



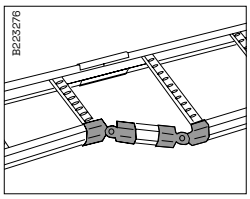

Coupling 22 is used to form vertical angles of the required size.



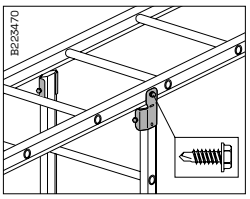

Coupling 22 is used to form vertical branches of the required angle. Mount Profile protection 28P. To be cut when required.



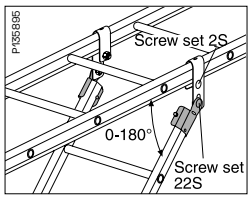

Use 4 Couplings 22 to form a horizontal bend in different angles. The cut lengths of the ladder ends determine the angle.



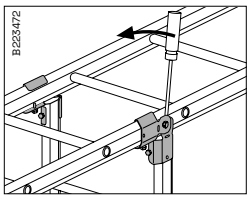

As an alternative at transition joining of KHZSP, KHZPS, KHZ and KHZP use 1 Joint 21 and 2 Couplings 22.




Vertical branching under the cable ladder with one part of Coupling 22 and plate screw.




Clamp 12 and one part of Coupling 22 can be used for branching under the cable ladder – allowing angles from 0 – 180°.

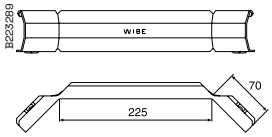


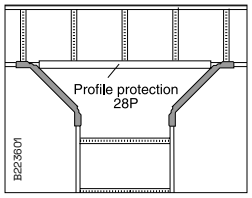

Use 2 Coupling 22 for ver-
tical branching under the cable ladder. **Note!** The screw of Coupling 22 must be turned so that its head will be placed against the side profile of the cable ladder. Bend the coupling with a screwdriver.

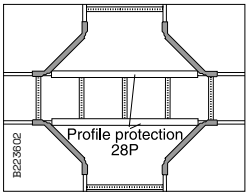
# Use and installation

## Junction coupling 14

Junction coupling to be used for T- and X-junctions. Suitable for cable ladders KHZ, KHZP, KHZSP and KHZPS, all cable widths.



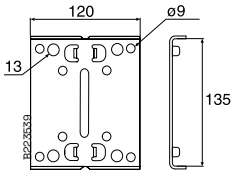



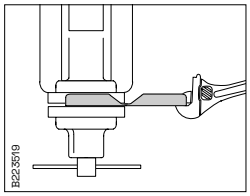




For T-junctions, use 2 Junction couplings 14.
For X-junctions, use 4 Junction couplings 14.
A bracket should be placed under the connecting ladder close to the connection. Profile protection 28P is recommended. To be cut to required length.

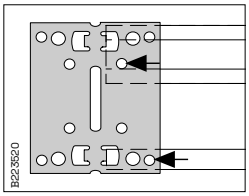
## Coupling 44

Coupling to be used for horizontal coupling of cable ladders KHZV/KHZPV.
Also to be used for branches and as an end connection against a wall.

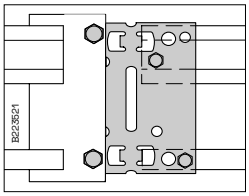


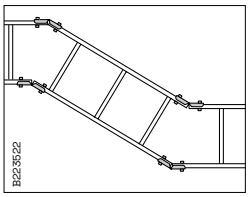

Coupling 44 may be bent to the required angle in a vice, using an adjustable spanner or similar.



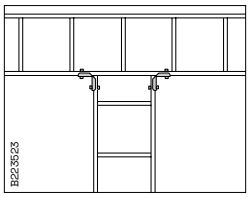

Use Coupling 44 as a drilling pattern on the cut ladder. Drill 9 mm dia. holes.



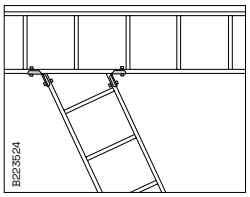

Assemble the cut and drilled ladders using M8x30 mm bolts. If the angle unit is mounted against a fixed joint plate use Screw set M12.



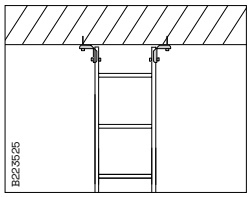

Angled cutting of the ladder ends determines the angle.




Straight branch.



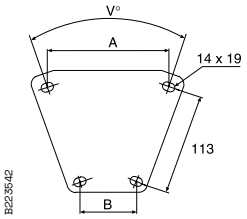

Angled branch.

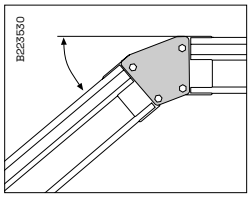



Use Coupling 44 as an end attachment for mounting ladders against walls or floors.

## Coupling plate 48

Coupling plate to be used as a self-supporting vertical angle coupling of cable ladders KHZV/KHZPV
Assembled with 2 Screw set M12.



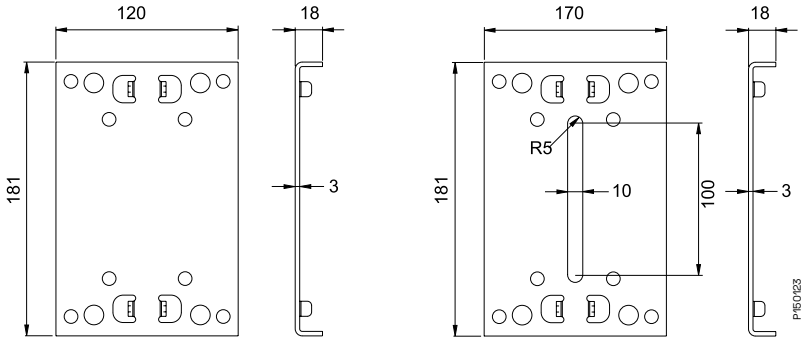

For self-supporting vertical angle adjustment use 2 Coupling plate 48 och 2 Screw set M12
Coupling plate 48/30°=25°-35°
Coupling plate 48/45°=35°-55°
Coupling plate 48/60°=55°-65°

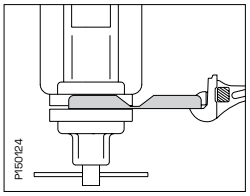
| V° | A mm | B mm |
|---|---|---|
| 30 | 115 | 55 |
| 45 | 145 | 55 |
| 60 | 180 | 65 |

# Use and installation

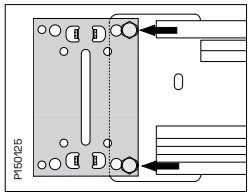
## Horizontal coupling 20C/ Horizontal coupling bending 20C

Coupling to be used for horizontal connection of cable ladders KHZP 20C range.Four screws M8x30 and nuts are inlcluded.

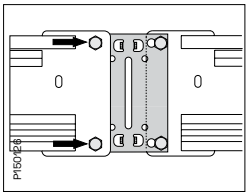



Coupling for Bending 20C may be bent to the required angle in a vice, using an adjustable spanner or similar.

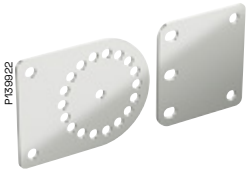



Use Coupling 44 as a drilling pattern on the cut ladder. Drill 9 mm dia. holes.

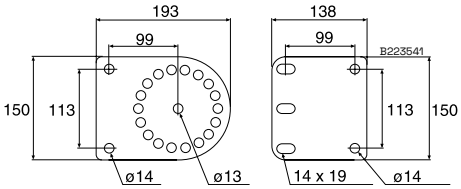



Assemble the cut and drilled ladders using M8x30 mm bolts. If the angle unit is mounted against a fixed joint plate use Screw set M12.

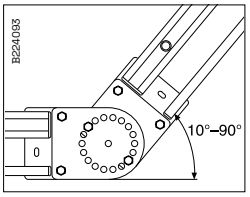
## Coupling 51



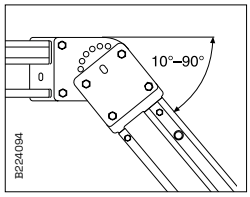

Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV.



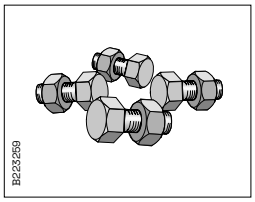

Screw set M12 for installation on the cable ladder is to be ordered separately.



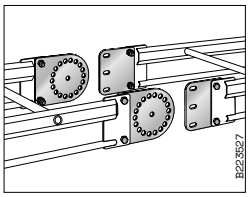

Rising. Adjustable from 10° to 90° gradually in steps of 20°.



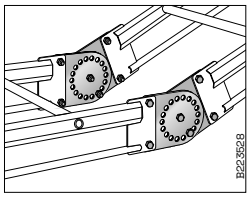

Sloping. Adjustable from 10° to 90° gradually in steps of 20°.



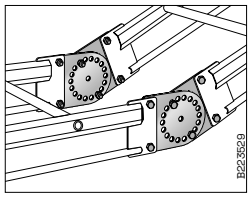

Screw set to be used for all joints with cable ladders KHZV and KHZPV.




1. Install the plates on the ladder with Screw set M12.




2. Assemble the ladders in the centre hole with one of the included screws/nuts. Adjust to desired angle and fix the instal-
lation in one of the outer holes with screw/nut.

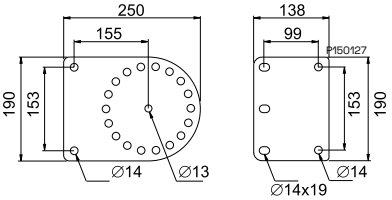



3. Move the nut in the centre hole to the opposite outer hole and tighten.

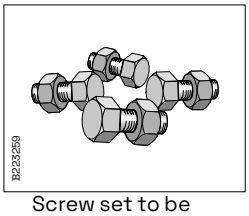
# Use and installation

## Vertical coupling 20C

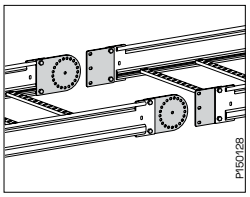
Coupling to be used as a self-supporting vertical coupling of cable ladders KHZP 20C range. Adjustable from 10° to 90° gradually in steps of 20°. Two screws M12 and nuts are included.



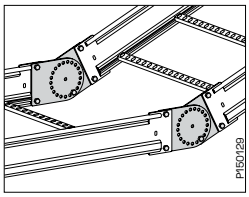

Rising and sloping adjustable from 10° to 90° gradually in steps of 20° .
Screw set M12 for installation on the cable ladder is to be ordered separately..



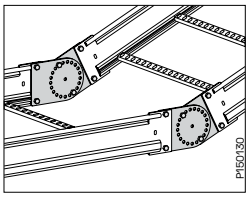

Screw set to be used for all joints with cable ladders KHZP 20C.




1. Install the plates on the ladder with Screw set M12.



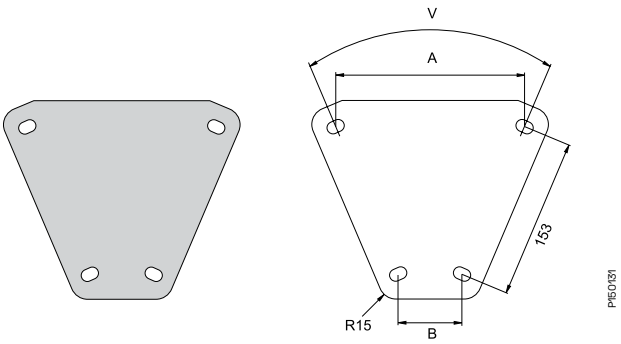

2. Assemble the ladders in the centre hole with one of the included screws/nuts. Adjust to desired angle and fix the instal-
lation in one of the outer holes with screw/nut.

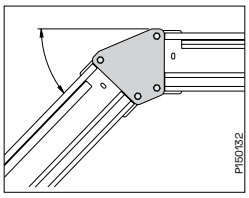



3. Move the nut in the centre hole to the opposite outer hole and tighten.

## Angle plate 20C

Angled coupling to be used for cable ladders KHZP 20C range. Four screws M12x30 and nuts are included.



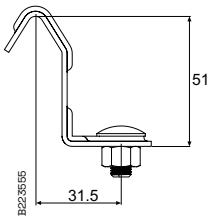



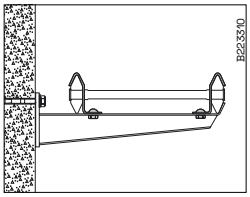

| V | A mm | B mm |
|---|---|---|
| 30 | 135 | 56 |
| 45 | 180 | 62 |
| 60 | 222 | 69 |

# Use and installation

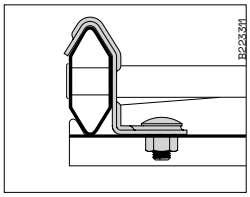
## Profile clamp 42

Profile clamp to be used for installations where the cable ladder is to be fixed to cantilever arms, support brackets, etc. For mounting against wall use wall bracket 11.

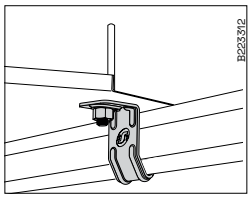


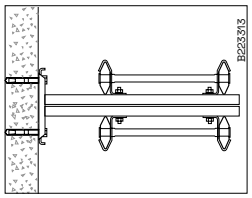

Use Profile clamp 42 for attaching KHZSP, KHZPS, KHZ and KHZP to Canti- lever arm 50 and Support bracket 3.




For installation of KHZSP, KHZPS, KHZ and KHZP on Support bracket 3, Profile clamp 42 is used.



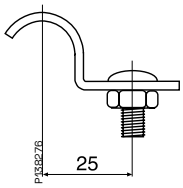

To lock Angle plate 33/2, fit 2 Profile clamp 42.

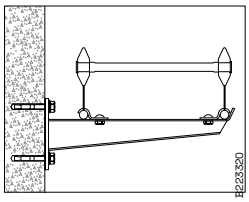



Cable ladders can be mounted directly on Vertical piece 20 or 20F with Profile clamp 42. Use T-bolt for mounting. Convenient at vertical installations in shafts.

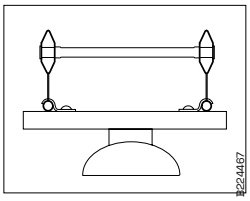
## Profile clamp 43

Profile clamp to be used for installations where the cable ladders KHZV and KHZPV are to be fixed to cantilever arms, support brackets, etc.



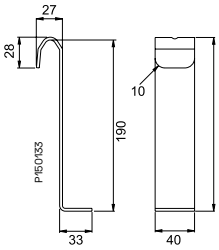

Use Profile clamp 43 to attach KHZV/KHZPV to Cantilever arm 50.

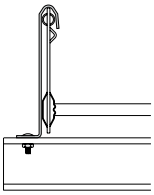


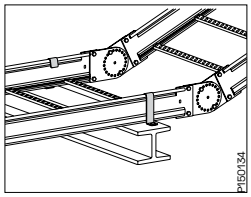

Pendant/Fixing rail 24/48, mounted under Cable ladder KHZV with Profile clamp 43, here used as carrier of lighting fittings.

## Profile clamp 20C

Profile clamp for KHZP 20 range to be used for installations where the cable ladder is to be fixed to cantilever arms, I-beams, etc. Slot for screw locking 9 x24 mm.



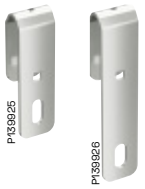



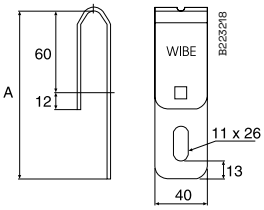


# Use and installation

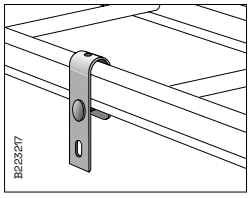
## Clamp 12

Clamp to be used on the side profile of the cable ladder for installation of accessories.



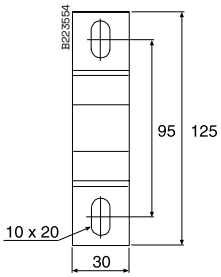

| Type | A mm |
|---|---|
| Clamp12/70 | 125 |
| Clamp 12/120 | 175 |

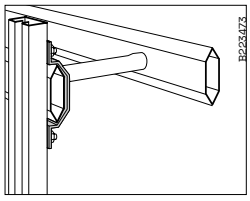



Clamp 12 can be used for installation of antenna brackets, junction boxes and so on. Bolt and nut included.

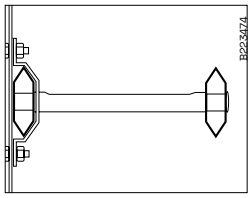
## Profile clamp 41

Profile clamp to be used to install a pendant/fixing rail or mounting plate, etc., on the cable ladder profile.

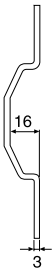


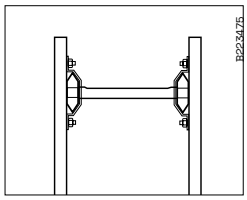




Mounting of pendant/ fixing rail on ladder profile Use Screw set 22S.

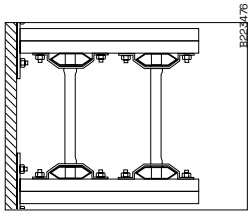



Installation of mounting plate for apparatuses. Use Screw set 22S.



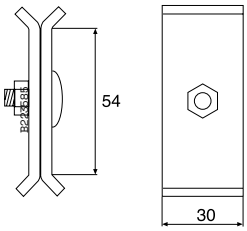

Mounting of cable ladder on floor pendants. Use T-bolts against the opening of the fixing rail.

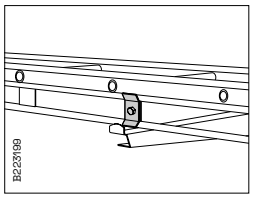



Mounting of cable ladders on wall pendants, such as in shafts. Use T-bolts against the openin of the fixing rail.

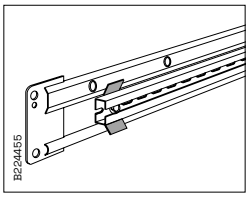
## Profile support piece 46

To be fitted between the ladder and the vault pipe when a support bracket is positi- oned between existing profile support pieces. For cable ladders KHZV and KHZPV.




If a support bracket is placed between two profile support pieces, a Profile support piece 46 must be mounted between the arch pipes and the ladder. If the load is half the permitted load, exclude the Profile support piece 46.

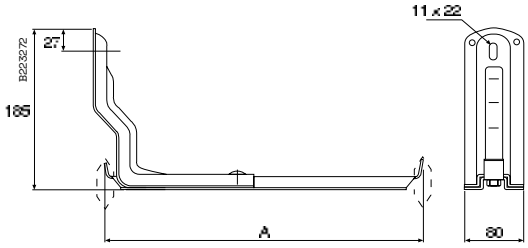



Profile support piece 46 can be installed as a fixing for different applications.

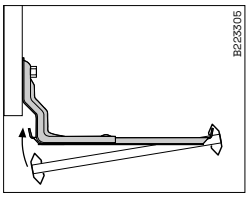
# Use and installation

## Cantilever arm 30

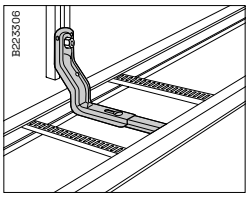
Cantilever arm for installation inside cable ladder KHZSP.



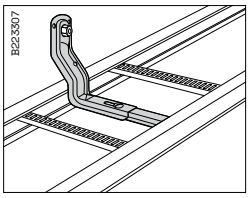

| Cantilever arm type | A mm |
|---|---|
| 30/200 | 184 |
| 30/300 | 284 |
| 30/400 | 384 |
| 30/500 | 484 |
| 30/600 | 584 |



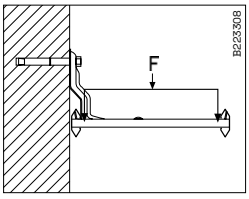

Installation of cable ladder KHZSP. Place the ladder on the outer tab and press it over the inner tab. When necessary, the ladder can be locked with a Profile clamp 43.



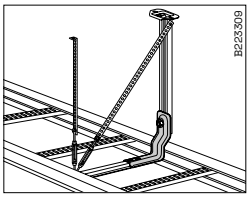

Installation on Vertical piece 2F. Cable ladder KHZSP can be adjusted max 40 mm.




Installation direct on wall. Cable ladder KHZSP is adjustable from 0–15 mm to the wall.




Breaking load for cantilever arm on wall, see table below.




When you mount cable ladders that are 500-600 mm wide it might be necessary with a reinforcement of the outer edge of the cantilever arm Installation band and stretching screw can be used for mounting in the ceiling or on a vertical piece.

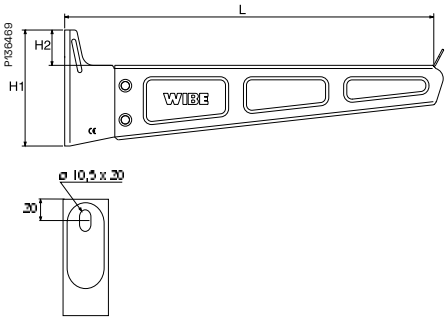
| Cantilever arm type | Breaking load<br>Max. load F on cantilever arm at a deflection of 3° kN | kg | Deflection at 3° deflection of cantilever arm mm | Breaking load kN | kg |
|---|---|---|---|---|---|
| 30/200 | 2.0 | 200 | 10 | 2.3 | 230 |
| 30/300 | 1.9 | 190 | 15 | 3.5 | 350 |
| 30/400 | 1.2 | 120 | 20 | 3.0 | 300 |
| 30/500 | 0.8 | 80 | 26 | 2.4 | 240 |
| 30/600 | 0.6 | 60 | 31 | 2.0 | 200 |

3° is equivalent to 1/20xcantilever width, according to IEC 61537.

# Use and installation

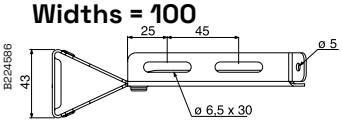
## Cantilever arm 50i

Cantilever arm to be used for lighter mountings on walls, vertical pieces or pendant/fixing rails.

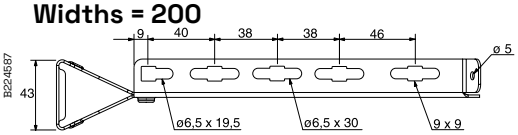



| | Size | | |
|---|---|---|---|
| Cantilever arm type | L mm | H1 mm | H2 mm |
| 50i-200 | 250 | 85 | 28.5 |
| 50i-300 | 350 | 110 | 33.5 |
| 50i-400 | 450 | 115 | 31.0 |
| 50i-500 | 550 | 150 | 31.0 |
| 50i-600 | 650 | 150 | 31.0 |

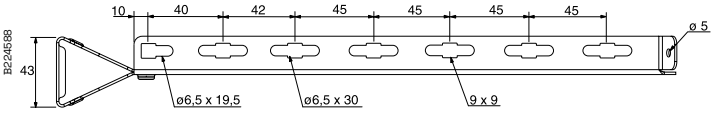
### Widths = 100



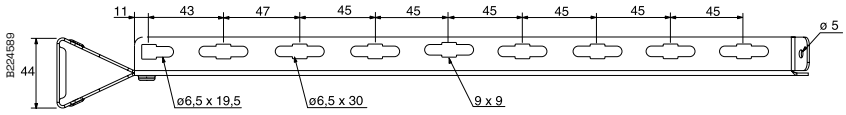

### Widths = 200



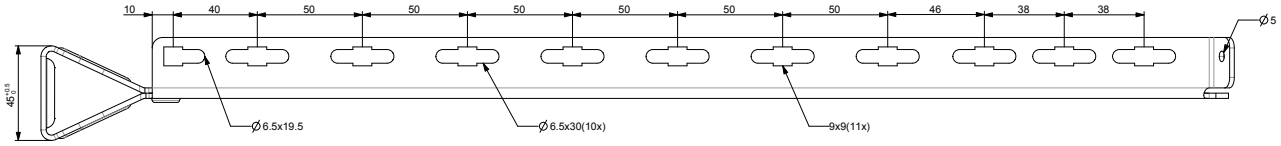

### Widths = 300



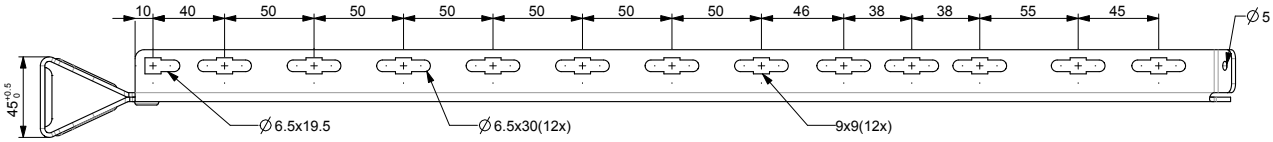

### Widths = 400



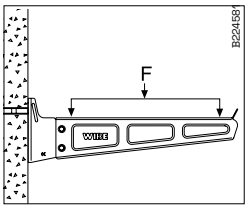

### Widths = 500



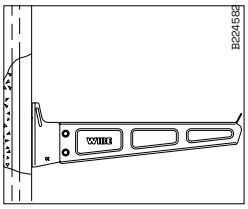

### Widths = 600



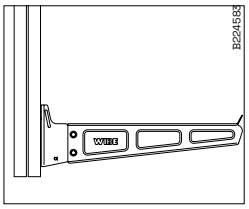
# Use and installation



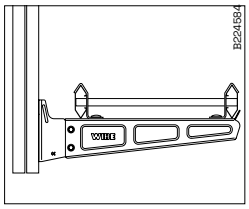

Installation of cantilever arm mounted to wall using Expansion bolt M8. Breaking load - See table below.




Installation of cantilever arm using T-bolt M8 on Fixing rail 24/26 x 53 for casting-in or Pendant/ Fixing rail wall mounted.




Installation of cantilever arm using T-bolt M8 on vertical piece. Check breaking load of the vertical piece.




Cable ladder KHZSP mounted on Cantilever arm 50i, Profile clamp 42 is used.

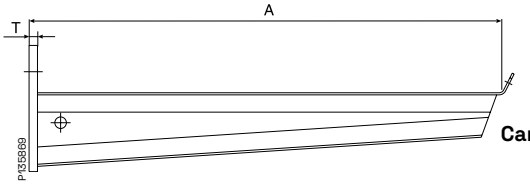
| Breaking load F - Mounted on wall | | |
|---|---|---|
| Type of cantilever arm | kN | kg |
| 50i-100 | 2.3 | 230 |
| 50i-200 | 2.15 | 215 |
| 50i-300 | 2.2 | 220 |
| 50i-400 | 2.35 | 235 |
| 50i-500 | 3.0 | 300 |
| 50i-600 | 3.0 | 300 |

Safe working load according to IEC 61537 is breaking load divided by 1,7.

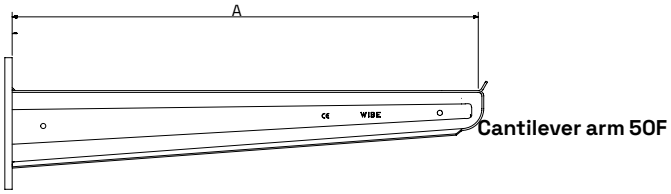
# Use and installation

## Cantilever arm 50 and 50F

Cantilever arm for mounting on walls, pendant/fixing rails or vertical pieces.

