

Cable Support Systems

Cable ladders



Index

	page		page		page
Bends		Cable clamp ER	122	Joints	
90° Bend 15	95	Cable clamp R	120	Dropper joint 32	88
90° Bend 55	102	Hook 8	118	Intermediate connection	
S-bend 67	99	Insert piece EM	121	bolt 29	87
		Profile clamp 41	91	Joint 19	86
Brackets		Profile clamp 42	40	Joint 21	86
Angle bracket 5L, 5LS	80	Profile clamp 43	40	Joint 45	100
Bracket 60/40	83			Joint 9	87
Clamp 12	118	Couplings		Pendant joint 2J, 2FJ, 20J	82
Combi bracket 53	74	Angle plate 33/1, 33/2	94	Reducer 31	88
End bracket HT-11	81	Coupling 22, 22E	89	Screw set M12	
End connection 10	90	Coupling 44	104	(KHZV/KHZPV)	103
Lighting bracket 200	103	Coupling 51	105		
Pendant bar 1	83	Fixed take-off hook 4	90	Junctions	
Profile support piece 46	101	Junction coupling 14	96	T-junction 16	96
Rail fixing support 24/20F,		Take-off hook 47	100