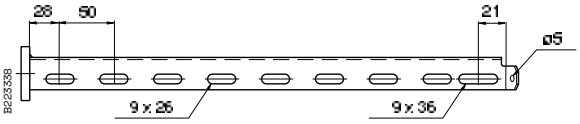



**Cantilever arm 50**

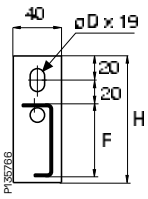



**Cantilever arm 50F**

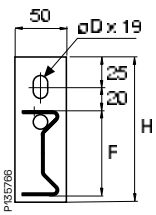
**Cantilever arm 50**



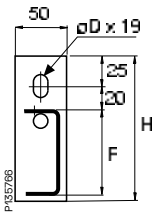

**50/100-300**



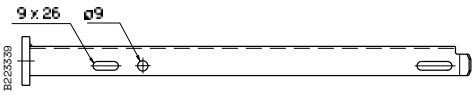

**50/400-600**



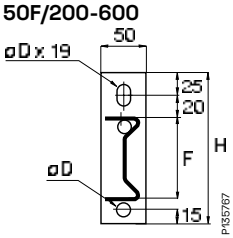

**50/700-1000**



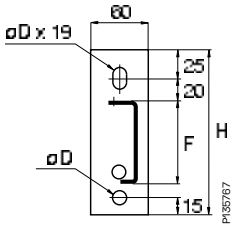

**Cantilever arm 50F**

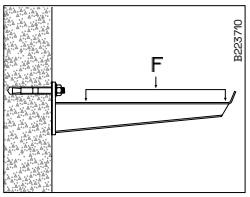



**50F/200-600**

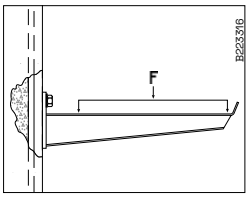



**50F/1000**

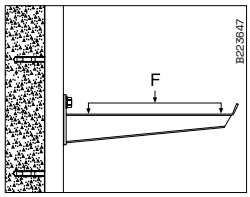


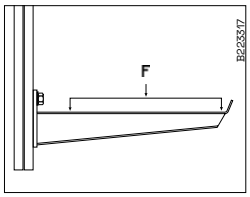

Installation of a cantilever arm to a wall using an Expansion bolt. Breaking load – see on next page.




Installation of a cantilever arm using a T-bolt on a Fixing rail 24/26 x 53 rail for casting-in or Pendant/ Fixing rails mounted on the wall. Breaking load – see on next page.

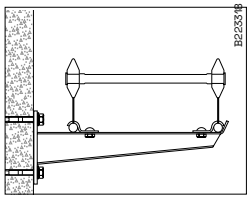



Mounting a cantilever arm using a T-bolt on a Pendant/Fixing rail mounted on a wall.

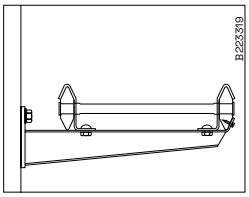



Installation of cantilever arm using T-bolt with vertical pieces. Breaking load – see on next page. Also check breaking load of the vertical piece.

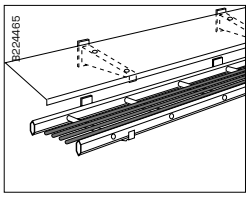
# Use and installation



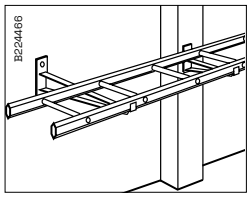

Profile clamp 43 is used for attaching a KHZV onto a Cantilever arm 50F.




For attaching a KHZSP, KHZ, KHZPS or KHZP cable ladder, mount Profile clamp 42. If it is only necessary to fix the cable ladder at the outer end of the bracket, use self-tapping sheet screws or suchlike with 5 mm dia. holes in the bracket and in the side section.

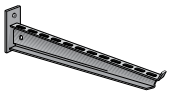
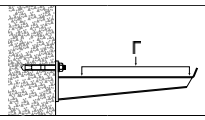
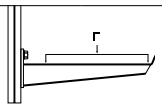



Cantilever arm 50F mounted upside down can be used for installation of tilted protective roofs.




Use Cantilever arm 50/700-1000 as support when cable ladders have to pass columns etc.

**Size and Breaking load F**

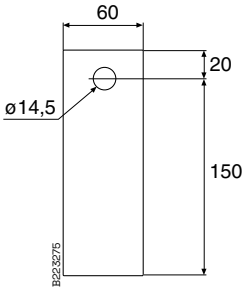
|  | | | | | |  | |  | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Mounted on wall | | Mounted on P/F rail 24/48 with T-bolt 26U | |
| Type | A mm | D mm | F mm | H mm | T mm | kN | kg | kN | kg |
| 50/100 | 150 | 12 | 34 | 85 | 4 | 3.0 | 300 | 3.0 | 300 |
| 50/150 | 200 | 12 | 36 | 85 | 4 | 3.0 | 300 | 3.0 | 300 |
| 50/200 | 250 | 12 | 39 | 85 | 4 | 2.5 | 250 | 2.5 | 250 |
| 50/250 | 300 | 12 | 56 | 105 | 6(1) | 4.0 | 400 | 4.0 | 400 |
| 50/300 | 350 | 12 | 60 | 105 | 6(1) | 4.0 | 400 | 4.0 | 400 |
| 50/400 | 450 | 12 | 70 | 120 | 8(1) | 6.5 | 650 | 6.5 | 650 |
| 50/500 | 550 | 12 | 77 | 140 | 8(1) | 7.0 | 700 | 7.0 | 700 |
| 50/600 | 650 | 12 | 84 | 150 | 10(1) | 7.0 | 700 | 7.0 | 700 |
| 50/700 | 750 | 12 | 90 | 150 | 10 | 6.0 | 600 | 5.5 | 550 |
| 50/800 | 850 | 12 | 95 | 160 | 10 | 5.5 | 550 | 5.2 | 520 |
| 50/900 | 950 | 12 | 100 | 160 | 10 | 5.3 | 530 | 4.8 | 480 |
| 50/1000 | 1050 | 12 | 105 | 170 | 10 | 5.0 | 500 | 4.2 | 420 |
| 50F/200 | 245 | 12 | 72 | 148 | 8 | 10.0 | 1000 | 10.0 | 1000 |
| 50F/300 | 345 | 12 | 79 | 175 | 8 | 10.0 | 1000 | 10.0 | 1000 |
| 50F/400 | 445 | 12 | 86 | 175 | 8 | 11.0 | 1100 | 9.0 | 900 |
| 50F/500 | 547 | 14 | 93 | 180 | 10 | 10.0 | 1000 | 8.0 | 800 |
| 50F/600 | 647 | 14 | 100 | 180 | 10 | 10.0 | 1000 | 8.0 | 800 |
| 50F/1000 | 1052 | 14 | 160 | 240 | 12 | 11.0 | 1100 | 8.0 | 800 (2) |

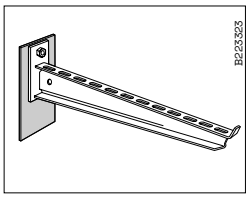
Safe working load according to IEC 61537 is breaking load divided by 1.7.
(1) Stainless steel: 50/250-300 T = 4 mm, 50/400-600 T = 5 mm.
(2) Need to fix the cantilever 50F/1000 with two T-bolts, both upper and lower holes in the backplate.

# Use and installation

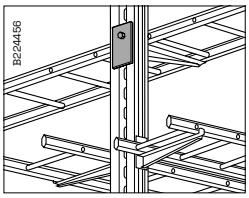
## Back plate 40

Back plate to be used for installation behind Cantilever arm 50 to reduce the surface pressure on porous walls.



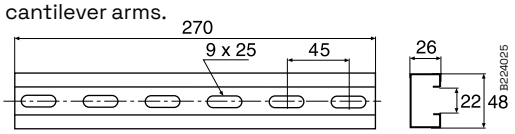

Mount Back plate 40 as shown in the illustration to reduce the surface stress on porous walls.

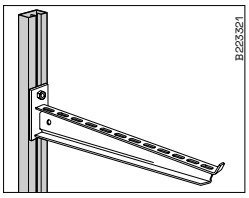



By using Back plate 40, a cantilever arm can be mounted on the side of Vertical piece 20F.

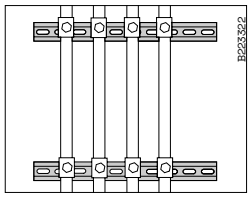
## Mounting rail 40

Mounting rail to be used for wall installation of cantilever arms on porous walls to reduce the surface pressure or to enable height adjustment of cantilever arms.




Mounting rails reduce the surface stress on porous walls. Mount the cantile- ver arm using T- bolt, which permits height adjustment.

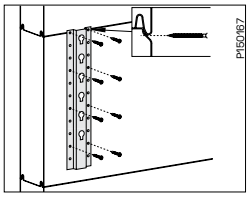


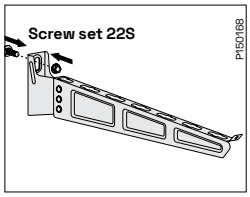

Cables may be mounted on walls using Mounting rail 40 and a suitable Cable clamp ARX.

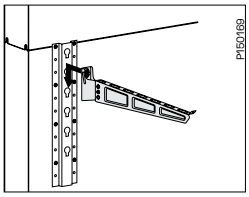
# Use and installation

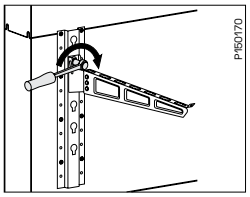
## Wall support

Wall support for mounting of cantilever arm on porous walls or sandwich wall blocks, with six keyholes for easy fixation. When mounting cantilever arm on support, use screw set 22S (M8).

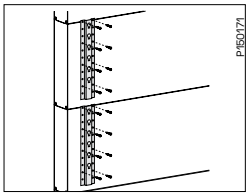


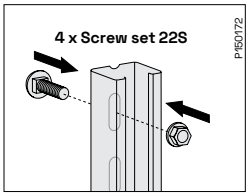



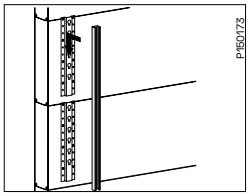



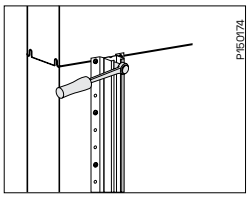



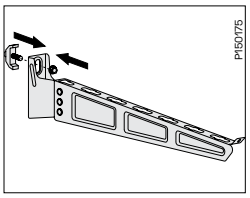

Two wall support plates can be combined with pendent rail 24/48 for extended mounting. for monting of pendent rail use screw set 22S.

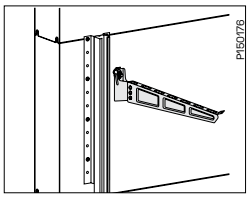


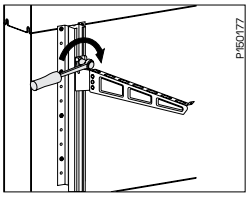



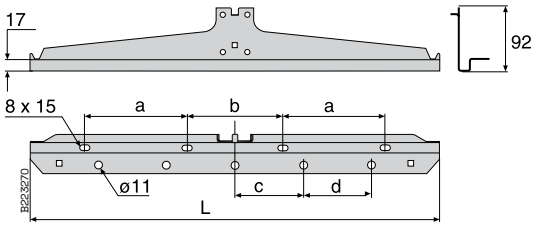



# Use and installation

Stainless steel AISI 316L

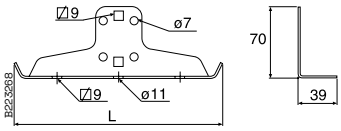
## Support bracket 3

Support bracket to be used for centre installation of cable ladders on pendant/fixing rails and vertical pieces.

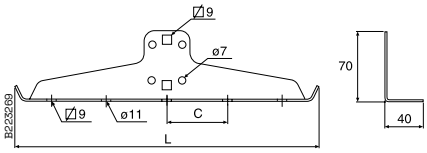



**Stainless steel AISI 316L**

**3/150-200**




**3/300-600**

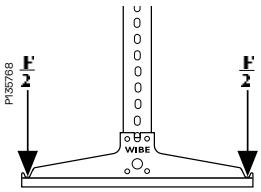



**Size**

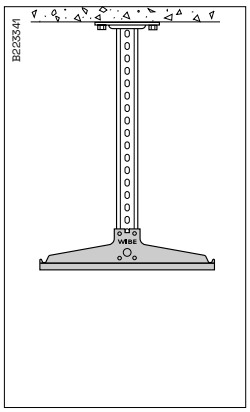
| Type | L mm | Stainless steel L mm | a mm | b mm | c mm | d mm |
|---|---|---|---|---|---|---|
| Support bracket 3/150 | 150 | 154 | – | 100 | – | – |
| Support bracket 3/200 | 200 | 204 | – | 100 | – | – |
| Support bracket 3/300 | 300 | 306 | 70 | 100 | – | – |
| Support bracket 3/400 | 400 | 406 | 70 | 100 | 100 | – |
| Support bracket 3/500 | 500 | 506 | 100 | 140 | 100 | – |
| Support bracket 3/600 | 600 | 606 | 150 | 140 | 100 | 100 |

**Breaking load for support bracket with symmetrical loading**

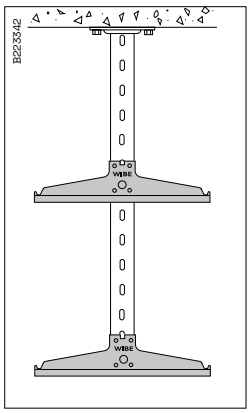
| Type | Breaking load F kN | Breaking load F kg |
|---|---|---|
| Support bracket 3/150 | 16 | 1600 |
| Support bracket 3/200 | 16 | 1600 |
| Support bracket 3/300 | 16 | 1600 |
| Support bracket 3/400 | 12 | 1200 |
| Support bracket 3/500 | 12 | 1200 |
| Support bracket 3/600 | 10 | 1000 |



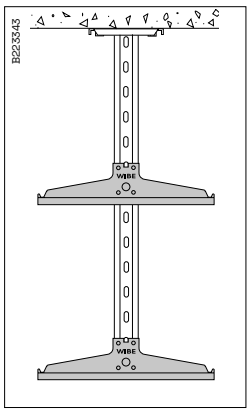
# Use and installation



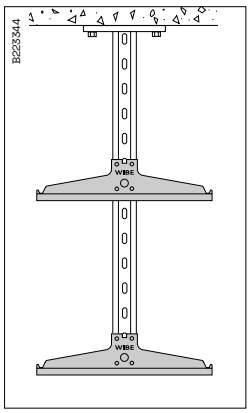

Mount Support bracket 3 on Vertical piece 2 with Screw set 22S.



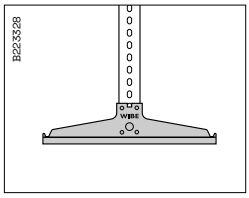

Mount Support bracket 3 on Vertical piece 2F with Screw set 22S.



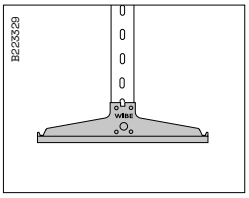

Mount Support bracket 3 on Vertical piece 20 with Screw set 20S.



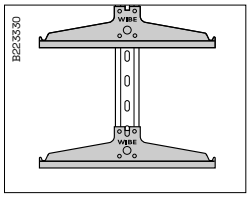

Mount Support bracket 3 on Vertical piece 20F with Screw set 2S.



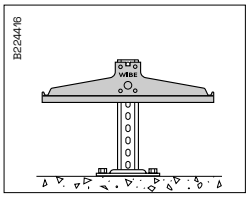

Mount Support bracket 3 on Pendant/ Fixing rail 24/34 with Screw set 22S.



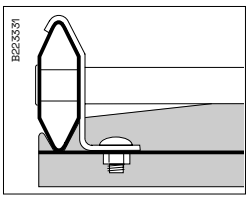

Mount Support bracket 3 on Pendant/Fixing rail 24/20 or 24/48 with Screw set 22S.



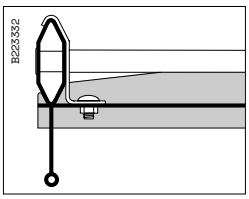

Support bracket 3 installed on Pendant/ Fixing rail 24/20F with Screw set 2S.



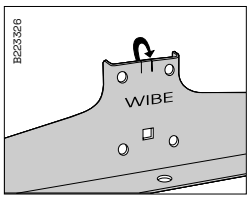

Support bracket 3 can be mounted on floor or under data floor with a suitable vertical piece.



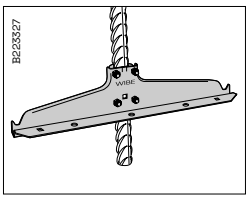

For installation of KHZSP, KHZ, KHZP and KHZPS on Support bracket 3 Profile clamp 42 is used.



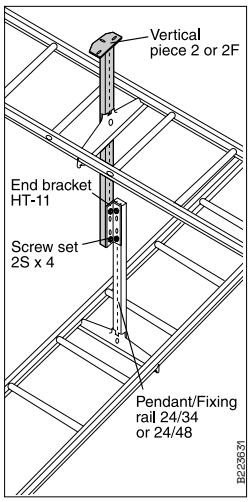

When attaching KHZV/ KHZPV to Support bracket 3, use Profile clamp 42.




When attaching Support bracket 3 using clamp set M6 the tab must be bent up using a hammer or pair of pliers.




Support bracket 3 mounted on a rock bolt with Clamp set M6.

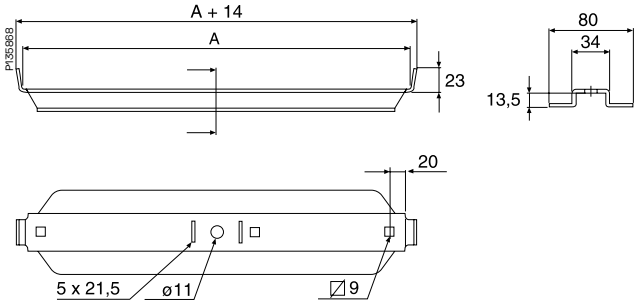



End bracket HT-11 permits the mounting of crossing cable ladders at different levels on the same pendant/fixing rail.

# Use and installation

## Support bracket 6

Support bracket to be used for centre installation of cable ladders KHZSP.

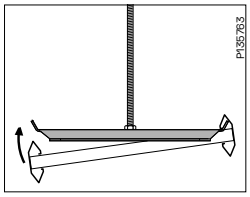



**Size**

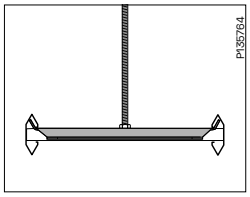
| Type | A mm |
|---|---|
| Support bracket 6/200 | 170 |
| Support bracket 6/300 | 270 |
| Support bracket 6/400 | 370 |
| Support bracket 6/500 | 470 |
| Support bracket 6/600 | 570 |

**Breaking load for Support bracket 6 – symmetrical loading**

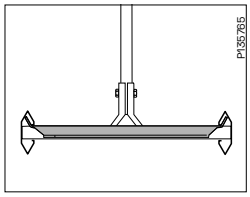
| Support bracket | Breaking load with Threaded rod W76 M10 | | Breaking load with Pendant attachment W21 | |
|---|---|---|---|---|
| | kN | kg | kN | kg |
| 6/200 | 5.0 | 500 | 3.4 | 340 |
| 6/300 | 4.8 | 480 | 3.4 | 340 |
| 6/400 | 3.0 | 300 | 3.0 | 300 |
| 6/500 | 2.2 | 220 | 2.2 | 220 |
| 6/600 | 1.7 | 170 | 1.7 | 170 |



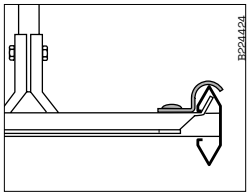

Support bracket 6 must be mounted inside cable ladder KHZSP.




Support bracket 6 mounted with Threaded rod W76 M10. Nut M10 must be used.




Support bracket 6 mounted with Pendant rail W32, Pendant attachment W21 and Screw set W37 from the Wibe Cable Tray range.

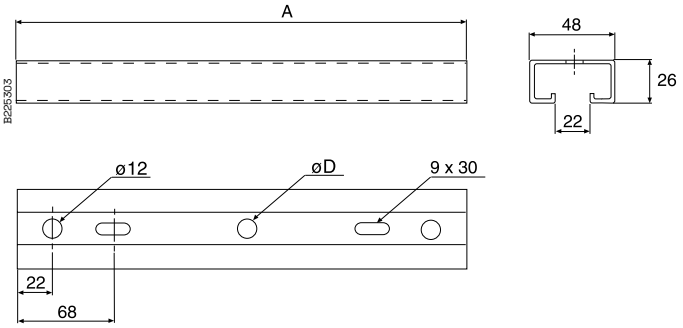



Profile clamp 43 can be used to fix the cable ladder to the support bracket.

# Use and installation

## Support bracket HSO

Support bracket to be mounted together with Threaded rod M10 or M16 for the installation of cable ladders.

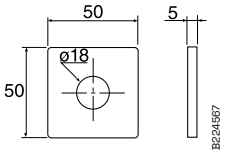


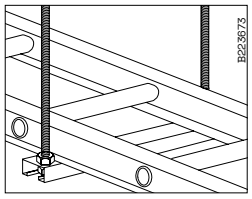

**Size**

| Type | A mm | D mm |
|---|---|---|
| Support bracket HSO/150 M10 | 210 | 12 |
| Support bracket HSO/200 M10 | 260 | 12 |
| Support bracket HSO/300 M10 | 360 | 12 |
| Support bracket HSO/400 M16 | 460 | 18 |
| Support bracket HSO/500 M16 | 560 | 18 |
| Support bracket HSO/600 M16 | 660 | 18 |

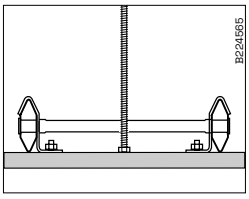
## Washer HSO M16

Washer to be used for centered mounting with Support bracket HSO M16 and Threaded rod M16.

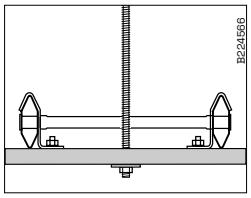


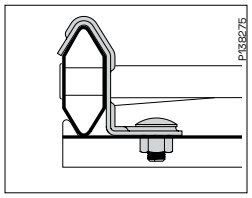

Support bracket HSO M10 installed with Threaded rod W76 M10.




Centered installation with Support bracket HSO M10, widths 150-300, Threaded rod W76 M10 and 2 Nuts M10.




Centered installation with Support bracket HSO M16, widths 400-600, Threaded rod M16, 2 Nuts M16 and Washer HSO M16.

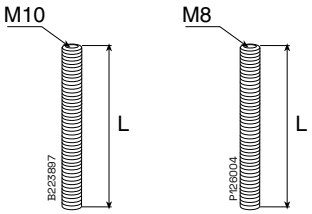



Profile clamp 42 is used to attach the cable ladder to the support bracket.

# Use and installation

## Threaded rod B41 and W76 M8, M10

Used for installation of light cable ladders.




| Diametre and Surface treatment | L= 1000mm | L= 2000mm | L= 3000mm |
|---|---|---|---|
| M8 EZ | W76 | - | - |
| M10 EZ | - | W76 | W76 |
| M8 HDG | W76 | W76 | - |
| M8 AISI | B41 | B41 | - |
| M10 AISI | B41 | B41 | - |

## Joint nut M8, M10

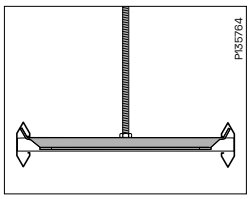
Used for joining of Threaded rod.

## Flange nut B43 M8, M10

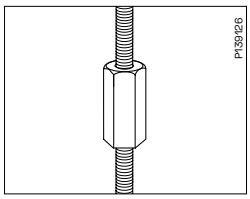
Flange nut is mounted onto Threaded rods in order to lock support brackets and ceiling brackets.

## Thread lock B50 M8, M10

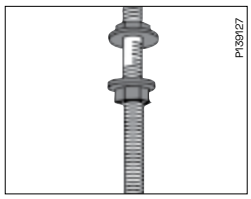
Used for joining of Threaded rod.



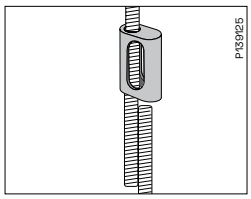

Support bracket 6 mounted with Threaded rod. Flange Nut B43 must be used.



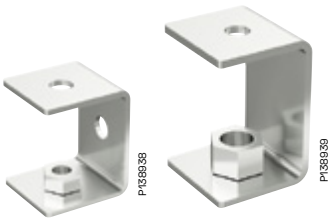

Use Joint nut when joining 2 pieces of Threaded rod.




Flange nut B43 is mounted onto Threaded rod in order to lock support brackets and ceiling brackets.

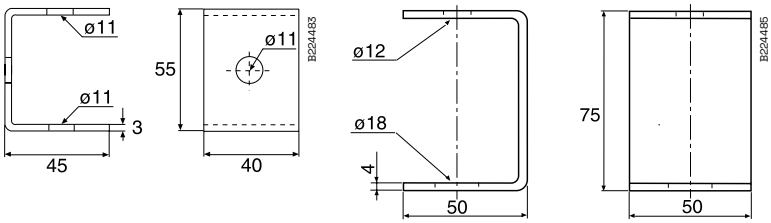


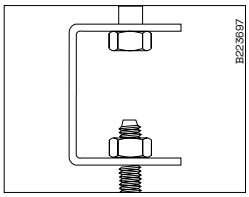

Thread lock B50 is used for the joining of Threaded rod. Max. permitted load=80kg.




## Ceiling bracket TF-10 and TF-16

Ceiling bracket to be used for installation with Threaded rods.



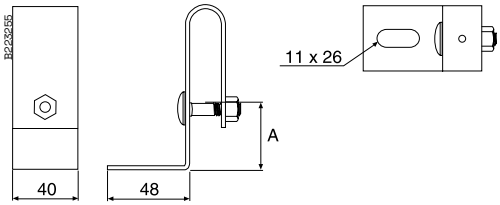




Ceiling bracket TF-10 or TF-16 installed with Threaded rod M10 or M16.

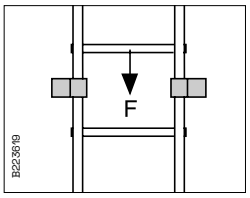
# Use and installation

## Wall bracket 11/25 and 11/75

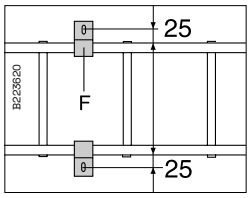
To be used for vertical or horizontal installations of cable ladders against a wall.



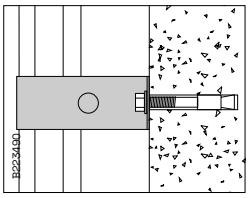

| Type | A mm |
|---|---|
| Wall bracket 11/25 | 25 |
| Wall bracket 11/75 | 75 |



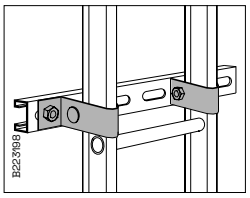

**Vertical mounting**
(max. load - F)
Wall bracket 11/25:
300 kg (3 kN)
Wall bracket 11/75:
300 kg (3 kN)
When mounting against a rung the max load is 500 kg (5 kN) for wall bracket 11/25.




**Horizontal mounting**
(max. load - F)
Wall bracket 11/25:
250 kg (2.5 kN)
Wall bracket 11/75:
100 kg (1.0 kN)



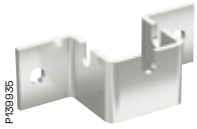

Mount wall brackets against walls using Expansion bolts.

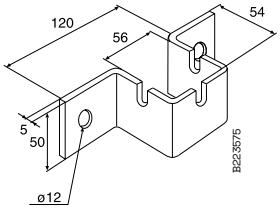


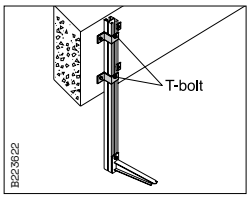

Pendant/fixing rails can be mounted on cable ladders using wall brackets for mounting equipment cubicles etc.
Mount wall brackets on Pendant/fixing rails using
Screw set 22S.

## Wall bracket 20

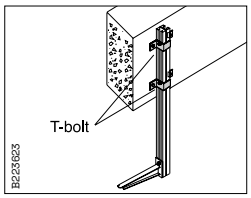
To be used at installation of Pendant/fixing rail 24/20 to ceiling beam or wall.



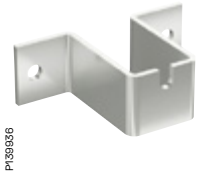

For cable ladder install- ations along a beam. Pendant/Fixing rail 24/20 must be mounted with 2 Wall brackets 20 and 2 T-bolts 26U-30 placed in the centre outlet. This installation is also used for fixing to wall. Max vertical load 700 kg (7 kN).

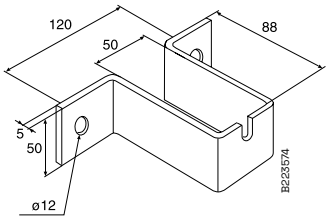


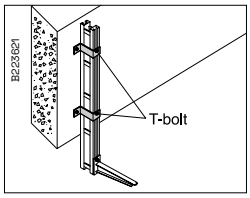

For cable ladder install- ations across a beam. Pendant/Fixing rail 24/20 shall be mounted with 2 Wall brackets 20 and 2 T-bolts 26U-30 in the side-outlets.

## Wall bracket 20F

To be used at installation of Pendant/Fixing rail 20F to ceiling beam or wall.



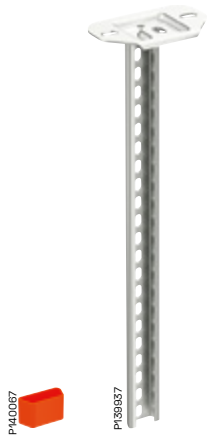




Pendant/Fixing rail 24/20F must be mounted with 2 Wall brackets 20F and 2 T-bolts 26U-30 for cable ladders along beams. This installation is also used for fixing to wall. Max. vertical load 700 kg (7 kN).

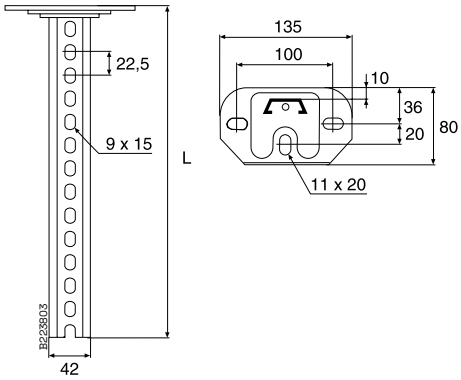
# Use and installation

## Vertical piece 2

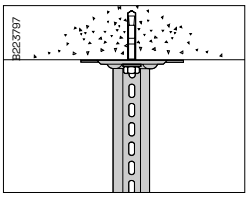
Vertical piece to be used for installation of Support bracket 3, symmetrical loading. Not suitable for cable ladders KHZV and KHZPV. Can be joined to Pendant/fixing rail 24/34 with Pendant joint 2J.



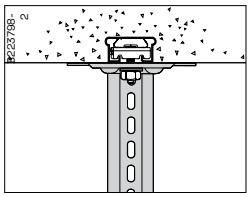

End plug 28C



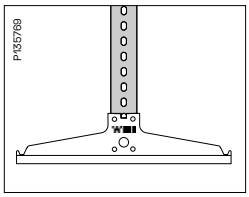

| Type | L mm |
|---|---|
| Vertical piece 2/300 | 279 |
| Vertical piece 2/400 | 392 |
| Vertical piece 2/500 | 504 |
| Vertical piece 2/700 | 729 |
| Vertical piece 2/1000 | 1022 |



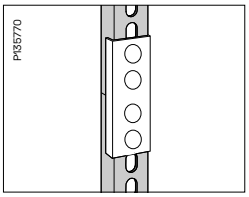

Mount Vertical piece 2 using an Expansion bolt or a concrete screw.



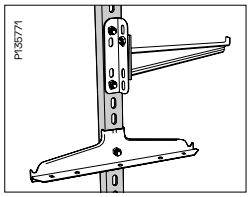

Mount Vertical piece 2 on a Fixing rail 24/26x53 for casting-in using T-bolt 26U.



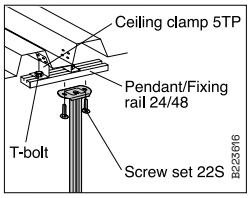

On Vertical piece 2, mount Support bracket 3 using Screw set 22S.




Vertical piece 2 can be joined to achieve the required length using Pendant/Fixing rail 24/34 and Pendant joint 2J.

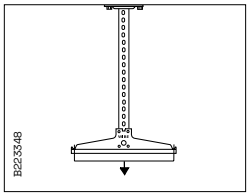



Cantilever arm 50 can, using End bracket HT-11, be mounted at 90° to the pendant/ fixing rail. Only for lightweight mounting, such as data cables.

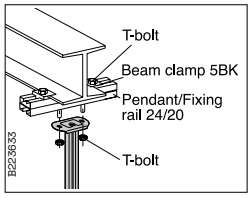



In ceilings with trapezoidal profile sheeting, mount Vertical piece 2 as shown above.

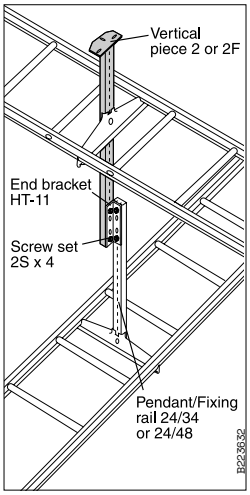
### Breaking load




Breaking load for Vertical piece 2 with a symmetrical loading = 1400 kg (14 kN). See also breaking load for support bracket 3.




On beams in ceilings. When the beam flange thickness does not exceed 13 mm, use Beam clamp 5BK-10 and T-bolt 26U/40. For flange thick-nesses not excee-ding 30 mm use Beam clamp 5BK-30 and T-bolt 26U/50.



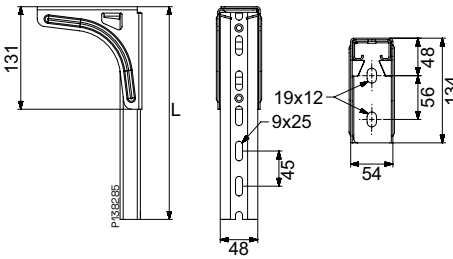

End bracket HT-11 permits the mounting of crossing cable ladders at different levels on the same pendant/fixing rail.

# Use and installation

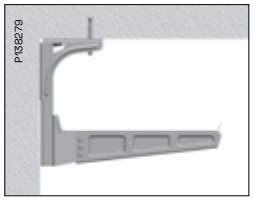
## Vertical piece 2Fi

Vertical piece to be used for lighter mountings with Cantilever arm 50i and Cable ladder KHZSP.

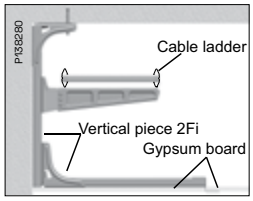
End plug
28E



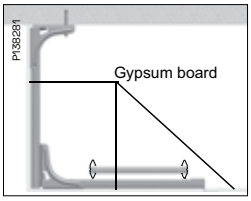

| Type | L mm |
|---|---|
| Vertical piece 2Fi-300 | 272 |
| Vertical piece 2Fi-500 | 497 |
| Vertical piece 2Fi-750 | 722 |
| Vertical piece 2Fi-1000 | 992 |



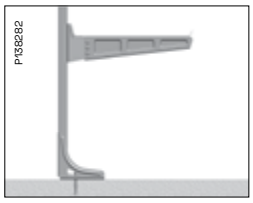

Vertical piece 2Fi can be mounted in ceiling close to wall.




Vertical piece 2Fi can be mounted horizontally on wall and on vertical piece as carrier of gypsum board.

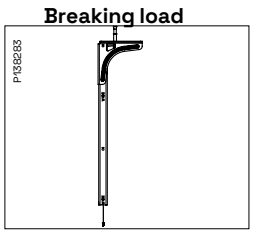



Vertical piece 2Fi can be used as carrier of gypsum boards in order to build in cable ladder passages.

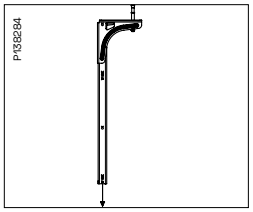



Vertical piece 2Fi is suitable for floor mounting.

**Breaking load**




Vertical piece 2Fi mounted in the inner hole. Breaking load=500 kg (5 kN) at symmetrical loading.



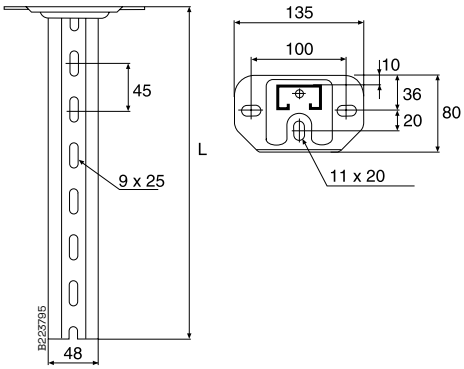

Vertical piece 2Fi mounted in the outer hole. Breaking load=100 kg (1 kN) at symmetrical loading

# Use and installation

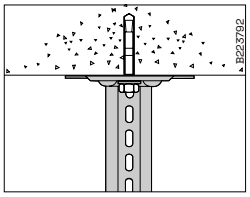
## Vertical piece 2F

Vertical piece to be used for installation of Support bracket 3 or Cantilever arm 50. Can be joined to Pendant/fixing rail 24/48 with Pendant joint 2FJ. Can be mounted from the ceiling or on the floor . Can also be installed as a cantilever arm on a wall.

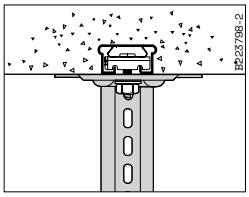
End plug
28E



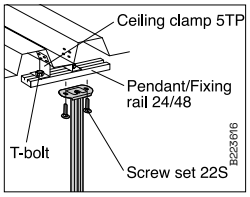

| Type | L mm |
|---|---|
| Vertical piece 2F/280 | 280 |
| Vertical piece 2F/370 | 370 |
| Vertical piece 2F/505 | 505 |
| Vertical piece 2F/640 | 640 |
| Vertical piece 2F/730 | 730 |
| Vertical piece 2F/865 | 865 |
| Vertical piece 2F/1000 | 1000 |
| Vertical piece 2F/1500 | 1495 |



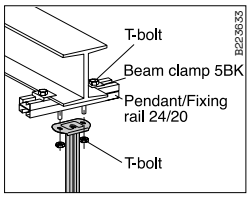

Mount Vertical piece 2F using Expansion bolt alt. Concrete screw.



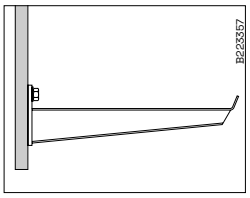

On Fixing rail forcasting-in, mount Vertical piece 2F using T-bolt.



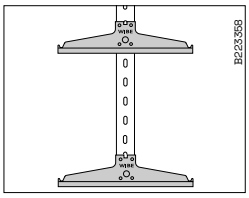

In ceilings with trapezoidal sheeting, mount Vertical piece 2F as shown above.



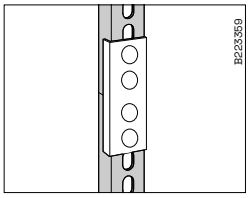

On beams in ceilings, mount Vertical piece 2F as shown in the figure above. When the beam flange thickness does not exceed 13 mm, use Beam clamp 5BK-10 and T-bolt 26U/40.
For flange thicknesses not excee- ding 30 mm use Beam clamp 5BK-30 and T-bolt 26U/50.



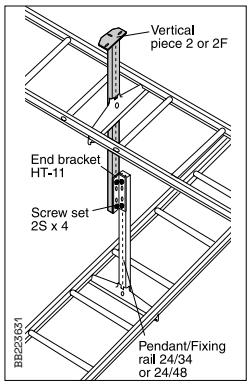

On Vertical piece 2F, mount Cantilever arm 50 using T-bolt.



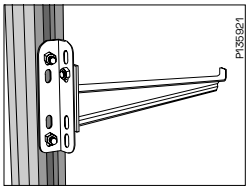

On Vertical piece 2F, mount Support bracket 3 using Screw set 22S.



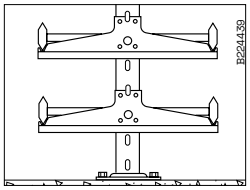

Vertical piece 2F can be joined to achieve the required length using Pendant/Fixing rail 24/48 and Pendant joint 2FJ.



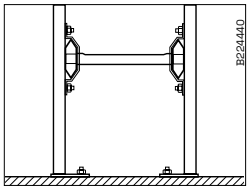

End bracket HT-11 permits mounting of crossing cable ladders on different levels on the same pendant/fixing rail.




Cantilever arm 50 can, using End bracket HT-11, be mounted at 90° to the pendant/fixing rail. Only for lightweight installation of data cable type and suchlike.



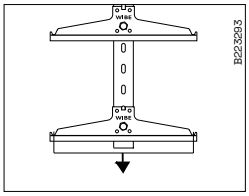

Cable ladders mounted on Vertical piece 2F and Support bracket 3 can be used for cable installations in raised access floors.




For installation on floor the cable ladders can be mounted with Vertical piece 2F, Profile clamp 41 and T-bolt.

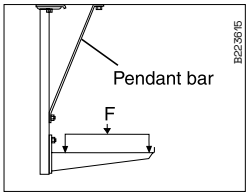
# Use and installation

**Breaking load symmetrical loading***



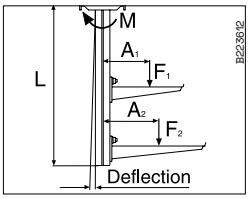

Breaking load for Vertical piece 2F (VP) = 2300 kg (23 kN) at symmetrical loading.

**VP + Pendant bar for reduction of deflection**

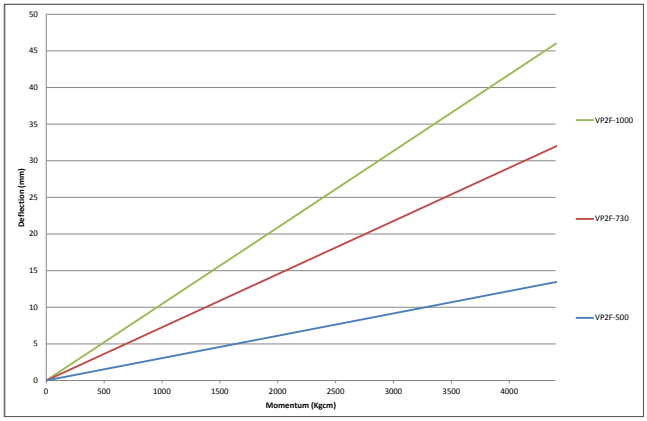



Deflection of Vertical piece 2F is reduced by installing Pendant bar 1. Loadings in accordance with chart below.

**Breaking load asymmetrical loading**




M = Σ F x A
See also max loading for Cantilever arm 50 installed on pendant/ fixing rail, page Cantilever arm 50L, 50 and 50F.




For values outside diagram please contact Wibe Group.

**Example**
Conditions:
- 2 m support distance.
- 10 kg/m ladder
- Two ladders, 200 and 300 mm
- One-side loading
- VP 2F/730
- Bending?

M = ∑ F x A (kgcm)

$$M = \underset{(F_1)}{10 \times 2} \times \underset{(A_1)}{\left(\frac{20}{2} + 6.5\right)} + \underset{(F_2)}{10 \times 2} \times \underset{(A_2)}{\left(\frac{30}{2} + 6.5\right)}$$

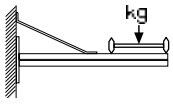
M = 760 kgcm - bending as per diagram, about 5.5 mm.

Bending torque M is total sum of F x A (kgcm).
F = Cantilever arm loading (kg)
F = Loading (kg/m) x support distance (m).
A = Distance between loading and VP centre line (cm)

$$A = \frac{\text{Ladder width}}{2} + 6.5 \text{ cm}$$

L = VP length
Break load torque 6 000 (kgcm)

**Loading table for Vertical piece 2F installed as a cantilever arm**

| |  Vertical piece 2F with Pendant bar 1/300 | |
|---|---|---|
| **Pendant type** | **2F/700** | **2F/1000** |
| **Ladder width** | **Breaking load** | **Breaking load** |
| 150 | 120 | 75 |
| 200 | 125 | 80 |
| 300 | 135 | 90 |
| 400 | 140 | 100 |
| 600 | — | 120 |

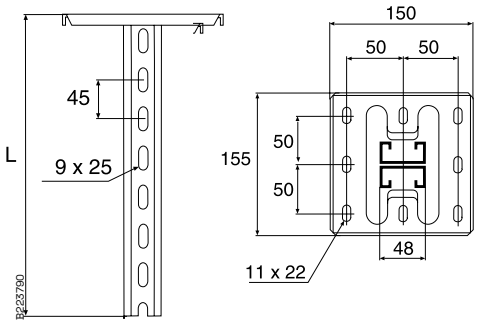
*Safe working load according to IEC 61537 is breaking load divided by 1.7.

# Use and installation

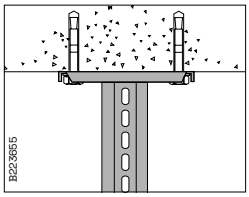
## Vertical piece 20

Vertical piece, two-sided, to be used for vertical installation together with Cantilever arm 50, from a ceiling or on a floor. Can also be installed as a cantilever arm on a wall.

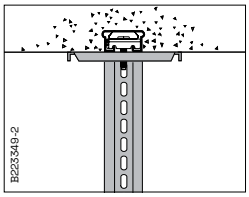
End plug
28D



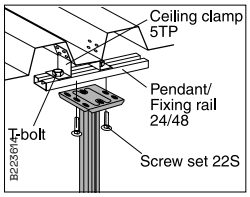

| Type | L mm |
|---|---|
| Vertical piece 20/280 | 280 |
| Vertical piece 20/370 | 370 |
| Vertical piece 20/500 | 505 |
| Vertical piece 20/640 | 640 |
| Vertical piece 20/700 | 730 |
| Vertical piece 20/865 | 865 |
| Vertical piece 20/1000 | 1000 |
| Vertical piece 20/1500 | 1495 |
| Vertical piece 20/2000 | 1990 |
| Vertical piece 20/3000 | 2980 |



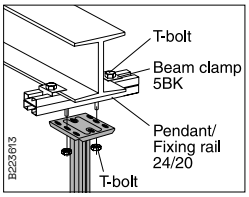

Mount Vertical piece 20 using Expansion bolt.



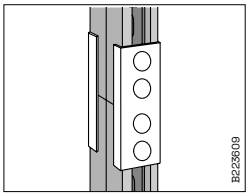

On fixing rail for casting- in,mount Vertical piece 20 using T-bolts.



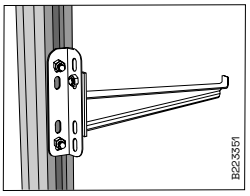

In ceilings with trapezoidal profile sheeting, mount Vertical piece 20 as shown above



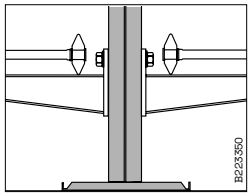

On beams in ceilings, mount Vertical piece 20 as shown in the figure above. When the beam flange thickness does not exceed 13 mm, use Beam clamp 5BK-10 and T-bolt 26U/40. For flange thicknesses not exceeding 30 mm use Beam clamp 5BK-30 and T-bolt 26U/50.



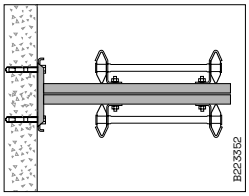

Vertical piece 20 can be joined to achieve the required length using Pendant/Fixing rail 24/20 and Pendant joint 20J.



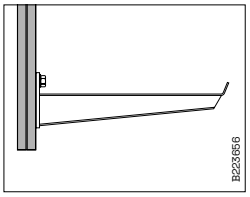

Using End bracket HT-11, Cantilever arm 50 can be mounted at 90° to the pendant/fixing rail. Only for lightweight mounting of data cable type and suchlike



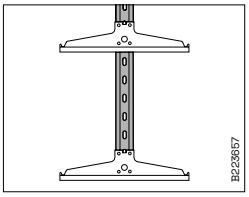

Vertical piece 20 is also suitable for floor mounting




Vertical piece 20 may be used for vertical mounting in a shaft, for example. Mount Wall bracket 11 or Profile clamp 42 using T-bolts. The vertical piece may also be mounted horizontally as a cantilever arm, such as when passing columns.



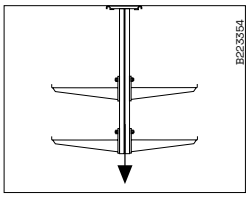

On vertical piece, mount Cantilever arm 50 using T-bolt. For loadings see Cantilever arm 50




On Vertical piece 20, mount Support bracket 3 using Screw set 20S.

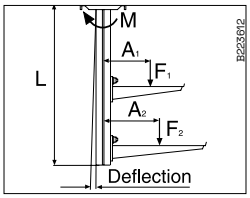
# Use and installation

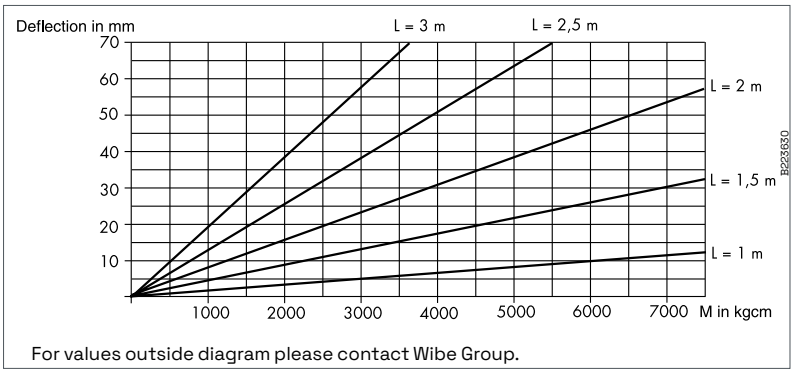
**Breaking load symmetrical loading***




Breaking load for vertical piece (VP) = 3000 kg (30 kN).

**Breaking load asymmetrical loading**




M = Σ F x A
See also max loading for Cantilever arm 50 installed on pendant/ fixing rail, page Cantilever arm 50L, 50 and 50F.

**Example**
Conditions:
- 2 m support distance.
- 30 kg/m ladder
- Two ladders, 400 and 600 mm
- One-side loading
- VP 20/1000
- Bending?

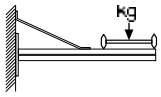
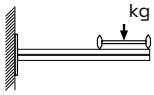
Bending torque M is total sum of F x A (kgcm).
F = Cantilever arm loading (kg)
F = Loading (kg/m) x support distance (m).
A = Distance between loading and VP centre line (cm)
A = $\frac{\text{Ladder width}}{2}$ + 7.7 cm
L = VP length
Break load torque 19 000 (kgcm)

M = ∑ F x A (kgcm)

$$M = \underset{(F_1)}{30 \times 2} \times \underset{(A_1)}{\left(\frac{40}{2} + 7.7\right)} + \underset{(F_2)}{30 \times 2} \times \underset{(A_2)}{\left(\frac{60}{2} + 7.7\right)}$$

M = 3924 kgcm - bendingas per diagram, about 6 mm.

**Loading table for Vertical piece 20 installed as a cantilever arm**

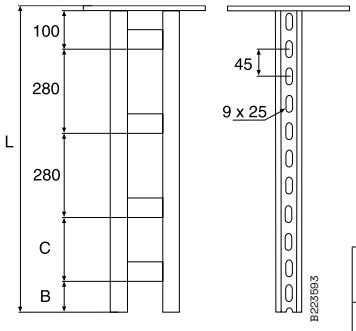
| |   Vertical piece 20 with Pendant bar 1/300 | | |   Vertical piece 20 without pendant bar | | |
|---|---|---|---|---|---|---|
| **Pendant type** | **20/700** | **20/1000** | **20/1500** | **20/700** | **20/1000** | **20/1500** |
| **Width Ladder type** | **Breaking load** | **Breaking load** | **Breaking load** | **Breaking load** | **Breaking load** | **Breaking load** |
| 150 | 380 | 210 | 155 | 230 | 165 | 115 |
| 200 | 400 | 240 | 160 | 250 | 170 | 115 |
| 300 | 425 | 270 | 165 | 280 | 175 | 120 |
| 400 | 450 | 300 | 170 | 310 | 180 | 125 |
| 600 | - | 320 | 180 | 370 | 190 | 130 |

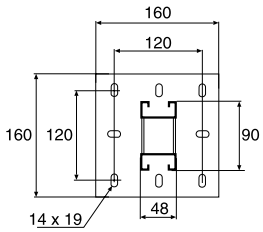
*Safe working load according to IEC 61537 is breaking load divided by 1.7.

# Use and installation

## Vertical piece 20F

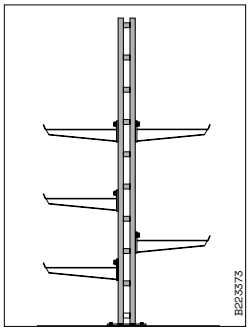
Vertical piece, two-sided, to be used for mounting from the ceiling or on the floor. Suitable for rather heavy loads.



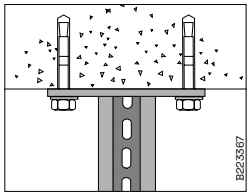




| Type | B mm | C mm | L mm |
|---|---|---|---|
| Vertical piece 20F/1000 | 50 | 280 | 995 |
| Vertical piece 20F/1500 | 70 | 195 | 1490 |
| Vertical piece 20F/2000 | 5 | 195 | 1985 |
| Vertical piece 20F/3000 | 70 | 280 | 2980 |

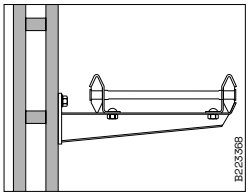
End plug
28J



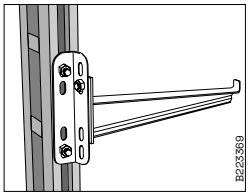

Floor mounting example.



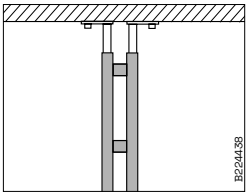

Mount Vertical piece 20F using Expansion bolt alt. Concrete screw.




Cantilever arm 50 can be mounted using T-bolt. For loads on Cantilever arm 50, see Cantilever arm 50L, 50 and 50F.

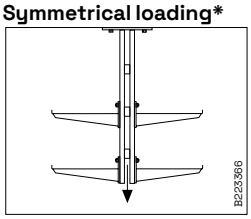



Using End bracket HT-11, Cantilever arm 50 can be mounted at 90° to the vertical piece. Only for lightweight mounting of data cable type or similar.



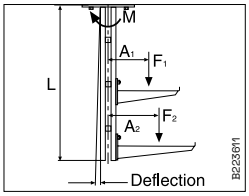

Vertical piece 20F moun- ted on floor can be fixed using Vertical piece 2 as ceiling bracket, adjustable in the pendant.

**Breaking load Symmetrical loading***

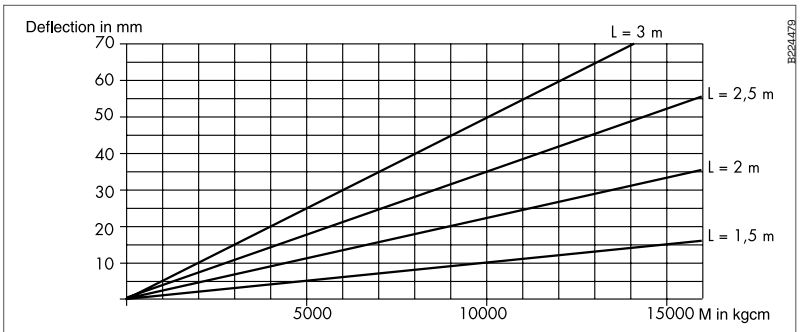



Breaking load for Vertical piece (VP) 20F = 5000 kg (50kN)

**Breaking load asymmetrical loading**




M = Σ F x A
Vertical piece 20F mounted in ceiling, see diagram.




For values outside diagram please contact Wibe Group.

**Example**
Conditions:
- 2 m support distance50 kg/m ladder
- Two ladders, 400 and 600 mm
- One-side loading
- VP 20F/1500
- Bending?

M = ∑ F x A (kgcm)

$$M = \underset{(F_1)}{50} \times 2 \times \underset{(A_1)}{\left(\frac{40}{2} + 9.4\right)} + \underset{(F_2)}{50} \times 2 \times \underset{(A_2)}{\left(\frac{60}{2} + 9.4\right)}$$

M = 6880 kgcm - bending as per diagram, about 6 mm.

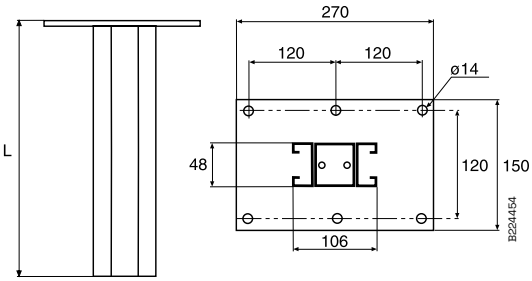
Bending torque M is total sum of F x A (kgcm).
F = Cantilever arm loading (kg)
F = Loading (kg/m) x support distance (m).
A = Distance between loading and VP centre line (cm)
A = $\frac{\text{Ladder width}}{2}$ + 9.4 cm
L = VP length
Break load torque 30 000 (kgcm)

*Safe working load according to IEC 61537 is breaking load divided by 1.7.

# Use and installation

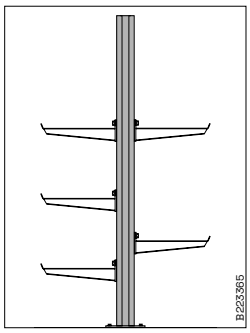
## Vertical piece 20FS

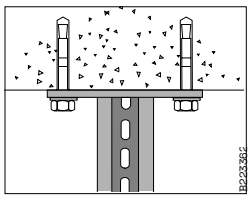
Vertical piece, two-sided, to be used for mounting from the ceiling or on the floor. Suitable for very heavy loads.



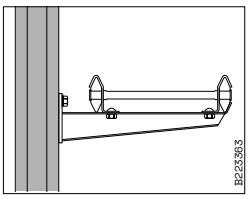

| Type | L mm |
|---|---|
| VP 20FS/1500 | 1495 |
| VP 20FS/2000 | 1990 |
| VP 20FS/2500 | 2485 |
| VP 20FS/3000 | 2980 |

End plug 28F

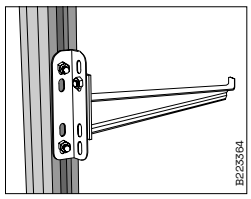



Mount Vertical piece 20FS using Expansion bolt alt Concrete screw.

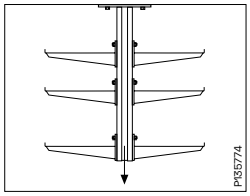



Mount Cantilever arm 50 using T-bolt. For loads on Cantilever arm 50, see Cantilever arm 50L, 50 and 50F.



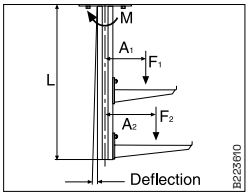

Using End bracket HT-11, Cantilever arm 50 can be mounted at 90° to the vertical piece. Only for lightweight mounting of data cable type or similar.

**Breaking load Symmetrical loading**

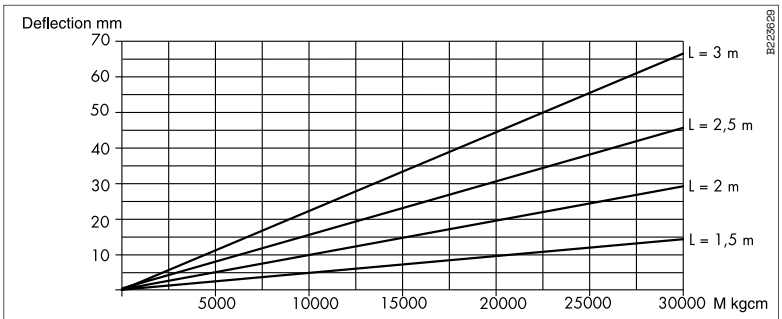



**Symmetrical loading**
Breaking load for Vertical piece (VP) 20FS = 5000 kg (50 kN)

**Breaking load asymmetrical loading**




**Asymmetrical loading**
M = ∑ F x A Vertical piece 20FS mounted in ceiling, see diagram.




For values outside diagram please contact Wibe Group.

**Example**
Conditions:
- 2 m support distance75 kg/m ladder
- Two ladders, 400 and 600 mm
- One-side loading
- VP 20FS/1500
- Bending?

M = ∑ F x A (kgcm)

$$M = 75 \times 2 \times \underbrace{\left(\frac{40}{2} + 10.4\right)}_{(F_1)\ (A_1)} + 75 \times 2 \times \underbrace{\left(\frac{60}{2} + 10.4\right)}_{(F_2)\ (A_2)}$$

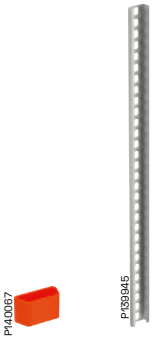
M = 10620 kgcm - bending as per diagram, about 5 mm.

Bending torque M is total sum of F x A (kgcm).
F = Cantilever arm loading (kg)
F = Loading (kg/m) x support distance (m).
A = Distance between loading and VP centre line (cm)
A = $\frac{\text{Ladder width}}{2}$ + 10.4 cm
L = VP length
Break load torque 60 000 (kgcm)

*Safe working load according to IEC 61537 is breaking load divided by 1.7.

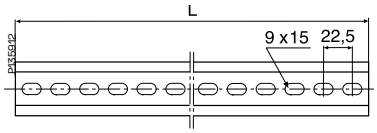
# Use and installation

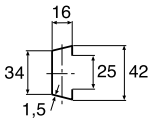
## Pendant/Fixing rail 24/34



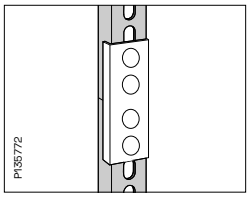

End plug
28C

Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.

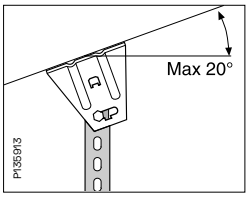


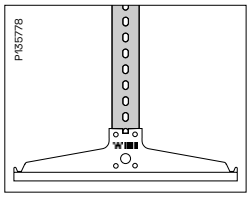

| Type | L mm |
|---|---|
| Pendant/Fixing rail 24/34 | 292.5 |
| Pendant/Fixing rail 24/34 | 382.5 |
| Pendant/Fixing rail 24/34 | 495.0 |
| Pendant/Fixing rail 24/34 | 697.5 |
| Pendant/Fixing rail 24/34 | 990.0 |
| Pendant/Fixing rail 24/34 | 2970.0 |



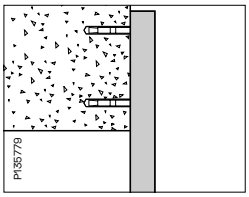

Vertical piece 2 may be joined to Pendant/Fixing rail 24/34 and Pendant joint 2J to achieve a suitable length.




Ceiling bracket 5 and 1 Screw set 22S together provide a vertical piece that can be mounted with up to 20° slope.




Mount Support bracket 3 using Screw set 22S.

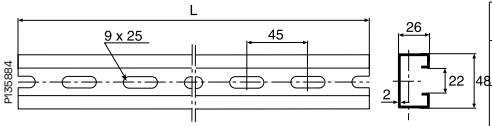



Side mounting of pendant/ fixing rails may be done using 2 Expansion bolts alt. 2 Concrete screws.

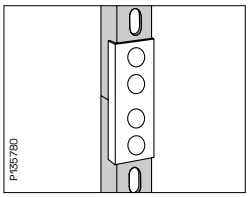
## Pendant/Fixing rail 24/48

End plug
28E

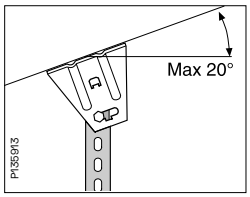
Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.



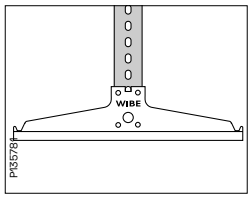

| Type | L mm |
|---|---|
| Pendant/Fix. rail 24/48 | 1000 |
| Pendant/Fix. rail 24/48 | 2970 |
| Pendant/Fix. rail 24/48 | 5940 |



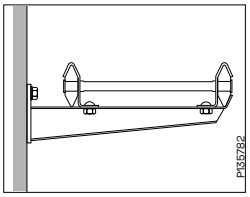

Vertical piece 2F may be joined using Pendant/Fixing rail 24/48 and Pendant joint 2FJ to achieve the required length.



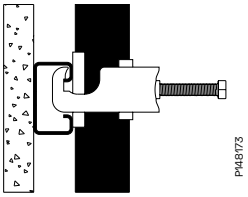

Ceiling bracket 5 and 1 Screw set 22S together provide a vertical piece that can be mounted with up to 20° slope. Only for mounting support brackets.




Mount Support bracket 3 using Screw set 22S.




Mount Cantilever arm 50 using T-bolt.

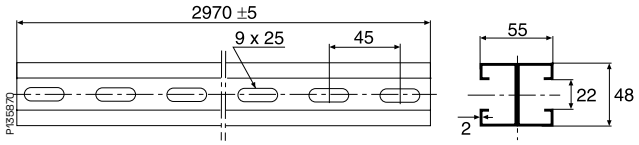



Cables are mounted on a Pendant/Fixing rail 24/48 using cable clamp ARX.

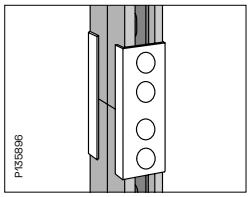
# Use and installation

## Pendant/Fixing rail 24/20

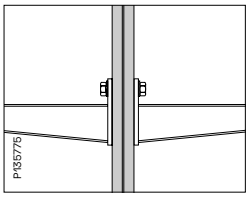
Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.



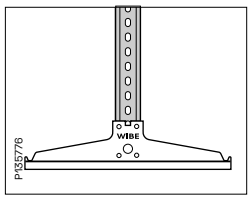
End plug
28D



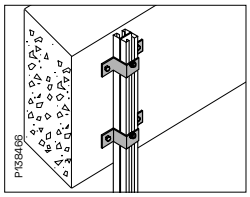

Vertical piece 20 may be joined using Pendant/ Fixing rail 24/20 and Pendant joint 20J. Only for symmetrical loading.



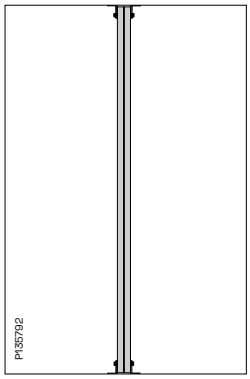

Mount Cantilever arm 50 using T-bolts.



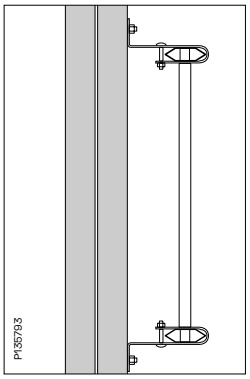

Mount Support bracket 3 using Screw set 20S.



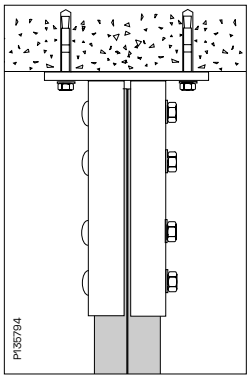

Pendant/Fixing rail can be mounted on beam or wall with Wall bracket 20.




Pendant/Fixing rail 24/20 may be mounted as a riser between the floor and ceiling using 4 Angle brackets 5L and 4 T-bolts.




Cable ladder may be mounted vertically or horizontally on Pendant/ Fixing rail 24/20 using Wall bracket 11/25 or 11/75 and T-bolt.



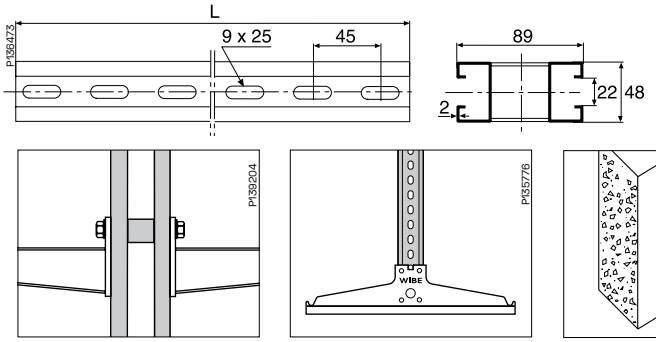

Pendant base plate 520 can be mounted as a ceiling or floor attachment.

# Use and installation

## Pendant/Fixing rail 24/20F

Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.

End plug
28J



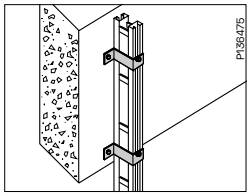




Mount Cantilever arm 50 using T-bolts.

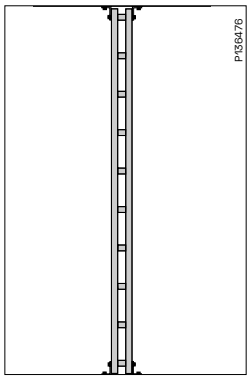



Mount Support bracket 3 using Screw set 2S.

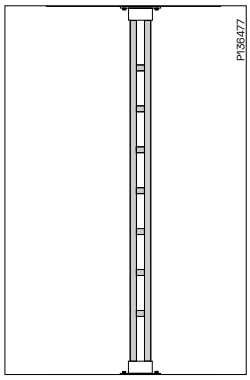



Pendant/Fixing rail 24/20F can be mounted on beam or wall with Wall bracket 20F

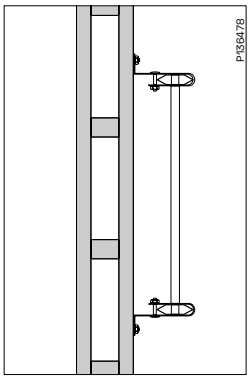
| Type | L mm |
|---|---|
| Pendant/Fixing rail 24/20F-3000 | 2970 |
| Pendant/Fixing rail 24/20F-6000 | 5940 |




Pendant/Fixing rail 24/20F can be mounted as a riser between the ceiling and floor using 4 Angle brackets 5L and 4 T-bolts.




Mount Pendant/ Fixing rail 24/20F between a floor and ceiling using 2 Rail fixing supports.

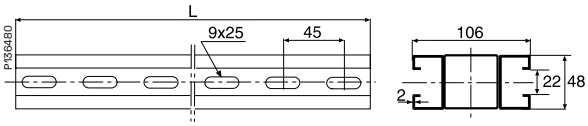



Cable ladder can be mounted vertically or hori- zontally on Pendant/ Fixing rail 24/20F using Wall bracket 11/25 or 11/75.

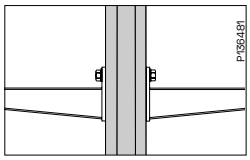
## Pendant/Fixing rail 24/20FS

Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.

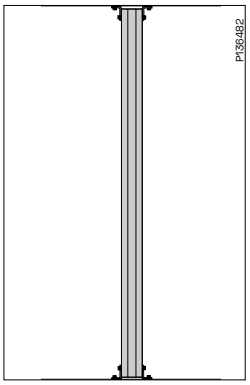
End
plug 28F



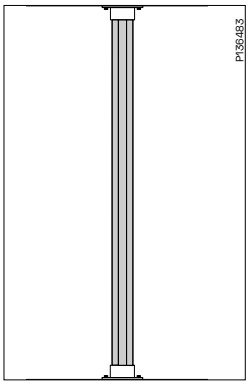

**L = 5940 mm**



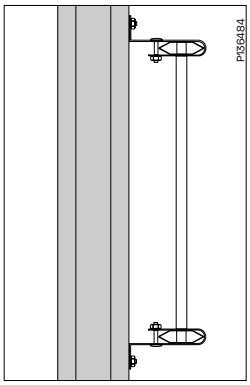

Mount Cantilever arm 50 using T-bolts.




Pendant/Fixing rail 24/ 20FS can be mounted as a riser between the ceiling and floor using 4 Angle brackets 5L and 4 T-bolts.




Mount Pendant/Fixing rail 24/20FS between floor and ceiling using 2 Rail fixing supports.

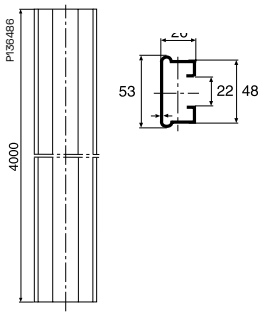


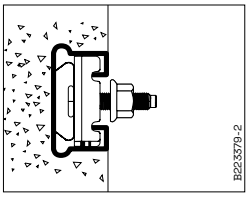

Cable ladders can be mounted vertically or horizontally on Pendant/ Fixing rail 24/20FS using Wall bracket 11/25 or 11/75 and T-bolt.

# Use and installation

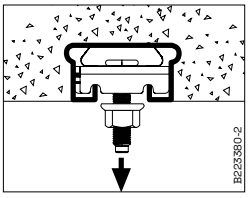
## Fixing rail 24/26x53 for casting-in

Fixing rail for casting-in in wall and ceilings.



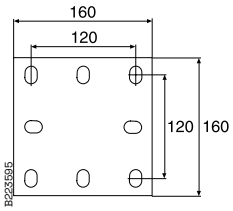

Fixing rail 24/26 x 53 for casting-in in walls and ceilings. Mount cantilever arms with T-bolt 26U.

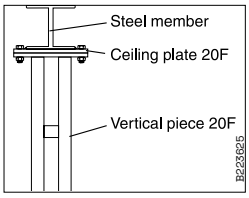



Max. pull-out load: 1000 kg/0.5 m of casting-in fixing rail (Concrete class K200).

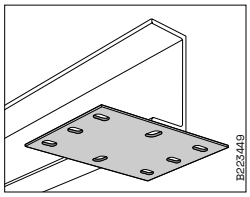
## Ceiling plate 20F

Ceiling plate to be used as a pre-drilled attachment for Vertical piece 20F to a steel member. The ceiling plate is welded in position.



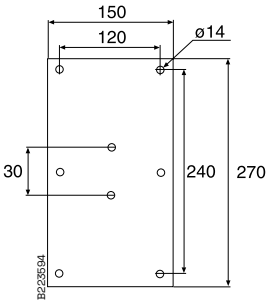

The ceiling plate is weld- ed to the steel member. Permission to weld on the steel member is required. Remove all zinc at the weld. Post- treat using Galvafroid.

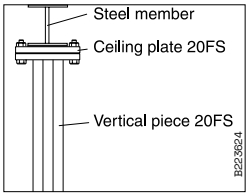



Use Ceiling plate 20F as a fully drilled attachment for Vertical piece 20F against a steel member. Secure the ceiling plate by welding. Remove all zinc at the weld. Post-treat using Galvafroid.

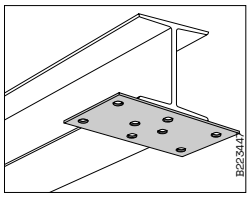
## Ceiling plate 20FS

Ceiling plate 20F is used as a pre-drilled attachment for Vertical piece 20F to a steel member. The ceiling plate is welded in position.




The ceiling plate is welded to the steel member. Permission to weld on the steel member is required. Remove all zinc at the weld. Post- treat using Galvafroid.

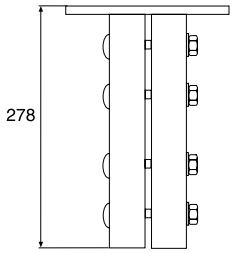


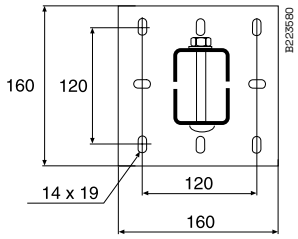

Use Ceiling plate 20FS as a fully drilled attachment for Vertical piece 20FS against a steel member. Secure the ceiling plate by welding. Remove all zinc at the weld. Post- treat using Galvafroid.

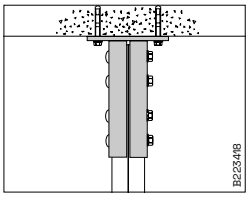
# Use and installation

## Pendant base plate 520

Pendant base plate to be used as a ceiling or floor base plate for Pendant/ Fixing rail 24/20 in any desired length.



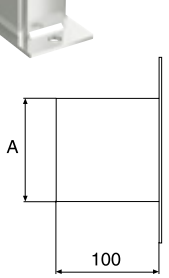



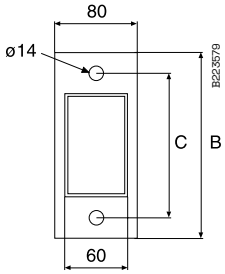



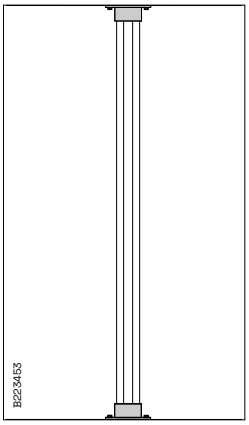

Vertical pieces of the required length can be mounted using Pendant base plate 520 and Pendant/ Fixing rail 24/20.

## Rail fixing support 24/20F, 24/20FS

Rail fixing support to be used with Pendant/fixing rails 24/20F and 24/20FS respectively, for mounting between floor and ceiling.



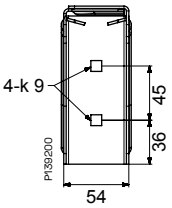



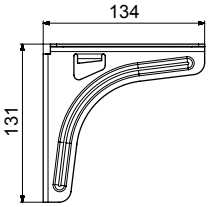

| Type | A mm | B mm | C mm |
|---|---|---|---|
| Rail fix. support 24/20F | 100 | 165 | 135 |
| Rail fix. support 24/20FS | 120 | 185 | 155 |

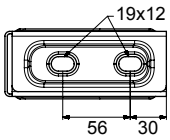
1. Mount one of the rail fixing supports in the ceiling.
2. Adjust the pendant length.
3. Mount the rail fixing support for floor mounting on the pendant.
4. Insert the pendant in the rail fixing support in the ceiling.
5. Attach the bottom rail fixing support securely to the floor.

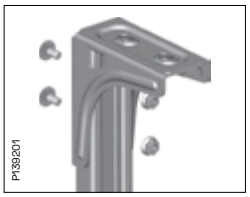
## Ceiling bracket 2Fi

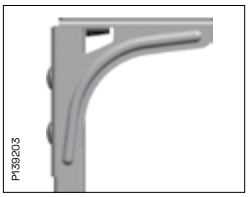
Ceiling bracket to be used on Pendant/fixing rail 24/48 to achieve the desired length of vertical pieces.



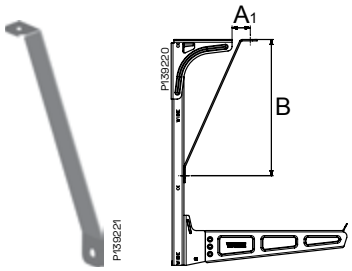



Ceiling bracket 2Fi and Pendant/Fixing rail 24/48, mounted together with 2 Screw sets 22S, are used when other lengths are required than those available for Vertical piece 2Fi.

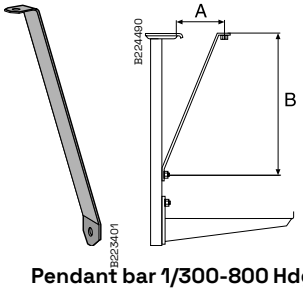
# Use and installation

## Pendant bar 1

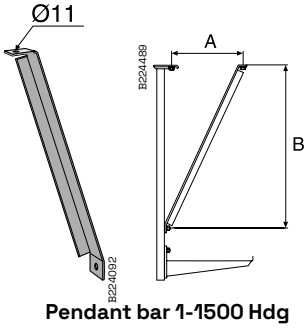
Pendant bar to be installed in order to reduce the deflection of heavily loaded vertical pieces. Installed with T-bolt and Expansion bolt.




**Pendant bar 1/300-800 Pre-galv.**

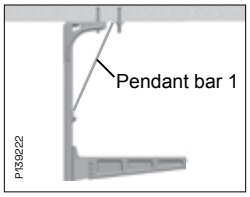



**Pendant bar 1/300-800 Hdg**

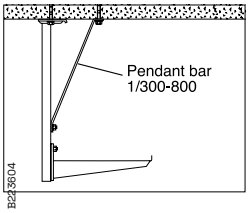



**Pendant bar 1-1500 Hdg**

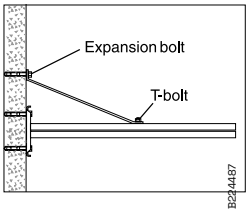
| Type | A mm[1] | A mm | B mm |
|---|---|---|---|
| 1/300 | 40 | 80 | 300 |
| 1/500 | 40 | 130 | 500 |
| 1/800 | 125 | 215 | 800 |
| 1/1500 | Varies | Varies | Varies |



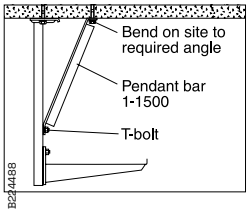

To reduce deflection of Vertical piece 2Fi at heavy loads on Cantilever arm 50i the Pendant bar 1 can be used. Install with T-bolt and Expansion bolt.




To reduce deflection of Vertical piece 2F at heavy loads on Cantilever arm 50 the Pendant bar 1 can be used. Install with T-bolt and Expansion bolt.



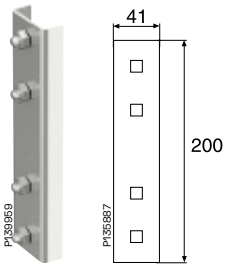

To be mounted to strengthen Vertical piece 20 when mounted horizontally. Use T-bolt and Expansion bolt.



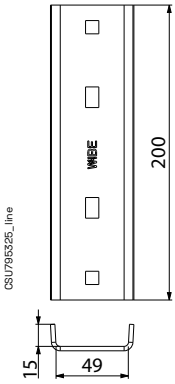

Mount this stay to reduce deflection of long Vertical pieces 2F, 20 and 20F.

## Pendant joint 2J, 2FJ and 20J

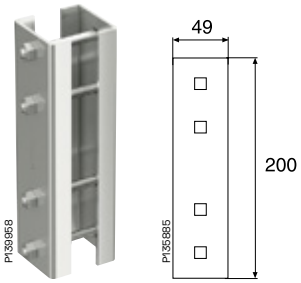
Pendant joint to be used for joining pendant/fixing rails and vertical pieces.



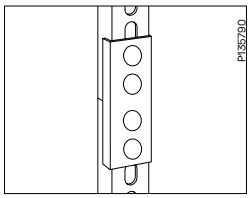

**Pendant joint 2J**



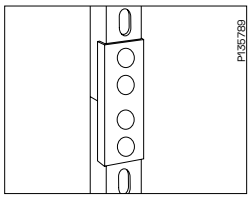

**Pendant joint 2FJ**



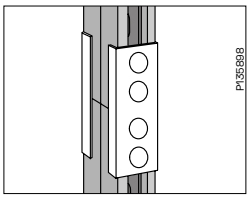

**Pendant joint 20J**




Pendant joint 2J, used for joining of Vertical piece 2 and Pendant/ Fixing rail 24/34.




Pendant joint 2FJ, used for joining of vertical piece 2F.




Pendant joint 20J, used for joining of Vertical piece 20 and Pendant/ Fixing rail 24/20. Only for symmetrical loading.

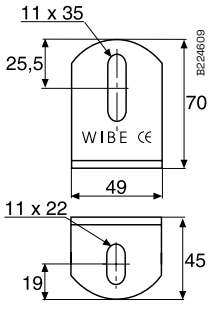
# Use and installation

## Angle bracket 5L and 5LS

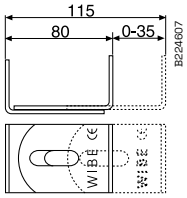
**Angle bracket 5L**

**Angle bracket 5LS**

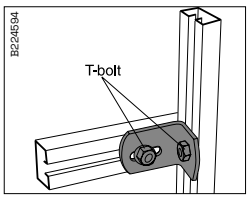
Angle brackets used when assembling pendant/fixing rails to frames for switching cabinets and elecrical control centres and for fixing an upright between floor and ceiling. Assembled with a T-bolt. Angle bracket 5L is also used for steel wire install- ation in ceilings.

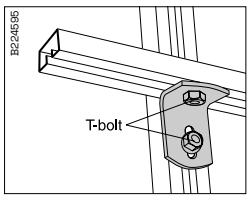



**Angle bracket 5L** **Angle bracket 5LS**

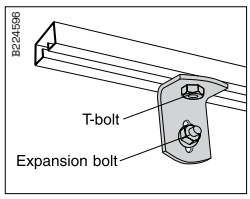



**Adjustability 5L**

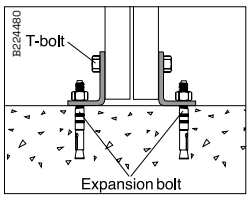


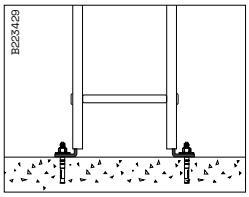

Installation examples for installation of pendant/ fixing rails to different frameworks for installation of control panels, electric distribution boards, etc. Angle bracket **5L** is used.



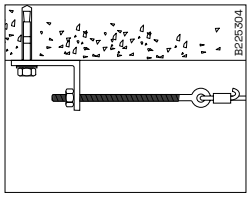

Mounting of a pendant/ fixing rail on a wall. Use Angle bracket **5L** or **5LS**.



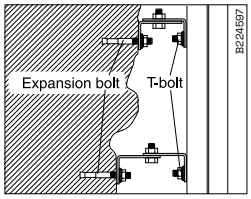

Mounting of a pendant/ fixing rail against floor with Angle bracket **5L** or **5LS**.




Angle bracket **5L** can be mounted inside the ladder profile and thus be used as an end connection against wall or floor.




Angle bracket **5L** is installed in ceiling with Expansion bolt or concrete screw. Max. permitted loading 600 kg (6 kN).

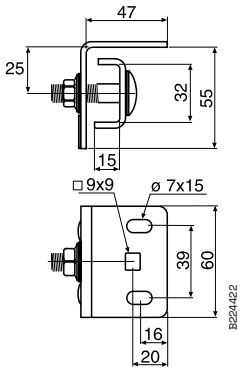



**5LS** can also be mounted as support behind pen- dant/ fixing rails to com- pensate for irregularities in, for example, con-crete or mountain walls.

# Use and installation

## Combi bracket 53

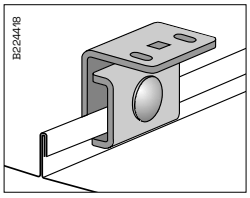
Combi bracket to be used for the mounting of cable ladders and trays on seamed roofing sheets, etc. To be combined with plastic insulating plate 54.



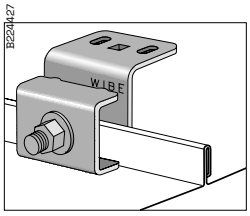

**Breaking load***

| | Type of roofing sheet | Insulating plate | Permitted load |
|---|---|---|---|
| F 1 F 2 | Bandsheet Prelac | No | F1=100 kg |
| | Copper sheeting | Yes | F2=50 kg |
| F 3 F 4 | Bandsheet Prelac | No | F3=100 kg |
| | Copper sheeting | Yes | F4=50 kg |

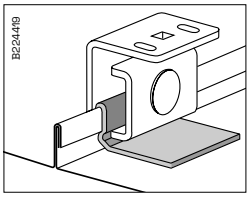
* Loading values and fixing of roof sheet - follow the supplier's recommendations
**Test have been made of:**
Bandsheet Prelaq BLX t=0.6 SSAB tunnplåt Copper sheeting annealed SS 5015-80 t=0.6 Tightening torque at test=60Nm



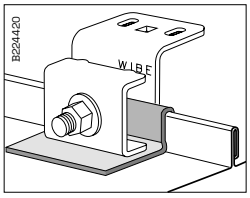

Combi bracket 53 mounted on seamed roofing sheet.



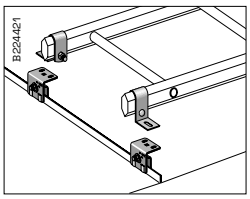

Alternative mounting of Combi bracket 53.



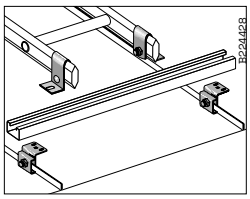

In order to avoid contact between Combi bracket 53 and copper sheeting, Insulating plate 54 must be used.



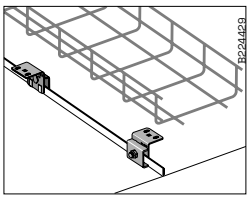

Alternative mounting of Combi bracket 53 and Insulating plate 54.



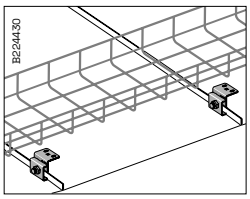

Cable ladder mounted across the seams of the roofing sheets with Combi bracket 53, Wall bracket 11/25 and Screw set 22S.




Cable ladder mounted along the seams of the roofing sheets with Combi bracket 53, Wall bracket 11/25, Screw set 22S, Pendant/ Fixing rail 24/48 and T-bolt 26U.



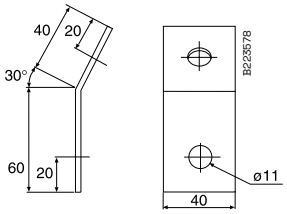

Mesh tray mounted along the seams of the roofing sheets with Combi bracket 53 and accessories from the Mesh tray programme.

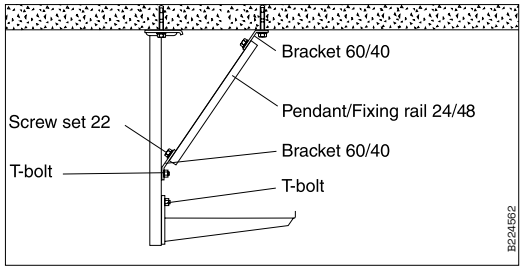



Mesh tray mounted across the seams of the roofing sheets with Combi bracket 53 and accessories from the Mesh tray programme.

## Bracket 60/40

Bracket to be used together with Pendant/fixing rail 24/48 to reduce the deflection of long vertical pieces.



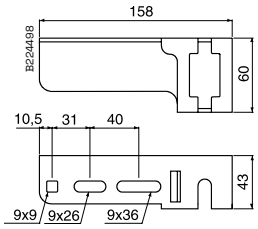



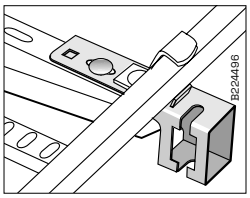

Use Bracket 60/40 together with Pendant/Fixing rail 24/48 to reduce the deflection of long Vertical pieces 2F, 20, 20F or 20FS. Cut the pendant/fixing rail to a suitable length on site.

# Use and installation

## Rod bracket 82

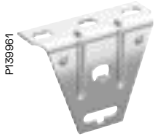
Rod bracket to be used together with Cantilever arm 50, in combination with threaded rod support.



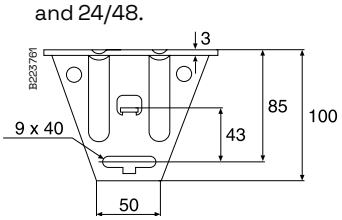



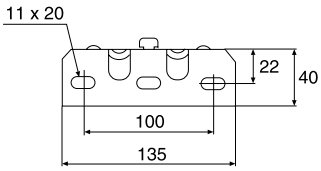

Rod bracket 82 mounted on Cantilever arm 50. Screw set 22S and Profile clamp 42 are to be used.

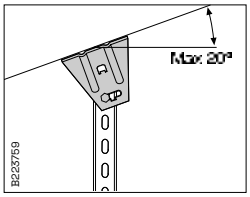
## Ceiling bracket 5



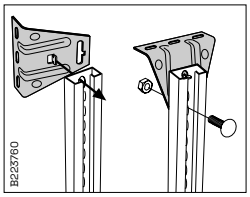

Ceiling bracket to be used for installations with Pendant/Fixing rails 24/34 and 24/48.



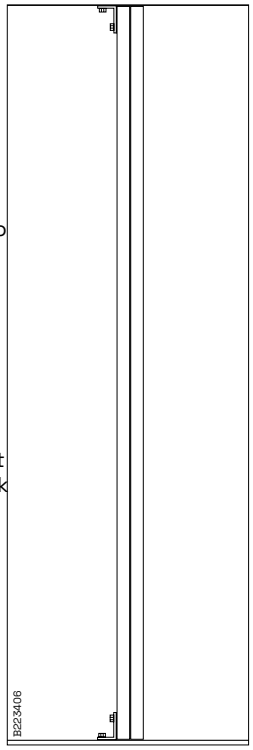



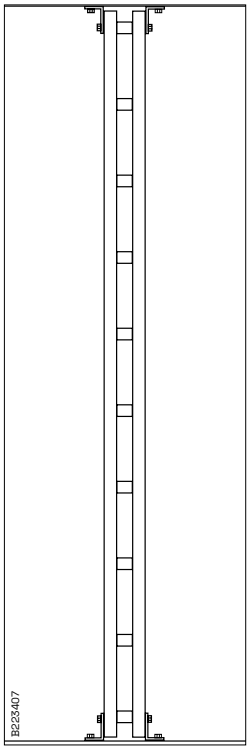

Using Pendant/Fixing rail 24/34 or 24/48, 1 Ceiling bracket 5 and 1 Screw set 22S it is possible to make a vertical piece that can be installed at an angle of up to 20°. Breaking load for rail 34 = 1000 kg (10 kN). Breaking load for rail 48 = 1200 kg (12 kN).




Mount Ceiling bracket 5 to the back of the pendant/ fixing rail by turning the ceiling bracket 90° and inserting the tab into the hole in the rail. Then turn the ceiling bracket back and lock it in the required position using 1 Screw set 22S. When mounting it at a horizontal ceiling, lock the screw in the slot recess for better lateral stability.
Ceiling bracket 5 can be tilted max. 20°.




Pendant/Fixing rail 24/20 can, using 2 Ceiling brackets 5 and 2 T-bolts, be mounted between floor and ceiling (see also Angle bracket 5L).

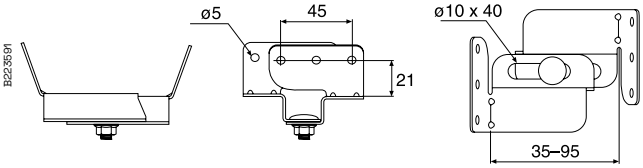


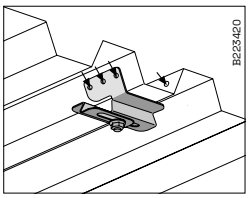

Pendant/Fixing rail 24/20F can, using 4 Ceiling brackets 5 and 4 T-bolts, be mounted between floor and ceiling (see also Angle bracket 5L).

# Use and installation

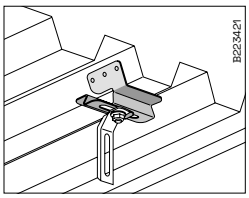
## Ceiling bracket 5TPA

Ceiling bracket with telescopic function, to be used for mounting of various sizes of trapezoid plates.

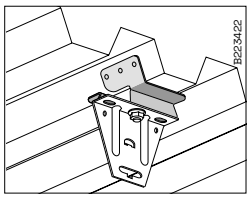



Ceiling bracket 5TPA can be mounted in trapezoid plate with blind rivets or suitable screws. The bracket is adjustable from 35 to 95 mm.

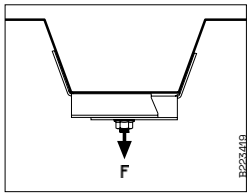



Pendant attachment W21 or Tube pendant attachment W73 (Wibe Cable Tray) can be mounted in Ceiling bracket 5TPA with the existing screw.

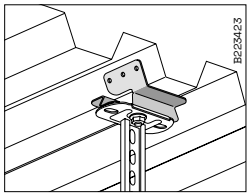



Ceiling bracket 5 or Ceiling attachment W31 can be mounted with the existing screw.

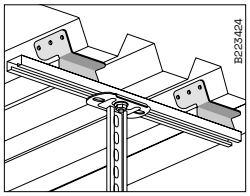
**Breaking load**



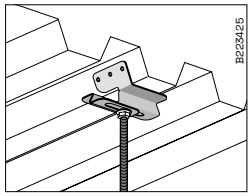

Ceiling bracket 5TPA can be loaded with F=150 kg without deformation. For loading figures for thin plate or fixing elements, follow suppliers recommendations.




Vertical piece 2 or 2F can be mounted with the existing screw.



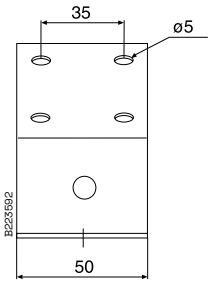

Install Mounting rail 40 between 2 Ceiling brackets 5TPA if the vertical piece must be adjusted sideways.

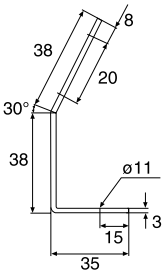


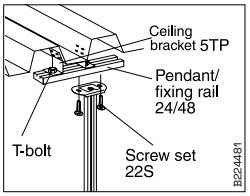

Pendant W76 M8 or M10 installed in Ceiling bracket 5TPA.

## Ceiling bracket 5TP

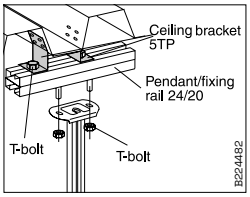
Ceiling bracket to be used in trapezoidal sheeting for installations of Pendant/Fixing rail 24/48.




In ceilings with trapezoidal sheeting, mount Vertical piece 2, 2F or 20 using 2 Ceiling brackets 5TP, Pendant/ Fixing rail 24/48, 2 T-bolts and Screw set 22S.

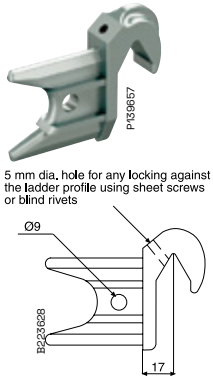


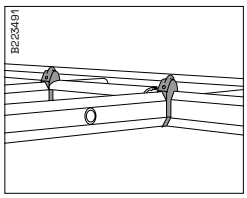

Alternatively Pendant/ Fixing rail 24/20 may be used. This will require the use of 4 T-bolts.

# Use and installation

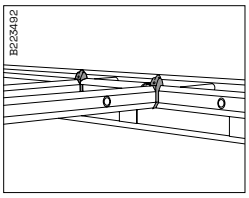
## Fixed take-off hook 4

Fixed take-off hook to be used for 90° horizontal branches.

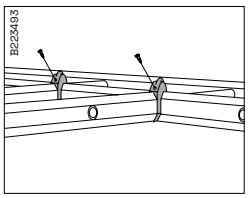


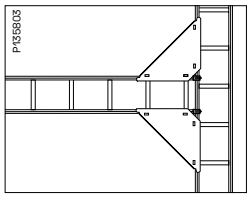

Fixed take-off hook 4 is used at 90° horizontal branches. Coupling 22 can also be used for straight angle formation.




KHZSP, KHZSPZ+, KHZPS, KHZ and KHZP can also be used to form 90° angles from KHZV/KHZPV using Fixed take-off hook 4. Mount Profile protection 28P.



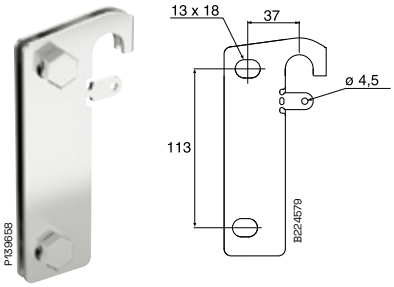

5 mm dia. hole for any locking against the section using sheet screws or blind rivets.

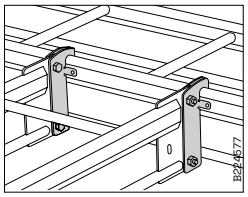



Angle plate 33 is always recommended at horizontal branches.

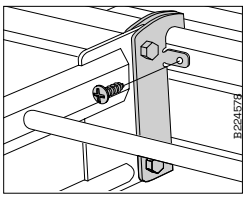
## Take-off hook 47

Take-off hook to be used on cable ladders KHZV and KHZPV to make 90° branches.



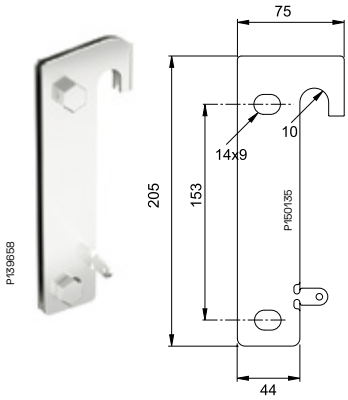

Use Take-off hook 47 to make 90° branches.

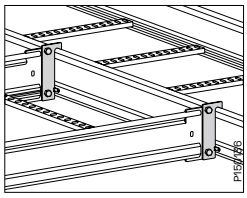



The extra hole, Ø 4.5, is to be used when earthing is demanded or if vertical locking of the ladder is needed. A self-drilling screw must be used.

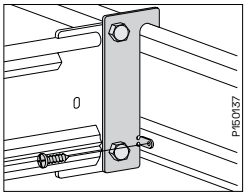
## Take-off hook 20C

Take-off hook to be used on cable ladders KHZP 20C range to make 90° branches. Screw M12 and nuts are included.



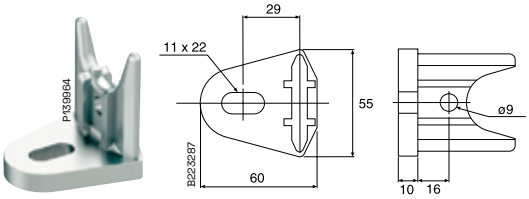

Use Take-off hook 20C to make 90° branches.

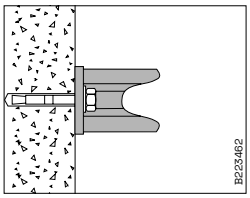



The extra hole, Ø 4.5, is to be used when earthing is demanded or if vertical locking of the ladder is needed. A self-drilling screw must be used.

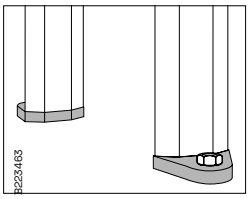
## End connection 10

End connection to be used for the connection of a ladder vertically to a floor, or horizontally to a wall.

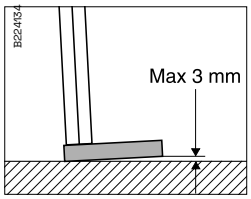



The End connection 10 is mounted at the ladder end vertically against floors or horizontally against walls.




Mount the End connection 10 using Expansion bolts.

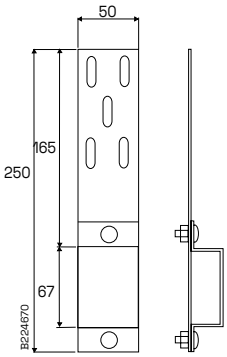


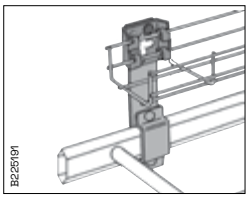

Max. tilt permitted = 3 mm before tightening the screw.

# Use and installation

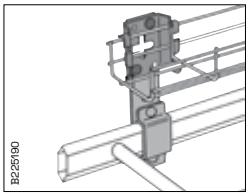
## Combi Fitting B21

Combi-fitting to be used when mounting mesh trays onto cable ladders.



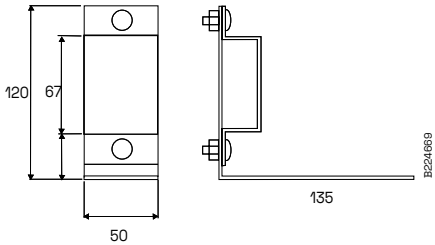

Defen Mesh tray 53 and 75 is mounted onto Combi Fitting B21 with Bracket B4 mini Bolt and Nut B13.

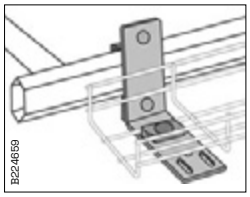



Defem Mesh tray 120 is mounted onto Combi Fitting B21 with Bracket B4 Bolt and Nut B13.

## Combi Fitting B21 90 degree

Combi-fitting to be used when mounting mesh trays onto cable ladders.

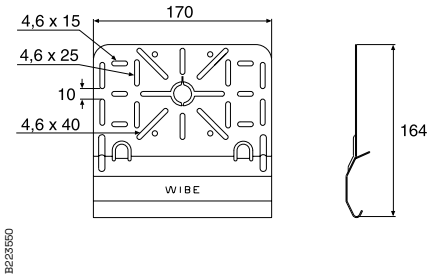


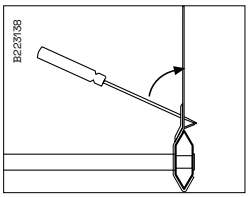




Defem Mesh tray 53, 75 and 120 is mounted onto Combi Fitting B21 90° with 1 Fitting B2.1 Bolt and Nut B13.

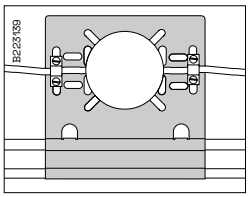
## Junction box plate 35S

Installed upright or hanging from the profile. Locked with locking tabs.

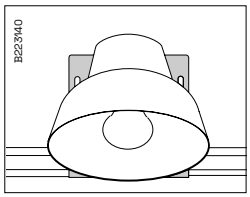



Bend the tab towards the ladder section by using a screwdriver as a lever for mounting junction box plates.




Junction box plates can be mounted in standing or hanging positions on the side sections Strain-relief may be provided using the outermost holes and clamps or strips.

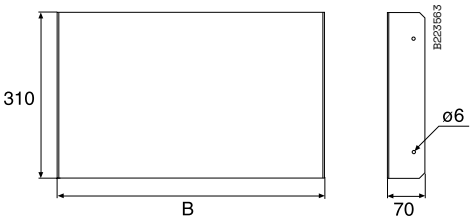


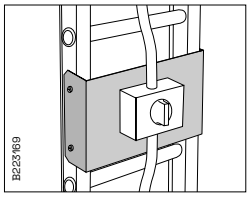

Light fittings can also be mounted on junction box plates.

# Use and installation

## Installation plate 61

Installation plate to be used on vertical cable ladder installations for mounting of terminal boxes, contact breakers, etc.

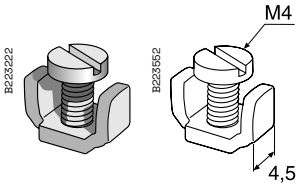


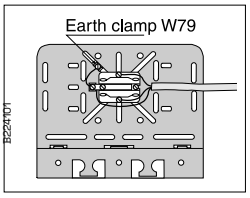

Used on vertical cable ladder installations for mounting of terminal boxes, contact breakers etc. Mount with selftapping screw ST4.2 in the side profile.

| Type | B mm |
|---|---|
| Installation plate 61-200 | 200 |
| Installation plate 61-300 | 300 |
| Installation plate 61-400 | 400 |
| Installation plate 61-500 | 500 |
| Installation plate 61-600 | 600 |

## Earth clamp W79



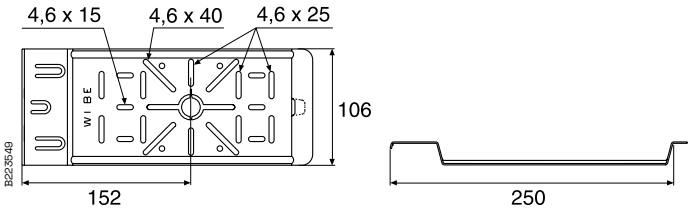

The earth clamp is used when protective earthing of the junction box plate is required.

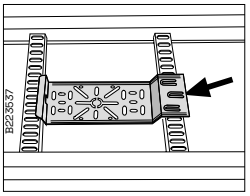



Earth clamps are designed for use when protective earthing of the mounting plate is required for mounting apparatuses as per relevant heavy current directives. The oblong holes in the junction box plate (mounting plate) permit movement of the earth clamp so that it always comes under the casing of the apparatus. If the apparatus's earth clamp is not approved for joining protective earth conductors, it must pass unbroken through the apparatus's earth clamp to the junction box earth clamp (see the fig.).

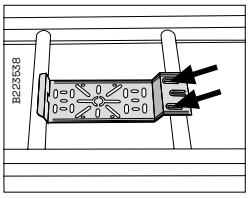
## Junction box plate 35P

Junction box plate with holes, to be installed between rungs. Locked with appropriate locking tabs for each ladder. For junction boxes, electric light fittings, etc.



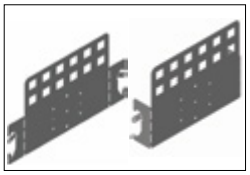

Mount junction box plates between the ladder rungs. On KHZSP, KHZSPZ+, KHZPS, KHZP and KHZPV attach junction box plates by bending the central tab into the rung perforation using a screwdriver or suchlike.



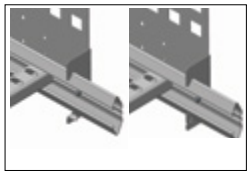

Mount junction box plates on KHZ and KHZV by bending the two outer tabs towards the round rung using a screwdriver or suchlike

# Use and installation

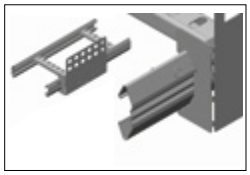
## Junction box plate 12xRJ45 Actassi S-one



Junction box plate delivered flat, to be bended on site.

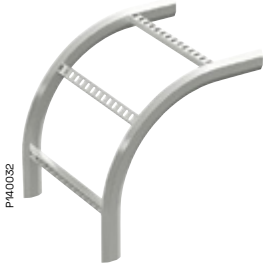


Bend the ladder beam interface part 90° to the inside. Bend the optional fixation lips to the outside to easily position the junction box plate on the ladder beam.

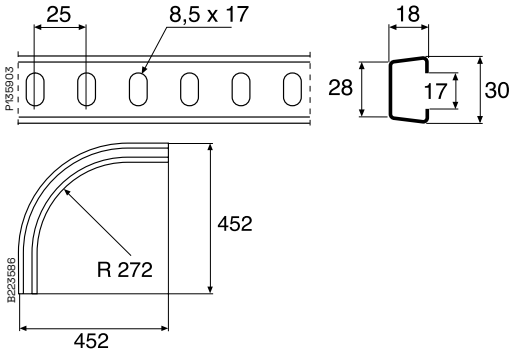


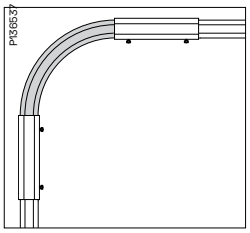
Optional the junction box plate can be fixed to the ladder beam by using self drilling screws.

## Riser 18



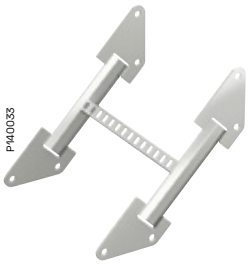

Riser piece to be fitted to the cable ladders by using Joint 21.



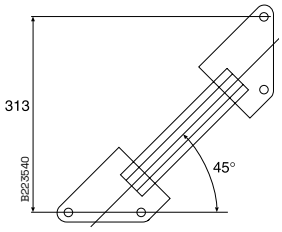



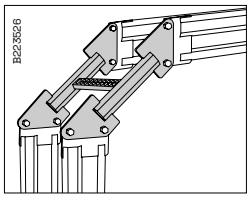

Join the cable ladders to Riser 18 using Joint 21.

## Riser coupling 49




Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV. Two screws M12 and nuts are needed.

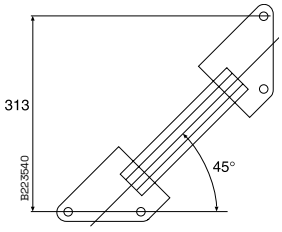


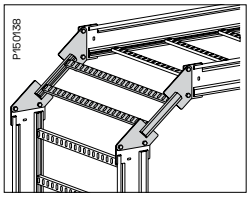




Mount Riser coupling 49 to form a 90° branch on KHZV/KHZPV using 2 Screw sets M12. This provides a large radius for cables.

## Riser coupling 20C

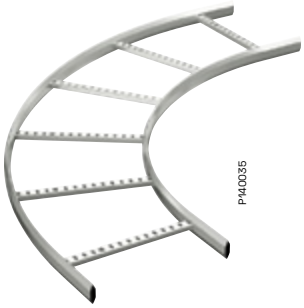
Coupling to be used as a self-supporting vertical coupling of cable ladders KHZP 20C range. Two screw sets M12 are needed.

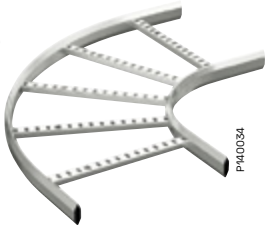



Mount Riser coupling 20C to form a 90° branch on KHZP 20C using 2 Screw sets M12. This provides a large radius for cables.

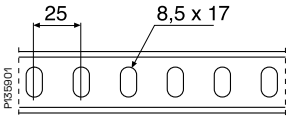
# Use and installation

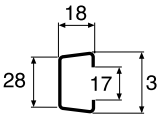


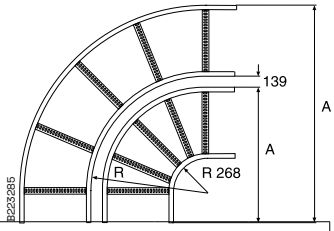



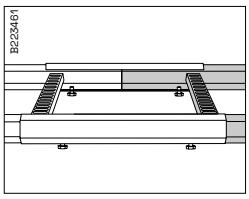

## 90° bend 15, interior and exterior

Interior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Inner radius 268 mm.
Exterior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend.



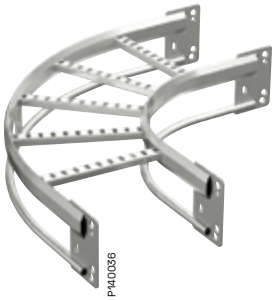




Join cable ladders to 90° bend using Joint 21.

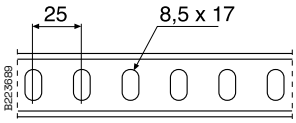
| Type | R mm | A mm |
|---|---|---|
| **Interior** | | |
| 90° bend 15/150 | 268 | 547 |
| 90° bend 15/200 | 268 | 597 |
| 90° bend 15/300 | 268 | 697 |
| 90° bend 15/400 | 268 | 797 |
| 90° bend 15/500 | 268 | 897 |
| 90° bend 15/600 | 268 | 997 |
| 90° bend 15/800 | 268 | 1197 |
| 90° bend 15/1000 | 268 | 1397 |

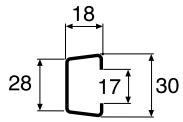
| Type | R mm | A mm |
|---|---|---|
| **Exterior** | | |
| 90° bend 15/150 | 554 | 703 |
| 90° bend 15/200 | 604 | 933 |
| 90° bend 15/300 | 704 | 1133 |
| 90° bend 15/400 | 804 | 1333 |
| 90° bend 15/500 | 904 | 1533 |
| 90° bend 15/600 | 1004 | 1733 |
| 90° bend 15/800 | 1204 | 2133 |
| 90° bend 15/1000 | 1404 | 2533 |

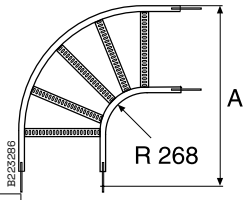


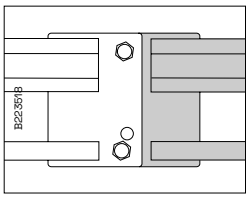

## 90° bend 55 interior

Interior bend piece to be fitted to cable ladders KHZV and KHZPV, creating a 90° horizontal bend.



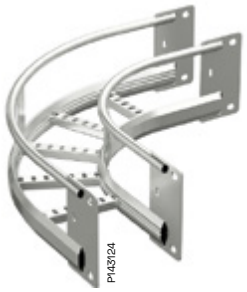




For joining to KHZV and KHZPV, use Screw set M12

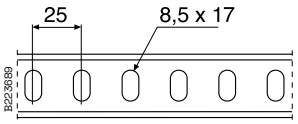
| Type | A mm |
|---|---|
| 90° bend 55/200 | 625 |
| 90° bend 55/300 | 725 |
| 90° bend 55/400 | 825 |
| 90° bend 55/500 | 925 |
| 90° bend 55/600 | 1025 |
| 90° bend 55/800 | 1225 |
| 90° bend 55/1000 | 1425 |

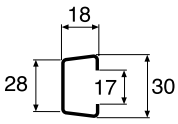
# Use and installation

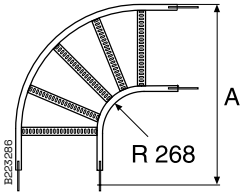


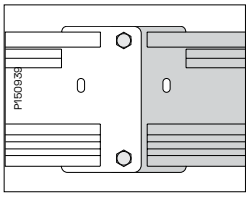

## 90° bend 20C, interior

Interior bend piece to be fitted to cable ladders KHZP 20C range, creating a 90° horizontal bend.



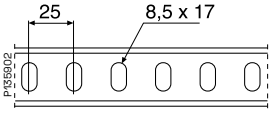



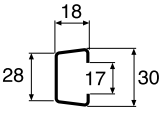

For joining to KHCP 20C/KHZV and KHZPV, use Screw set M12

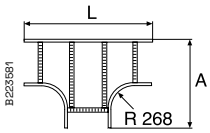
| Type | A mm |
|---|---|
| 90° bend 20C/200 | 625 |
| 90° bend 20C/300 | 725 |
| 90° bend 20C/400 | 825 |
| 90° bend 20C/500 | 925 |
| 90° bend 20C/600 | 1025 |
| 90° bend 20C/800 | 1025 |
| 90° bend 20C/1000 | 1425 |

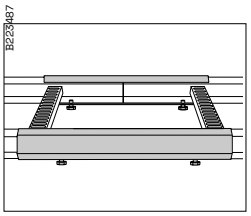
## T-junction 16

T-junction piece to be fitted to the cable ladders by using Joint 21.



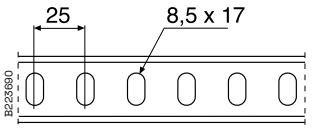

Join the cable ladders to T-junction 16 using Joint 21.

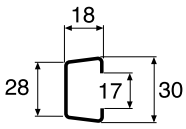
| Type | A mm | L mm |
|---|---|---|
| T-junction 16/150 | 547 | 944 |
| T-junction 16/200 | 597 | 997 |
| T-junction 16/300 | 697 | 1097 |
| T-junction 16/400 | 797 | 1197 |
| T-junction 16/500 | 897 | 1297 |
| T-junction 16/600 | 997 | 1397 |
| T-junction 16/800 | 1197 | 1597 |
| T-junction 16/1000 | 1397 | 1797 |

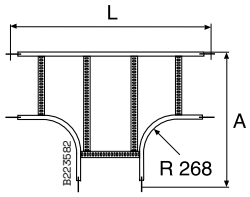
# Use and installation

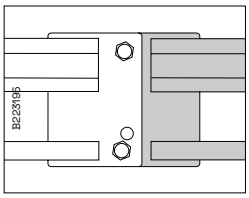
## T-junction 56

T-junction piece to be fitted to the cable ladder KHZV or KHZPV by using screw set M12.



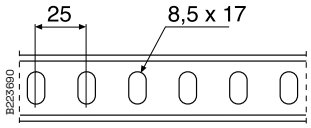



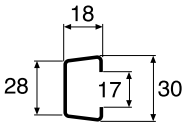

For joining to KHZV and KHZPV, use Screw set M12.

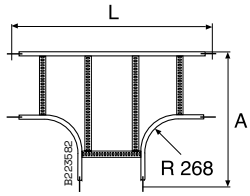
| Type | A mm | L mm |
|---|---|---|
| T-junction 56/200 | 625 | 1050 |
| T-junction 56/300 | 725 | 1150 |
| T-junction 56/400 | 825 | 1250 |
| T-junction 56/500 | 925 | 1350 |
| T-junction 56/600 | 1025 | 1450 |
| T-junction 55/800 | 1225 | 1650 |
| T-junction 56/1000 | 1425 | 1850 |

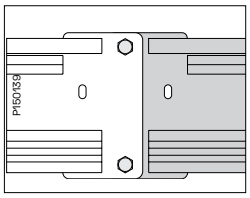
## T-junction 20C

T-junction piece to be fitted to the cable ladder KHZP 20C range by using screw set M12.



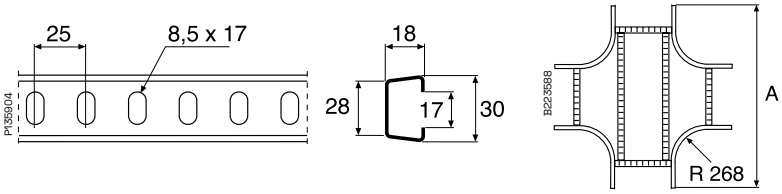

For joining to KHCP 20C/KHZV and KHZPV, use Screw set M12.

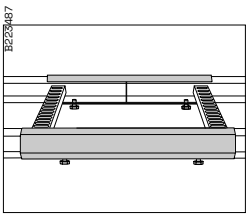
| Type | A mm | L mm |
|---|---|---|
| T-junction 20C/200 | 625 | 1050 |
| T-junction 20C/300 | 725 | 1150 |
| T-junction 20C/400 | 825 | 1250 |
| T-junction 20C/500 | 925 | 1350 |
| T-junction 20C/600 | 1025 | 1450 |
| T-junction 20C/800 | 1225 | 1650 |
| T-junction 56/1000 | 1425 | 1850 |

# Use and installation

## X-junction 17

X-junction piece to be fitted to the cable ladders by using Joint 21.



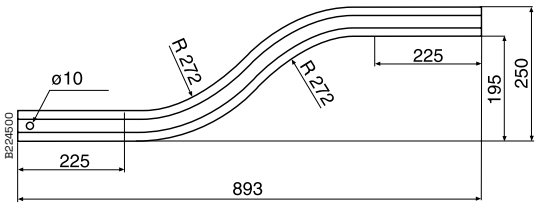



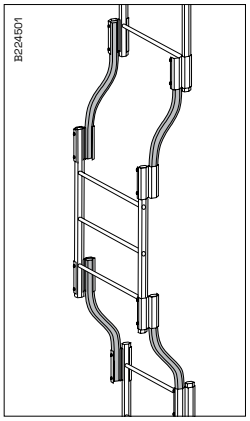

Join the cable ladders to X-junction 17 using Joint 21.

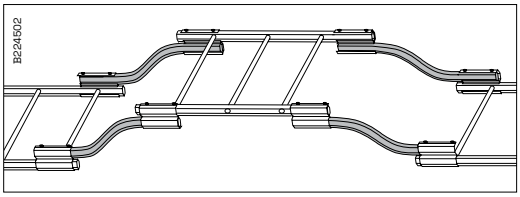
| Type | A mm |
|---|---|
| X-junction 17/150 | 547 |
| X-junction 17/200 | 997 |
| X-junction 17/300 | 1097 |
| X-junction 17/400 | 1197 |
| X-junction 17/500 | 1297 |
| X-junction 17/600 | 1397 |
| X-junction 17/800 | 1597 |
| X-junction 17/1000 | 1797 |

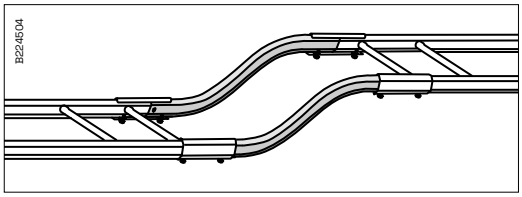
## S-bend 67

S-bend piece to be used as a transition between cable ladders mounted on different levels. Can be mounted both vertically and horizontally.

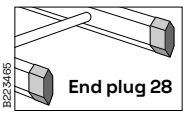


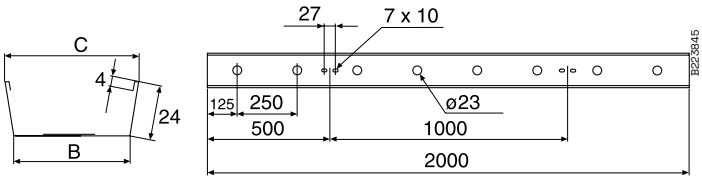

S-bend 67 can be mounted vertically or horizontally between cable ladders by using Dropper joint 32 or Joint 21.



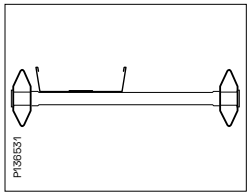
# Use and installation

## Tele-conduit 36 with knock-out holes

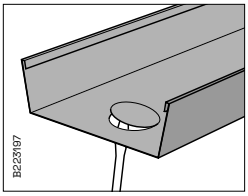
Tele-conduit to be used where a separate tray is required for low-tension cables. Knock-out holes in the bottom of the channel permit the cables to pass through.



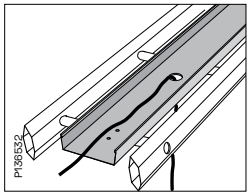

| Type | B mm | C mm |
|---|---|---|
| Tele-conduit 36/50 | 42 | 50 |
| Tele-conduit 36/100 | 92 | 100 |
| Tele-conduit 36/200 | 192 | 200 |



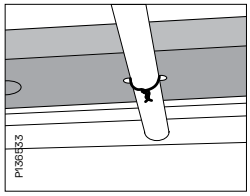

Mount Tele-conduit 36 whenever a special channel is required for low tension lines.



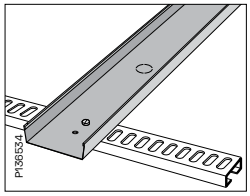

Whenever you wish to make a hole to let a cable through, press the knock- out piece from below using a screwdriver or suchlike




In the event of special needs, a sealing sleeve 22.5 or corresponding may be mounted in the hole.



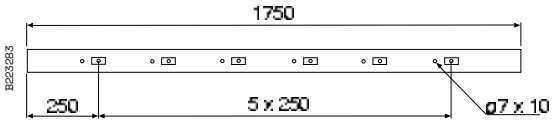

Attach Tele-conduit 36 onto KHZ and KHZV by tying with wire round rungs.

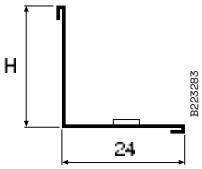



Attach Tele-conduit 36 to KHZSP, KHZSPZ+, KHZPS, KHZP and KHZPV using Screw set W34 through the rung perforations.

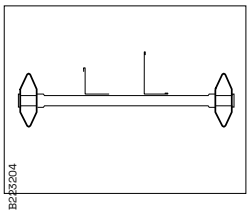
## Dividing strip 39

Dividing strip to be used to separate low-voltage and high-voltage cables.

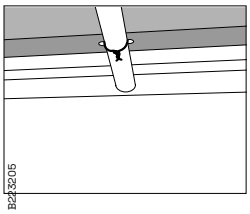


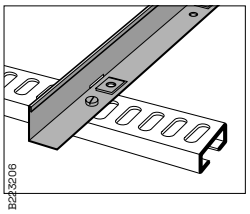

| Type | H mm |
|---|---|
| Dividing strip 39/24 | 24 |
| Dividing strip 39/55 | 55 |



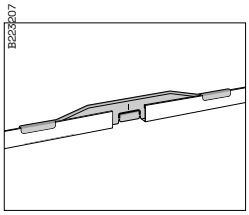

Mount one or more Dividing strips 39 to separate low and high tension cables.




Attach Dividing strip 39 to KHZ and KHZV by lashing around the rungs.




Attach Dividing strip 39 to KHZSP, KHZSPZ+, KHZPS, KHZP and KHZPV using Screw set W34 through the rung perforations.

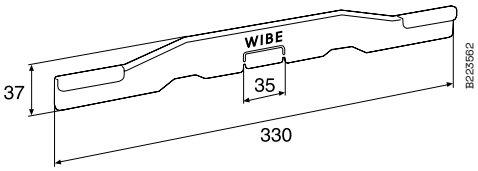


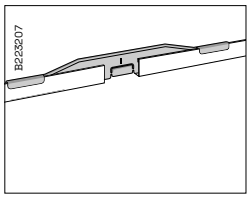

It is advisable to join dividing strips using Distance piece W39.

# Use and installation

## Distance piece W39

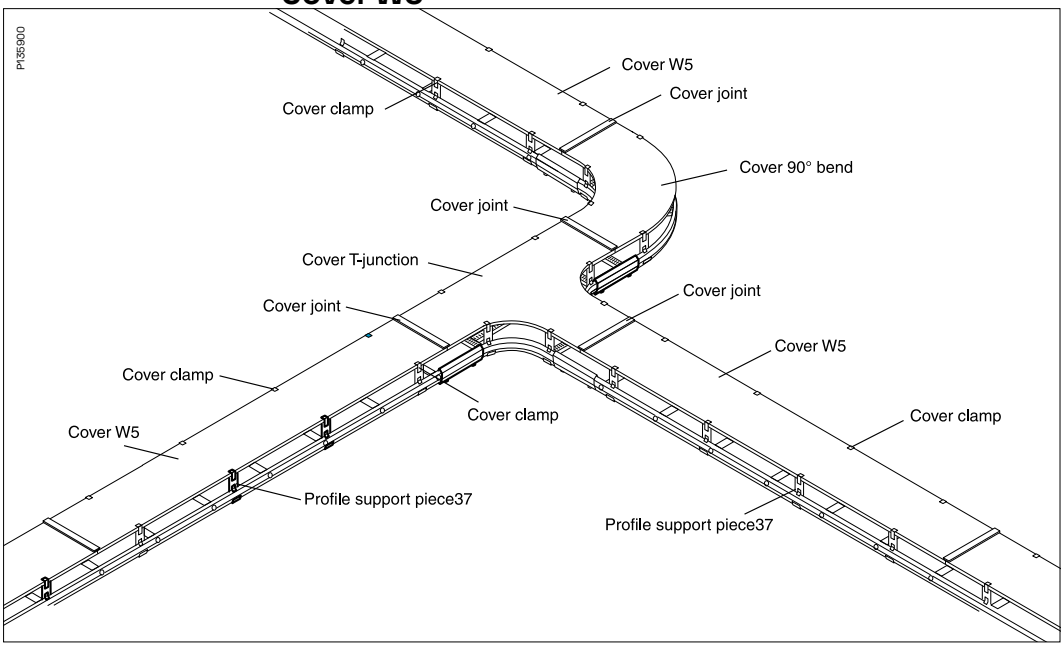
Distance piece to be used for the joining of Dividing strips 39.



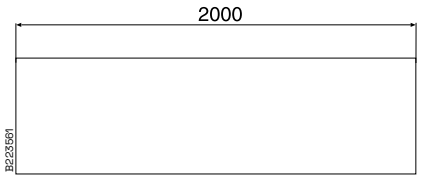



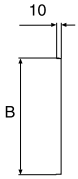

Mount one or more Dividing strips 39 to separate low and high tension cables.

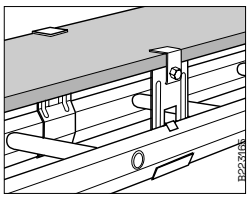
## Cover W5



Cover to be used to protect the cable runs from dust, dirt, liquids, etc. Outdoors, it protects against rain and sun. Suitable for all cable ladders.



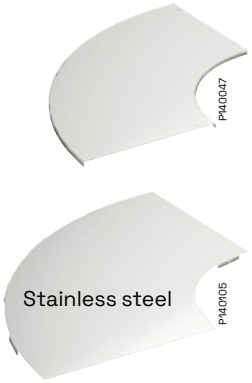




| Type | Ladder width mm | B mm |
|---|---|---|
| Cover W5 - 150 | 150 | 151 |
| Cover W5 - 200 | 200 | 201 |
| Cover W5 - 300 | 300 | 301 |
| Cover W5 - 400 | 400 | 401 |
| Cover W5 - 500 | 500 | 501 |
| Cover W5 - 600 | 600 | 601 |
| Cover W5 - 800 | 800 | 801 |
| Cover W5 - 1000 | 1000 | 1001 |

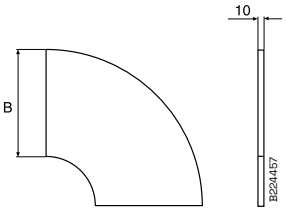
Mount covers to protect the cable routes from dust, waste, liquids, etc. Outdoors, covers protect against rain and sun. All Wibe cable ladders can be fitted with covers. Mount covers using Profile support piece 37 and Cover clamp.

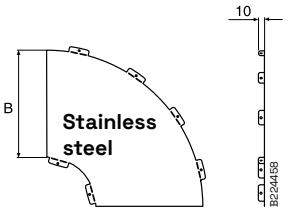
# Use and installation




## Cover 90° bend

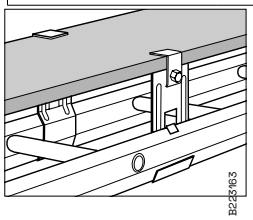
Cover to be used for 90⁰ interior bends. To be installed with a Profile support piece 37, Cover clamp and Cover joint.



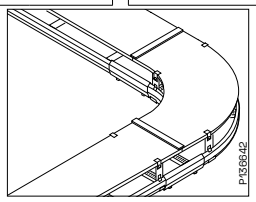




| Type | Ladder width mm | B mm |
|---|---|---|
| 90° bend - 150 | 150 | 151 |
| 90° bend - 200 | 200 | 201 |
| 90° bend - 300 | 300 | 301 |
| 90° bend - 400 | 400 | 401 |
| 90° bend - 500 | 500 | 501 |
| 90° bend - 600 | 600 | 601 |
| 90° bend - 800 | 800 | 801 |
| 90° bend - 1000 | 1000 | 1001 |

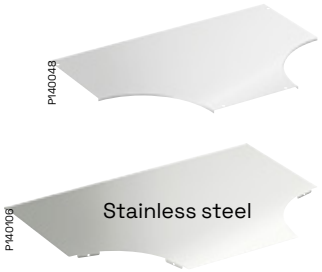
| Stainless steel Type | Ladder width mm | B mm |
|---|---|---|
| 90° bend - 150 | 150 | 147 |
| 90° bend - 200 | 200 | 197 |
| 90° bend - 300 | 300 | 297 |
| 90° bend - 400 | 400 | 397 |
| 90° bend - 500 | 500 | 497 |
| 90° bend - 600 | 600 | 597 |
| 90° bend - 800 | 800 | 797 |
| 90° bend - 1000 | 1000 | 997 |




Fasten cover to Profile support piece 37 using Cover clamp.

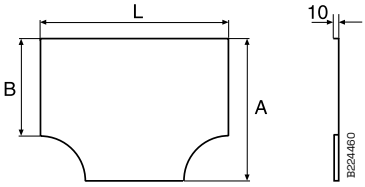


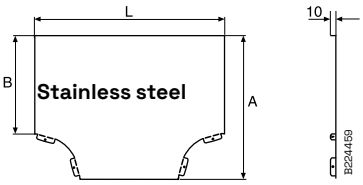

Mount with Profile support pieces 37, Cover clamps and Cover joints.




## Cover T-junction

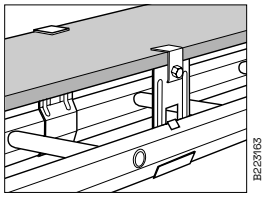
Cover to be used for T-junctions. To be installed with a Profile support piece 37, Cover clamp and Cover joint.



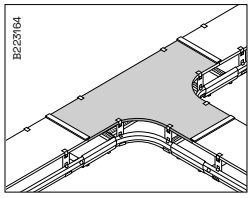




| Type + ladder width | A mm | B mm | L mm |
|---|---|---|---|
| T-junction - 150 | 400 | 151 | 651 |
| T-junction - 200 | 450 | 201 | 701 |
| T-junction - 300 | 550 | 301 | 801 |
| T-junction - 400 | 650 | 401 | 901 |
| T-junction - 500 | 750 | 501 | 1001 |
| T-junction - 600 | 850 | 601 | 1101 |
| T-junction - 800 | 1050 | 801 | 1301 |
| T-junction - 1000 | 1240 | 1001 | 1501 |

| Type + ladder width Stainless steel | A mm | B mm | L mm |
|---|---|---|---|
| T-junction - 150 | 402 | 147 | 657 |
| T-junction - 200 | 452 | 197 | 707 |
| T-junction - 300 | 552 | 297 | 807 |
| T-junction - 400 | 652 | 397 | 907 |
| T-junction - 500 | 752 | 497 | 1007 |
| T-junction - 600 | 852 | 597 | 1107 |
| T-junction - 800 | 1052 | 797 | 1307 |
| T-junction - 1000 | 1242 | 997 | 1507 |




Fasten cover to Profile support piece 37 using Cover clamp.

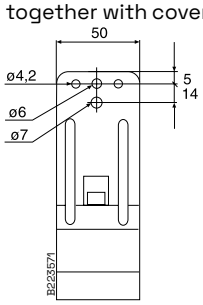


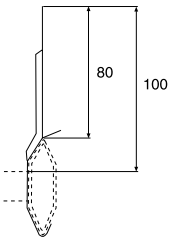

Mount with Profile support pieces 37, Cover clamps and Cover joints.

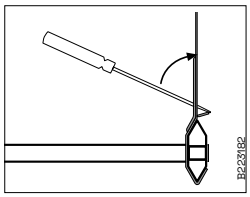
# Use and installation

## Profile support piece 37

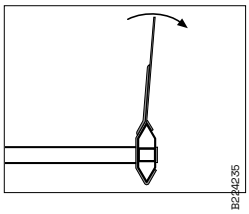
Profile support piece to be used when installing covers. To be mounted on approximately every 0.5 m along both sides of the cable ladder. Used together with cover clamp for locking covers.



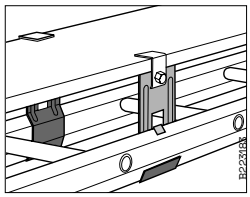



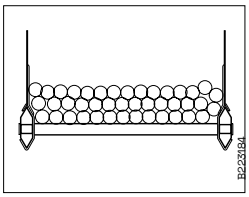

Mount Profile support piece 37 on the inside of the hexagonal section. Bend the tab towards the ladder section using a screwdriver as a lever.




Profile support piece 37 can be bent to fit the cover width.



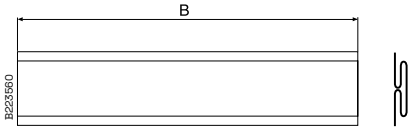

Lock the cover on the Profile support piece 37 using Cover clamps.



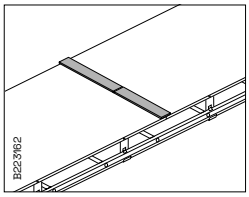

Profile support pieces 37 can be mounted as cable supports. Mount the attachments at about 0.5 m centres on both sides of the ladder.

## Cover joint

Cover joint to be inserted between covers.



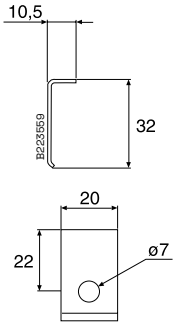

| Type | Ladder width mm | B mm |
|---|---|---|
| Cover joint 150 | 10 | 125 |
| Cover joint 200 | 200 | 175 |
| Cover joint 300 | 300 | 275 |
| Cover joint 400 | 400 | 375 |
| Cover joint 500 | 500 | 475 |
| Cover joint 600 | 600 | 575 |

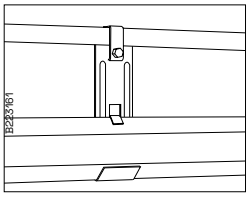



For width 800 or 1000 mm, use a combination of two smaller joints (e.g. 400+ 600 mm). Insert joints between covers.

## Cover clamp

Cover clamps to be used when installing a cover on a Profile support piece 37.



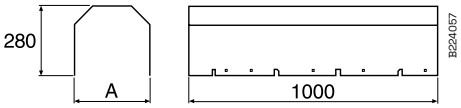




Cover clamps are requ- ired for mounting covers on Profile support piece 37.

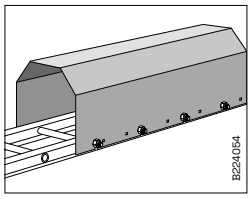
# Use and installation

## Protecting cover

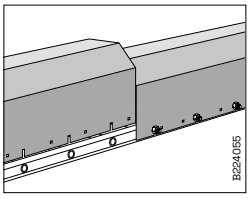
Cover to be used to protect the cable runs agains ice and snow. Suitable for all cable ladder widths 300 and 400 respectively.



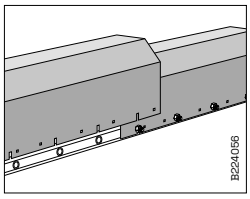

| Type | A mm |
|---|---|
| Protecting cover 300 | 300 |
| Protecting cover 400 | 400 |




To be mounted on ladder KHZ with Intermediate connection bolt 29. When mounted on other ladders or when needed, drilling screw Æ 4.2 is used.



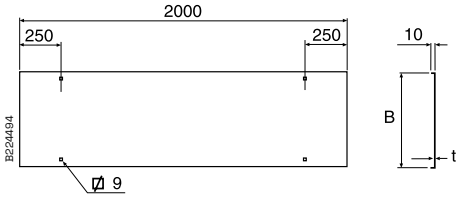

The covers can be mounted edge to edge.



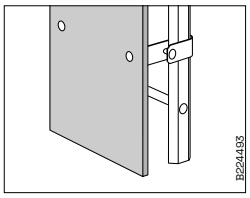

The covers can be mounted with overlap. The assymmetric hole pattern can be used to achieve a good fit.

## Cover 64

Cover to be used for vertically mounted cable ladders.



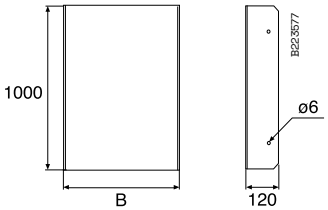

| Type | B mm |
|---|---|
| Cover 64-150 | 151 |
| Cover 64-200 | 201 |
| Cover 64-300 | 301 |
| Cover 64-400 | 401 |
| Cover 64-500 | 501 |
| Cover 64- 600 | 601 |
| Cover 64- 800 | 801 |
| Cover 64- 1000 | 1001 |



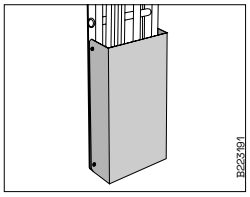

Cover 64 is to be mounted on the cable ladder with Wall bracket 11/25 or Wall bracket 11/75 and Screw set 22S.The covers are to be joined with Cover joints.

## Cover plate 65

Cover plate to be used on vertical cable ladder installations as protection of cables near the floor. To be mounted in the side profile with self-tapping screw ST4.2.




| Type | B mm |
|---|---|
| Cover 65-200 | 200 |
| Cover 65-300 | 300 |
| Cover 65-400 | 400 |
| Cover 65-500 | 500 |
| Cover 65- 600 | 600 |

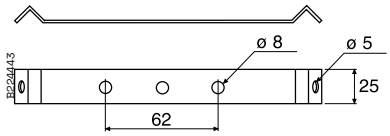


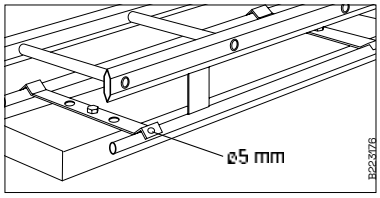

Used on vertical cable ladder installations as protection of cables near the floor.Mounted in the side profile with self-tapping screw ST4.2.

# Use and installation

## Lighting bracket 200

Lighting bracket to be used for the installation of lighting fittings beneath cable ladders KHZV and KHZPV 200.



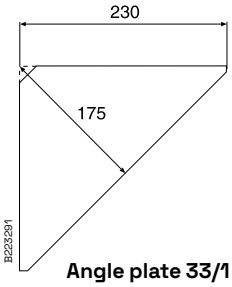

Mount Lighting bracket 200 for KHZV/KHZPV between the two lower tubes. If necessary, 5 mm dia. holes can be used for locking against the arch tube by means of blind rivets or sheet screws.

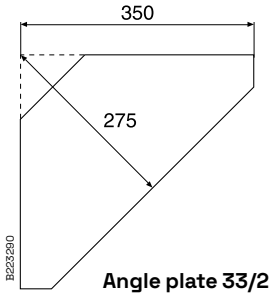
Angle plate 33/2

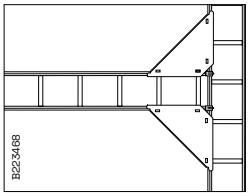
Angle plate 33/1

## Angle plate 33/1 and 33/2

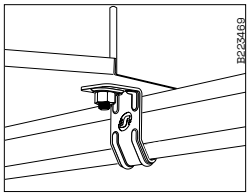
Angle plate to be used together with 90° horizontal T-junctions. Recommended for all cable ladders.



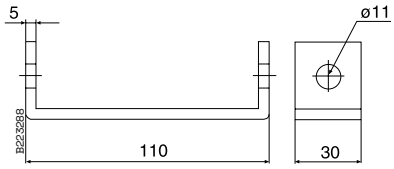

Angle plates are always recommended at 90° horizontal junctions.

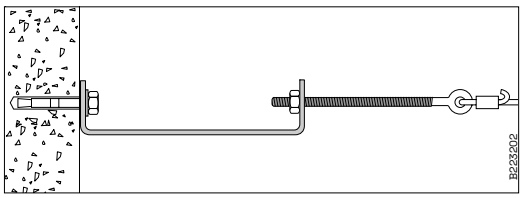



To lock Angle plate 33/2, fit Profile clamp 42.

## Wall bracket HT-14

Bracket for wall installation



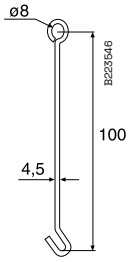



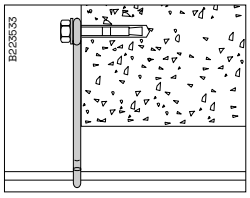

Wall bracket HT-14 is installed on wall with Expansion bolt or concrete screw.

# Use and installation

## Carrying bracket HT-31

Carrying bracket to be used for ceiling installations.
To be installed with Expansion bolt or concrete screw.

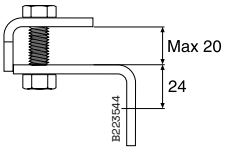


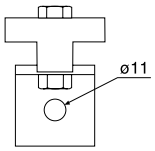



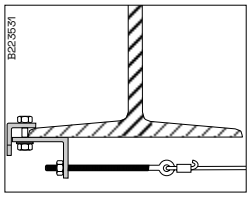

Carrying bracket HT-31 is installed on ceiling beam with Expansion bolt or concrete screw .

## Carrying bracket HT-152

Carrying bracket to be used for easy I-beam installations.



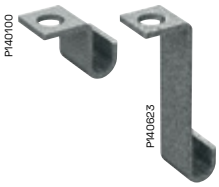



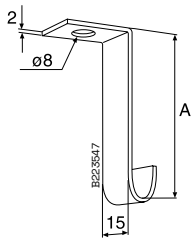




Carrying bracket is easily
installed on I-beam.

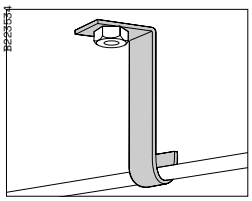
## Carrying bracket HT-33/34

Carrying bracket to be used for ceiling installations.
To be installed with Expansion bolt or concrete screw.



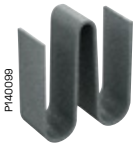

| Type | A mm |
|---|---|
| HT-33 | 14 |
| HT-34 | 38 |

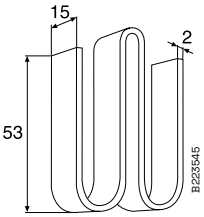


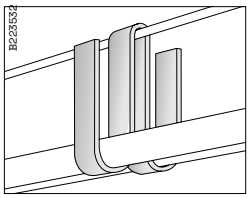

Carrying bracket is in- stalled in ceiling with Expansion bolt or con- crete screw.

## Carrying sling HT-51

Carrying slings for cables.



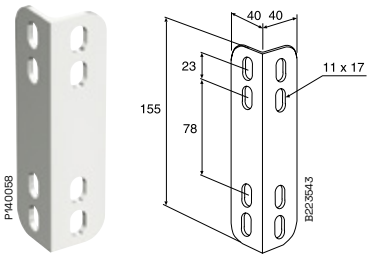



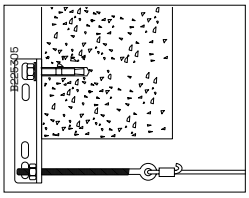

Carrying sling with space for 6 cables max. diam. 16 mm.

# Use and installation

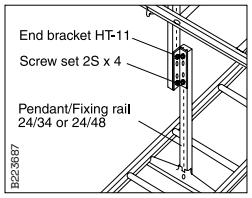
## End bracket HT-11

Used for assembling pendant/fixing rails to frames for switching cabinets and electrical control centres. Also suitable for assembling pendant rails for crossing cable runs. Also used as End Bracket for ceiling beam installation.

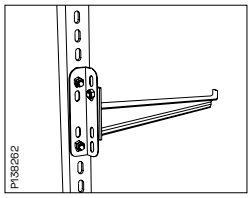


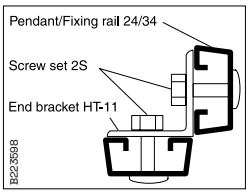

End bracket HT-11 is installed on ceiling beam with Expansion bolt
or concrete screw.



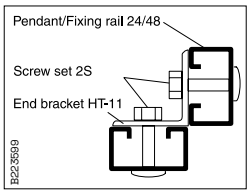

End bracket HT-11 permits mounting of crossing cable ladders in various planes on the same vertical piece.



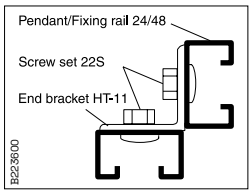

Cantilever arm 50 may, using End bracket HT-11, be mounted at 90° to the vertical piece. Only for lightweight mounting of data cable type or suchlike.




The HT-11 can be used when mounting together 2 Pendant/ Fixing rail 24/34, for example when assembling a stand.



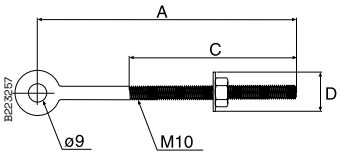

The HT-11 can be used when mounting together 2 Pendant/ Fixing rail 24/48 with the opening towards the attachment, for example when assembling a stand.



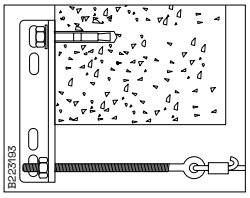

The HT-11 can be used when mounting together 2 Pendant/ Fixing rail 24/48, with the rear towards the attachment.

## Tightening loop HT

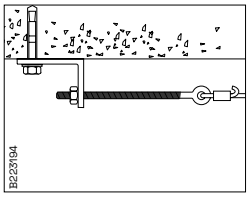
Tightening loop to be installed at the ends of steel wires.



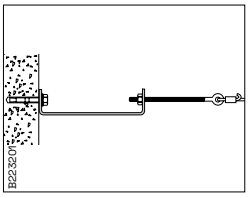

| Type | A mm | C mm | D mm |
|---|---|---|---|
| Tightening loop HT-611 | 125 | 100 | 22 |
| Tightening loop HT-621 | 270 | 100 | 50 |
| Tightening loop HT-631 | 400 | 150 | 50 |




Tightening loop is instal- led in End bracket HT-11 for installation on ceiling beam.



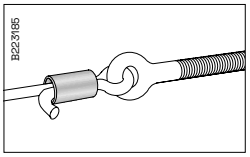

Tightening loop is instal- led in Angle bracket 5L for installation in ceiling.




Tightening loop is instal- led in Wall bracket HT-14 for installation on wall.

## Pipe HT-68 and HTR-68

Pipe for easy locking of wires. Ø 15 mm Length 25 mm.



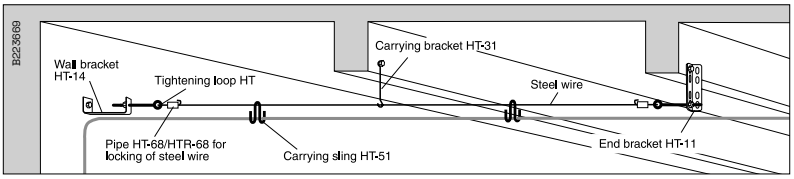

The steel cable is easily locked with the pipe.

# Use and installation

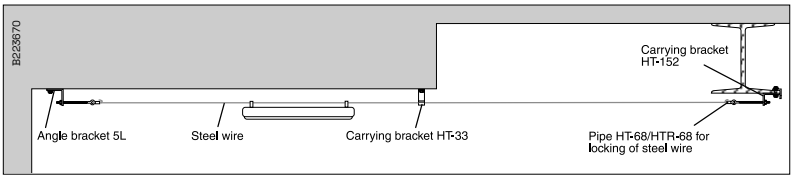
## Steel wire

Steel wire to be installed as carrier of one or more cables.

| Type | Diam. mm | Breaking load kg |
|---|---|---|
| HT-2309 | 5.00 | 700 |
| HT-2311 | 6.15 | 970 |
| HTR-2322 | 2.50 | 450 |
| HTR-2323 | 3.00 | 700 |
| HTR-2324 | 4.00 | 1200 |



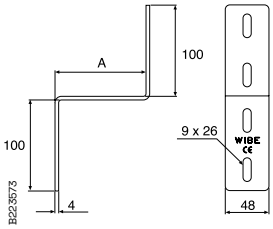

Steel wire installed in ceiling with beams.



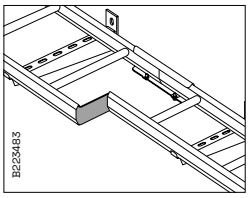

Steel wire installed in ceiling.

## Reducer 31

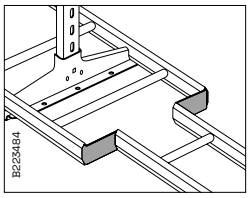
Reducer to be used for transition joining from a wide to a narrower cable ladder.




| Type | A mm |
|---|---|
| Reducer 31/100 | 100 |
| Reducer 31/200 | 200 |
| Reducer 31/300 | 300 |
| Reducer 31/400 | 400 |



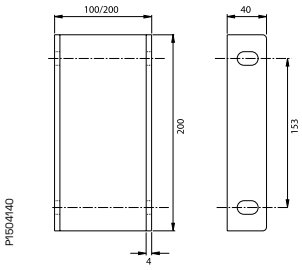

Reducer to be used for transition joining from a wide to a narrower cable ladder.



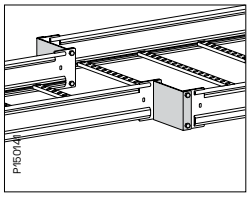

May also be used at centred transition joining

## Reducer 20C

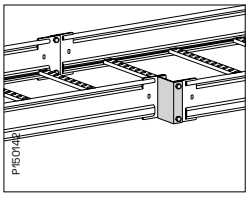
Reducer to be used for transition joining from a wide to a narrower cable ladder.




| Type | A mm |
|---|---|
| Reducer 20C/100 | 100 |
| Reducer 20C200 | 200 |

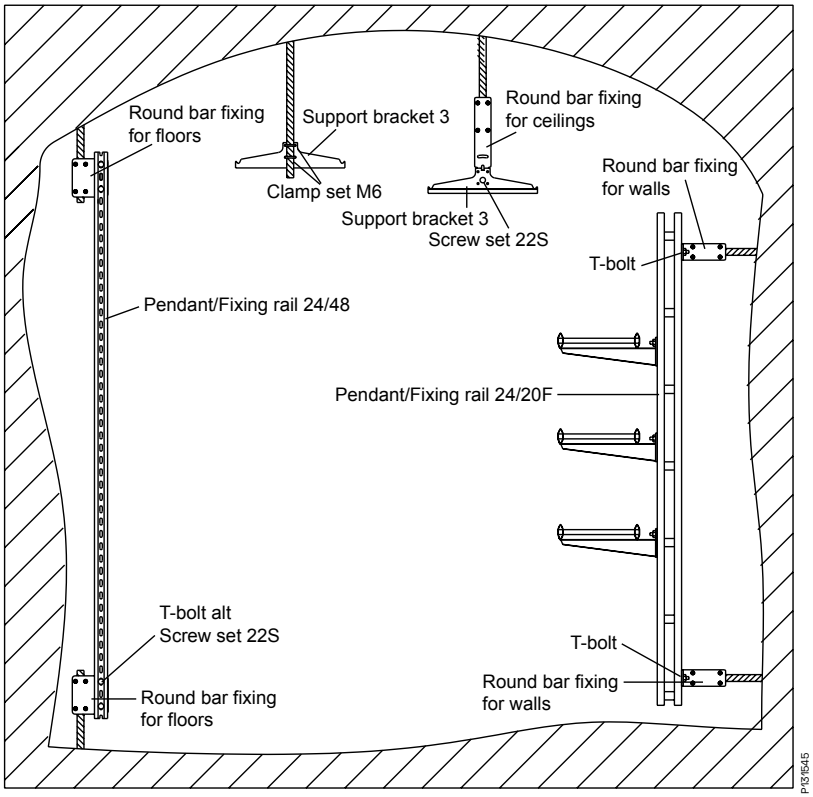



May also be used at centred transition joining



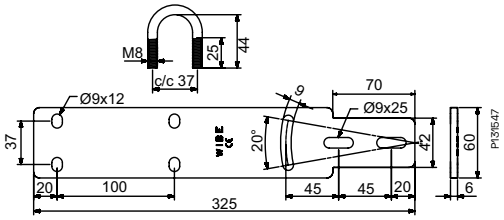

Reducer to be used for transition joining from a wide to a narrower cable ladder.

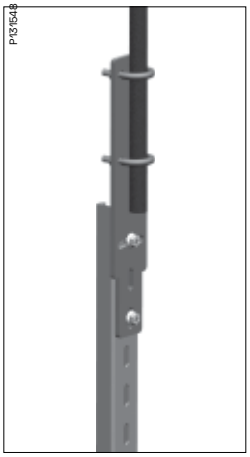
# Use and installation



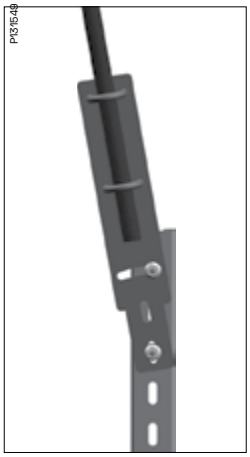
## Round bar fixing for ceilings

Round bar fixing to be used for mounting in underground cavities and tunnels.




Round bar fixing for ce- ilings is mounted on pendant/fixing rail 24/48 with screw set 22S. Support bracket 3 is mounted directly on the fixing with Screw set 22S.

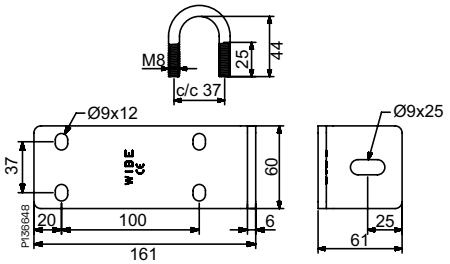


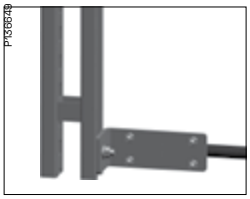

Using round bar fixing for ceilings, pendant/ fixing rail 24/48 and screw set 22S it is possible to make a vertical piece that can be installed at an angle of up to 10°.

# Use and installation

## Round bar fixing for walls

Round bar fixing to be used for mounting in underground cavities and tunnels.

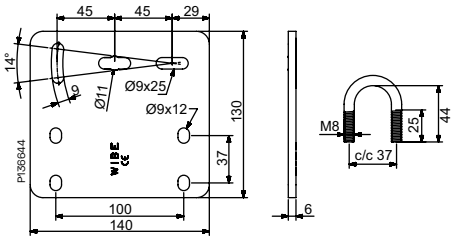


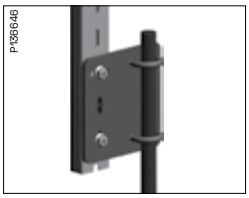




Round bar fixing for walls mounted on Pendant/ fixing rail 24/20F with T-bolt 26U.

## Round bar fixing for floors

Round bar fixing to be used for mounting in underground cavities and tunnels.



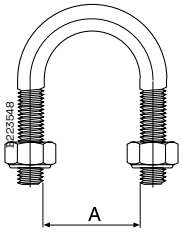




Round bar fixing for floors mounted on Pendant/fixing rail 24/48 with Screw set 22S.

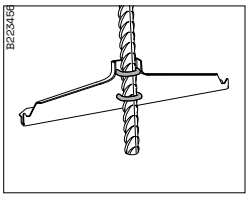
Round bar fixing for floors mounted on Pendant/fixing rail 24/48 with T-bolt 26U.

## Clamp set M6

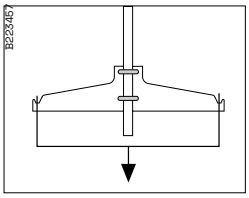
Clamp set to be used for the installation of Support bracket 3 directly on a roof bolt. The set includes two clamps and four locking nuts. M6-25 must be used for Support bracket 3 in hot-dip and pre-galvanized surface finish, whereas M6-20 must be used for Support bracket 3 in stainless steel and Installation plate 60 in all surface treatments.




| Type | Ø |
|---|---|
| M6-25 | 29 |
| M6-20 | 24 |




For installation of Support bracket 3 directly on ribbed bar 16-25 or fully threaded bar M16-M27.




Max. symmetrical loading 300 kg. Make sure the clamps grip the bar in a correct manner.

# Use and installation

**Cable clamp ARX1**

**Cable clamp ARX2**

## Cable clamp ARX

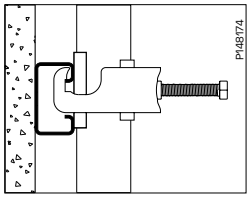
Cable clamp for fastening of cable on Pendant/Fixing rail 24/48 and on cable ladders KHZ, KHZV, KHZSP, KHZSPZ+, KHZSP85, KHZPS, KHZP and KHZPV, in combination with Insert piece EM.

**Cable clamp ARX1**

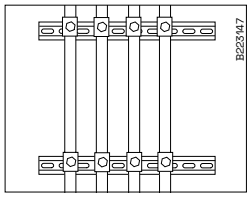
| Type | For cable mm |
|---|---|
| CABLE CLAMP ARX1-12 Z+ | - 12 |
| CABLE CLAMP ARX1-16 Z+ | 13 - 16 |
| CABLE CLAMP ARX1-22 Z+ | 17 - 22 |
| CABLE CLAMP ARX1-28 Z+ | 23 - 28 |
| CABLE CLAMP ARX1-36 Z+ | 29 - 36 |
| CABLE CLAMP ARX1-44 Z+ | 37 - 44 |
| CABLE CLAMP ARX1-52 Z+ | 45 - 52 |
| CABLE CLAMP ARX1-60 Z+ | 53 - 60 |
| CABLE CLAMP ARX1-70 Z+ | 61 - 70 |

**Cable clamp ARX2**

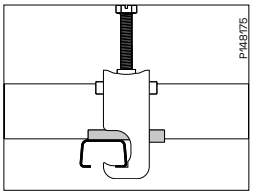
| Type | For cable mm |
|---|---|
| CABLE CLAMP ARX2-12 Z+ | - 12 |
| CABLE CLAMP ARX2-16 Z+ | 13 - 16 |
| CABLE CLAMP ARX2-22 Z+ | 17 - 22 |
| CABLE CLAMP ARX2-28 Z+ | 23 - 28 |
| CABLE CLAMP ARX2-36 Z+ | 29 - 36 |
| CABLE CLAMP ARX2-44 Z+ | 37 - 44 |
| CABLE CLAMP ARX2-52 Z+ | 45 - 52 |
| CABLE CLAMP ARX2-60 Z+ | 53 - 60 |



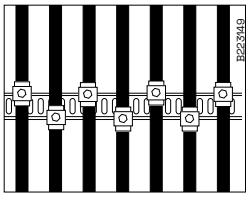

Use Cable clamp ARX to attach cables to Pendant/Fixing rail 24/48.
Use Insert piece EM.



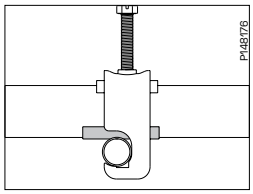

Mounting rail 40 with Cable clamp ARX.




Use Cable clamp ARX to attach cables to cable ladders KHZSP, KHZSPZ+, KHZPS, KHZPV and KHZP.
Use Insert piece EM.




In order to avoid torsion of the rung, cable clamps can be mounted opposite each other on the rung.

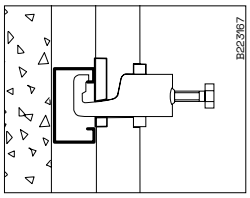


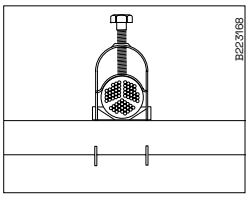

Cable clamp ARX is used for fastening cables on the cable ladders KHZ and KHZV. Insert piece EM must be installed.

# Use and installation

## Insert piece EM

Insert piece to be used in order to prevent pressure on the cable. The insert piece is placed between the cable and the rung from the same side where the clamp has been fastened to the rung.



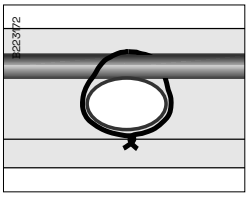

Insert pieces increase the contact area of the cables.

| Type | For cable mm |
|---|---|
| EM - 12 | - 12 |
| EM - 16 | 13 - 16 |
| EM - 22 | 17 - 22 |
| EM - 28 | 23 - 28 |
| EM - 36 | 29 - 36 |
| EM - 44 | 37 - 44 |
| EM - 52 | 45 - 52 |
| EM - 60 | 53 - 60 |
| EM - 70 | 61 - 70 |

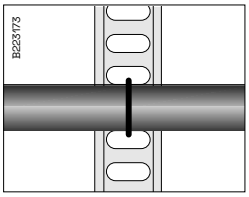
## Lashing wire

Lashing wire to be used for lashing of wires on cable ladders.

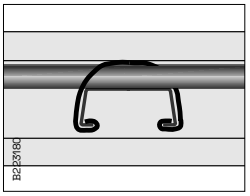
| Type | | Diam mm | Breaking load kg |
|---|---|---|---|
| HTR - 2303 | Lashing wire, stainless steel, white PVC | 1.25 | 92 |
| HTR - 2313 | Lashing wire, stainless steel, black PVC | 1.25 | 92 |
| HT - 2304 | Lashing wire, white PVC | 1.5 | 25 |
| HT - 2314 | Lashing wire, black PVC | 1.5 | 25 |



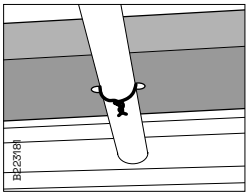

Cables are easily installed by lashing around the rungs of KHZ and KHZV.




Cables are easily installed by lashing through the perforations of the rungs or around the rungs of KHZSP, KHZSPZ+, KHZPS, KHZP and KHZPV.




Cables are easily installed on KHZSP, KHZSPZ+, KHZPS, KHZP and KHZPV by lashing in such a way that the lashing wire is pinched around the rung as shown.



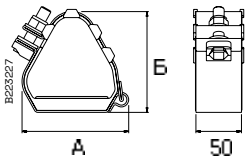

Dividing strips and tele- conduits are attached to the ladder by lashing around the rungs of KHZ and KHZV

# Use and installation

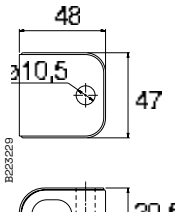
## Cable clamp ER

Cable clamp for the installation of cables on cable ladders with round or perforated rungs.

Cable clamp ER



Oval rung adaptor



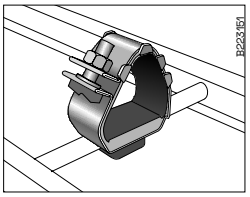

| Type | For cable mm | A mm | B mm |
|---|---|---|---|
| Cable clamp ER | 23 - 28 | 80 | 74 |
| Cable clamp ER | 27 - 32 | 82 | 81 |
| Cable clamp ER | 30 - 35 | 82 | 88 |
| Cable clamp ER | 33 - 38 | 85 | 94 |
| Cable clamp ER | 36 - 42 | 113 | 101 |
| Cable clamp ER | 40 - 46 | 115 | 108 |
| Cable clamp ER | 44 - 50 | 117 | 115 |
| Cable clamp ER | 48 - 55 | 120 | 129 |
| Cable clamp ER | 51 - 58 | 121 | 130 |
| Cable clamp ER | 55 - 62 | 156 | 138 |
| Cable clamp ER | 59 - 66 | 158 | 146 |
| Cable clamp ER | 63 - 70 | 160 | 150 |
| Cable clamp ER | 67 - 74 | 763 | 161 |
| Cable clamp ER | 71 - 78 | 165 | 168 |
| Cable clamp ER | 74 - 82 | 167 | 176 |
| Cable clamp ER | 77 - 85 | 169 | 181 |

**Tested at British short-circuit testing station.**
**Test report no. BS/F 1265**
- Wibe cable ladder KHZ-600, KHZP-300 and KHZP-600. Cable clamp ER mounted on every rung.
- Wibe cable ladder KHZ-300. Cable clamp ER mounted on every other rung.

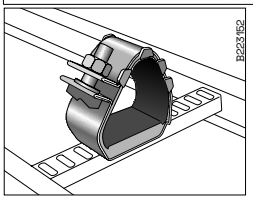
**Condition after test**
400 volt 58 kA symmetrical current (Peak 140 kA) during 0.1 second:
- All clamps remained secure
- Some slight distorsion of the ladder rungs
- The cables were splayed out between th clamps but otherwise in good order.

**Test report no. BS/F 1268**
- Wibe cable ladder KHZ-600 and KHZP-600. Cable clamp ER mounted on every other rung

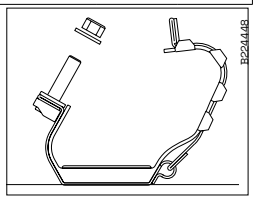
**Condition after test**
352 volt 64 kA symmetrical current (Peak 140 kA) during 0.1 second:
- All clamps remained secure
- There was distorsion of a number of the ladder rungs
- The cables were splayed out between the clamps but otherwise in good order.



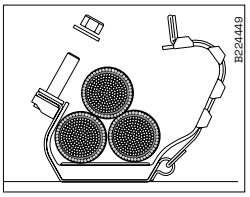

Remove the bottom plate of the clamp and mount it with Oval rung adapter on cable ladders with round rungs - KHZ and KHZV.



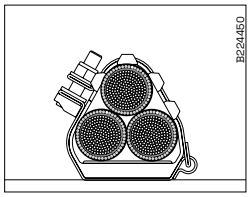

Remove the bottom plate of the clamp and mount it with 2 screw sets 74S on cable ladders with perforated rungs - KHZP, KHZPS, KHZSP, KHZSPZ+ and KHZPV.



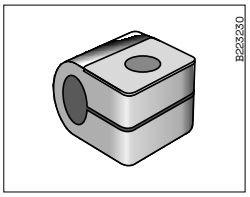

Remove the locking nut. Open the clamp.




Mount the cables.




Lock the clamp with the locking nut. Turn the nut to max. 4-5 Nm. The rubber lining must touch the cables but not so tight that the cables will be deformed

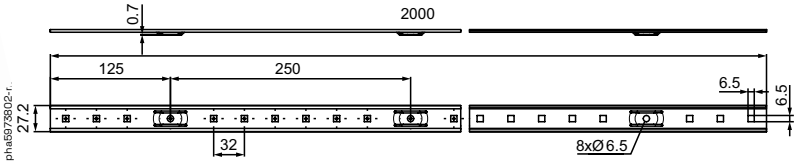


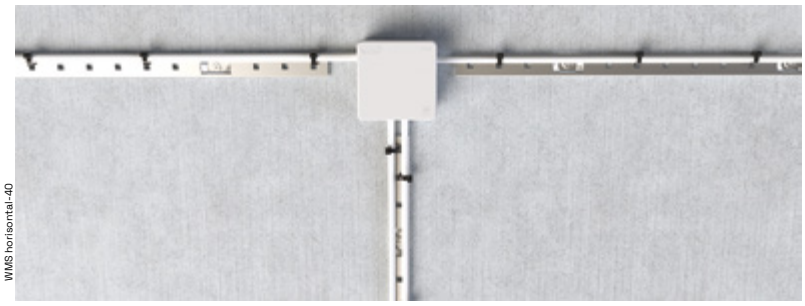

Oval rung adaptor, screw set included, to be used when mounting Cable clamp ER on oval rungs on the KHZ range.

# Use and installation

## Mounting rail WMS25L

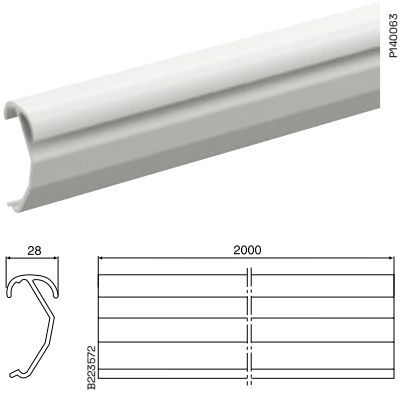
Mounting rail to be used for installation directly on wall for lashing of cables.



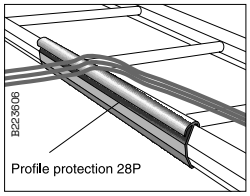



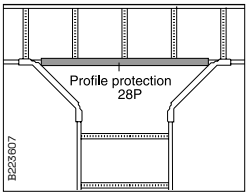

Mounting of cables with lashing wire, strips etc. The mounting rail installed directly onto wall.

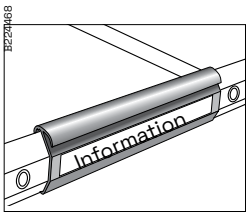
## Profile protection 28P




Profile protection to be used to increase the contact surface of the cables, when pulled over the side profile of the ladder.



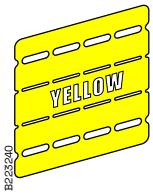

Mount Profile protection 28P in order to increase the contact surface of the cable, when pulled over the side profile of the ladder. Cut when required.

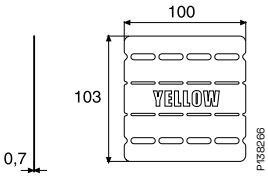
Can be cut in suitable lengths and equipped with an information label. Easy to mount on the ladder side profile.

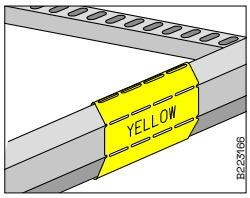
# Use and installation

## Marking plate 93

Marking plates are part of a colour marking system that is easy to use when you want to mark out the type of cable that is placed on the cable ladder



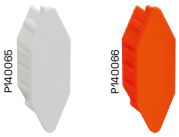




The Marking plate can be bent around the side profile on all Wibe cable ladders.

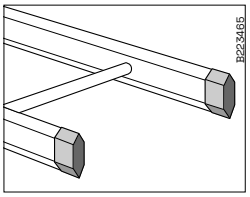
## End plug 28 and 28i

End plug to be mounted on ladder ends for sealing or protection.

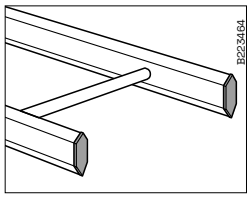
**End plug 28**




**End plug 28i**



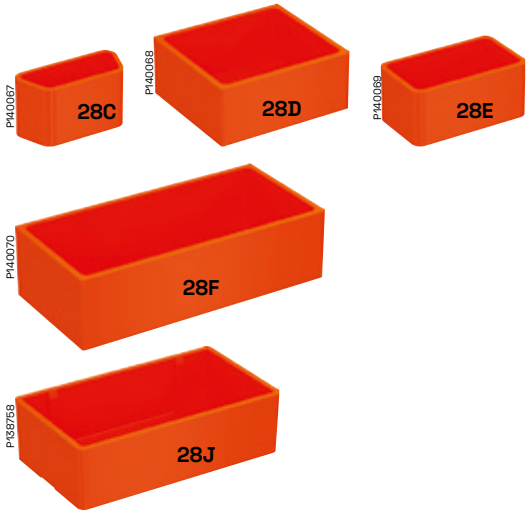

Mount End plug 28 in ladder ends as protection.

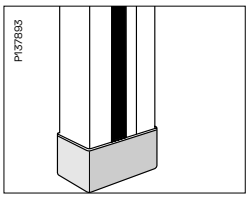



Mount End plug 28i inside the ladder ends for se- aling. Joining with Joint 19 or 21 can be made
with End plug 28i left in the ladders ends.

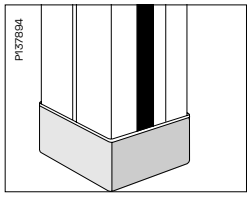
## End plug 28C, D, E, F and J

End plug to be mounted on pendant ends to provide protection against personal injury and to make the ends of the profiles more conspicuous.



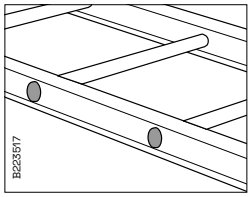

End plug **28C** fits Vertical piece 2 and Pendant/ Fixing rail 24/34.
End plug **28E** fits Vertical piece 2F and Pendant/ Fixing rail 24/48.




End plug **28D** fits Vertical piece 20 and Pendant/ Fixing rail 24/20.
End plug **28F** fits Vertical piece 20FS and Pendant/ Fixing rail 24/20FS.
End plug **28J** for Vertical piece 20F and Pendant/Fixing rail 24/20F

## Cross member plug 27

Cross member plug to be installed at the ends of the rungs of KHZ and KHZV. Used in premises with a high corrosion risk.

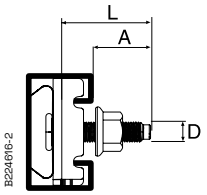



Mount Cross member plug 27 in KHZ and KHZV rung tube ends in pre- mises with high relative humidity where the risk of corrosion is high

# Use and installation

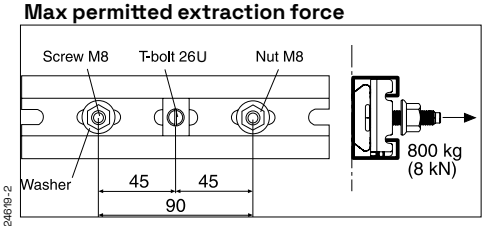
## T-bolt 26U

Easy to fit into the fixing rail. It is made to stick which makes it easier to mount and attach compared to a spring nut. It stays in place by itself even before it is fixed with the nut. To be used for the mounting of Cantilever arm 50 on Pendant/Fixing rail 24/48 and all vertical pieces except Vertical piece 2.

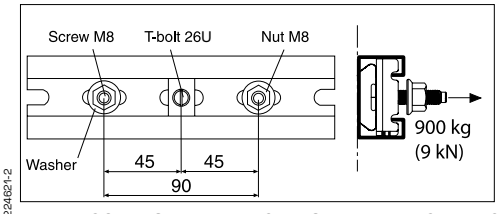



| Type | L mm | A mm |
|---|---|---|
| M8 | 34 | 23 |
| M10 | 34 | 23 |
| M10 | 44 | 33 |
| M10 | 54 | 43 |

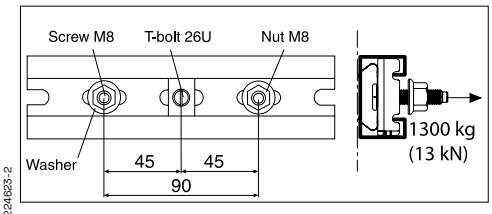
**Max permitted extraction force**




T-bolt 26U M8/M10 + P/F-rail 24/48 + Washer 8.4x19x1.5



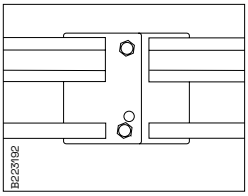

T-bolt 26U M8 + P/F-rail 24/48 + Washer 9x35x2



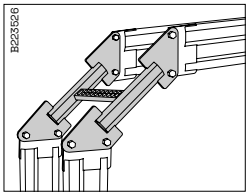

T-bolt 26U M10 + P/F-rail 24/48 + Washer 9x35x2

## Screw set M12

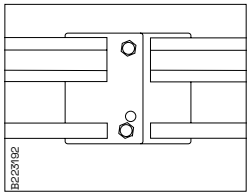
Screw set to be used for all joints with cable ladders KHZV and KHZPV.




For joining ladders.




For joints with Riser coupling 49.




For joints with 90° bend 55 and T-junctions 56.

# Use and installation

## Screw set 2S

Screw set to be used for fastening of Support bracket 3 on Pendant/fixing rail 24/20F and Angle bracket 5L to the opening on Pendant rail 24/34 and 24/48. Set including screw MVBF 8x40 and nut M6MF8.

## Screw set 20S

Screw set to be used for installation of Support bracket 3 on Pendant/fixing rail 24/20 and Vertical piece 20, Angle bracket 5L to the opening on Pendant rail 24/48 and 24/20. Set including screw MVBF 8x60 and nut M6MF8.

## Screw set 22S

Screw set to be used for installation of Support bracket 3 on Vertical piece 2 and 2F, Support bracket 3 and Ceiling bracket 5 on Pendant/fixing rails 24/34 and 24/48, Angle bracket 5L against the back of Pendant/fixing rails, Pendant/fixing rails back to back. Set including screw MVBF 8x16 and nut M6MF8.

## Screw set W34

Screw set to be used for the fastening of dividing strips on cable ladders KHZSP, KHZSPZ+, KHZPS and KHZPV. Set including screw MSCS 6x12 and nut M6MF 6.

## Screw set W37

Screw set including bolt MVBF 8x35 and nut M6MF 8, to be used for the installation of Support bracket 3 on Vertical piece 20F.

## Screw set M10 x 20

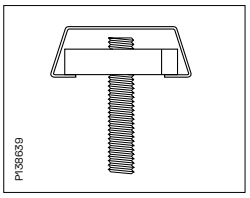
Screw to be used with Spring nut M10 for the installation of Cantilever arm 50 on Pendant/fixing rail 24/48.

## Spring nut M8/M10

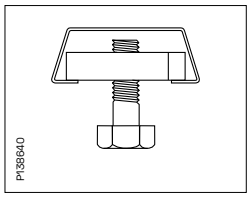
Spring nut to be used for fastening of accessories (control panels, etc.) on Pendant/fixing rail 24/48.

## Back nut M8

Back nut to be used for fastening of vertical pieces, etc., in the rungs of cable ladders KHZSP, KHZSPZ+, KHZP, KHZPS and KHZPV.




Mounting with Threaded rod M8 and Backnut M8 in the cable ladder rungs.




Pendants etc. are mounted with Bolt M8 and Back nut M8 in the rungs.

## Flange nut B43 M8, M10

Used for joining of Threaded rod W76 M8 and M10.

## Thread lock B50 M8, M10

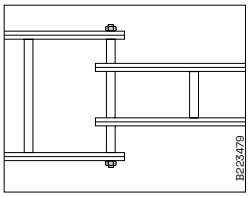
Used for joining of Threaded rod W76 M8 and M10.

# Use and installation

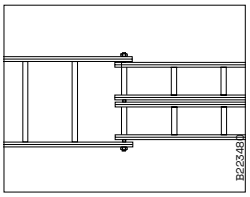
## Intermediate connection bolt 29

Intermediate connection bolt to be used at the transition from a broad to a narrower cable ladder KHZ.

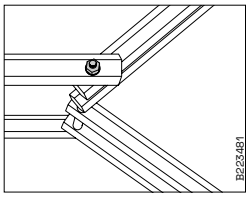
| Type | Bolt diam x length mm |
|---|---|
| Intermediate connection bolt 29/200 | M10 x 235 |
| Intermediate connection bolt 29/300 | M10 x 335 |
| Intermediate connection bolt 29/400 | M10 x 435 |
| Intermediate connection bolt 29/500 | M10 x 535 |
| Intermediate connection bolt 29/600 | M10 x 635 |



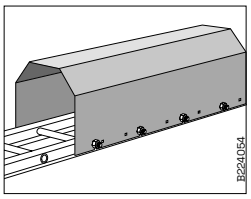

Intermediate connection bolts are used for chan- ging from a broad to a narrower ladder. The broader ladder's last rung is cut to permit the na- rrower ladder to fit in. The intermediate connection bolt is mounted through the rungs of the KHZ ladder.




Intermediate connection bolts can also be used for transition from one wide ladder to two narrower ones.

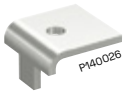



Intermediate connection bolt also permits forma- tion of angles.



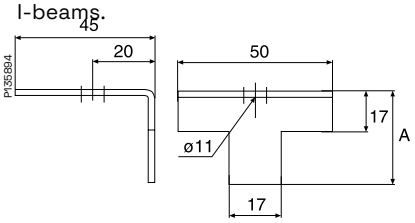

To be mounted on ladder KHZ with Intermediate connection bolt 29.

# Use and installation

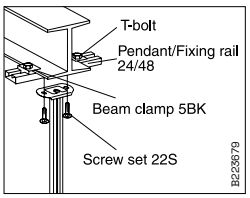



## Beam clamp 5BK

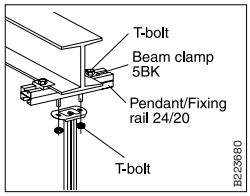
Beam clamp to be used for the installation of Vertical pieces 2, 2F or 20 on I-beams.




| Type | A mm |
|---|---|
| Beam clamp 5BK-10, for flange thickness max 13 mm | 30 |
| Beam clamp 5BK-30, for flange thickness max 14–30 mm | 50 |



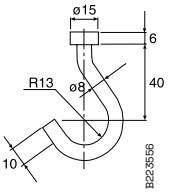

On ceiling beams, mount Vertical piece 2, 2F or 20 using 2 Beam clamps 5BK, Pendant/Fixing rail 24/48 and Screw set 22S. For Beam clamp 5BK-10, use T-bolt 26U/40. For Beam clamp 5BK-30, use T-bolt 26U/50.

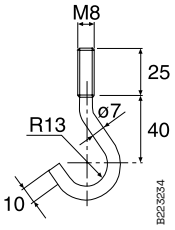



Alternatively, a Pendant/Fixing rail 24/20 may be used. This will require 4 T-bolts.

**Hot dip galv.**

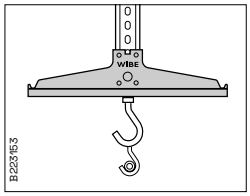
**AISI 316L**



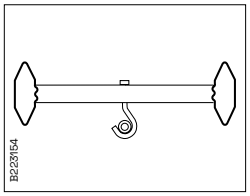




## Hook 8

Hook to be used for the installation of cables beneath Support bracket 3. Can also be installed in perforated rungs.



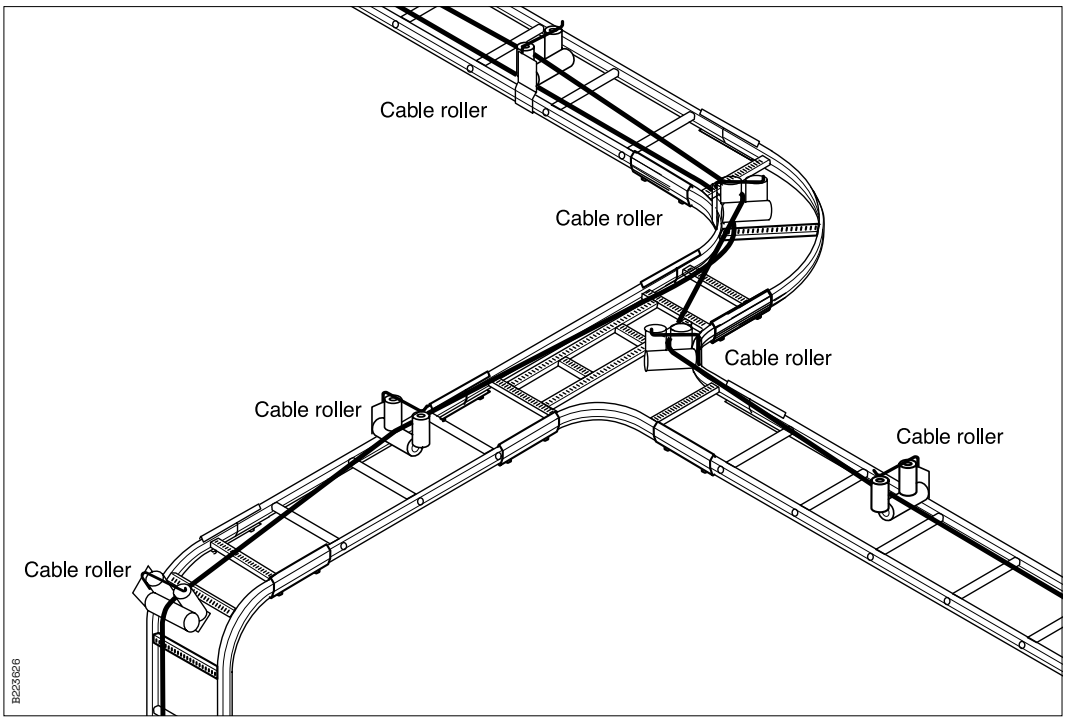

Hook 8 mounted beneath Support bracket 3 for installation of cables.



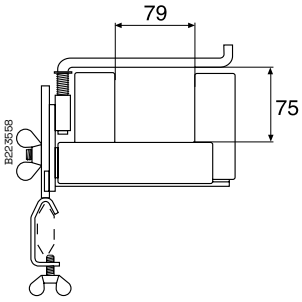

Hook 8 installed in a perforated rung.

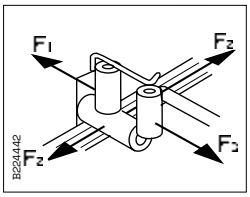
# Use and installation

## Cable roller S



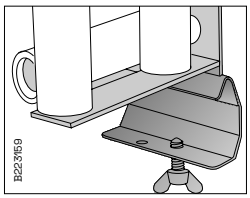

Cable roller used to facilitate the pulling of cables and lines. Easily installed on all Wibe cable ladders except the high-sided WHS ladders (outer mounting hole). Also suitable for external/internal profiles of all 900 bends, T-junctions, X-junctions and risers (inner mounting hole). With a height adjustment of 45 mm to leave room for cables to pass under the roller.



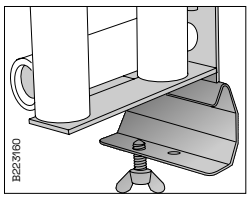




**Load**

Permitted loading $F_1$=100 kg (KHZ, KHZP, KHZV) 35 kg (KHZSP)
Permitted loading $F_2$=125 kg (KHZ, KHZP, KHZV) 35 kg (KHZSP)
Permitted loading $F_3$=100 kg (KHZ, KHZP, KHZV) 35 kg (KHZSP)




For fitting on 90°, T- and Xjunctions, use the inner mounting hole.

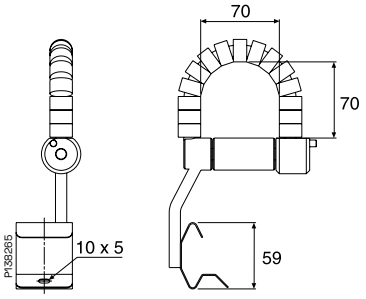


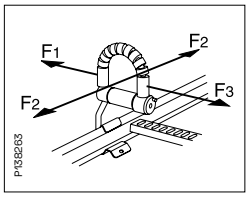

For mounting on ladders, use the outer mounting hole.

# Use and installation

## Cable roller 38 Rig'n roll

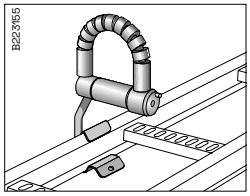
Cable roller used for mounting on Wibe cable ladders with belonging junctions and branches.



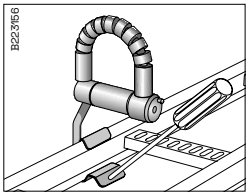




**Load**

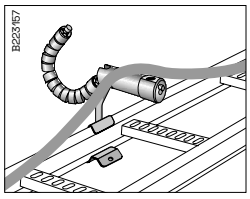
Permitted loading $F_1$ = 20 kg (KHZ, KHZP, KHZV, KHZSP)
Permitted loading $F_2$ = 50 kg (KHZ, KHZP, KHZV, KHZSP)
Permitted loading $F_3$ = 50 kg (KHZ, KHZP, KHZV)
25 kg (KHZSP)



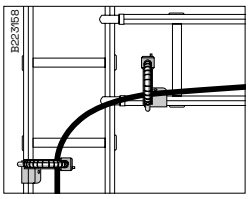

Cable roller 38 is to be mounted on the cable ladder profile.




Use a screw driver when dismantling the cable roller.




Open the cable roller by pressing the locking button and turn the loop aside.




The loop has rollers which make cable pulling over bends and junctions very easy.

## Appropriate tightening torque

| Part | Application | Tightening torque (Nm) |
|---|---|---|
| T-Bolt 26U+2F+Ca50i | Support system | M8: 15/M10: 25 |
| Screw set 2S+Pendant bar1+2F | Support system, front side of 2F | M8: 15/M10: 25 |
| Screw set 2S+Pendant bar1+2F | Support system, back side of 2F | M8: 15/M10: 25 |
| Screw set 20S+2F+(2)Ca50i | Balance application | M8: 15/M10: 25 |
| Screw set 22S+2F+Ca50i | Support system, back side of 2F | M8: 15/M10: 25 |
| 2FJ+24/48 | Extension application | M8: 15/M10: 25 |

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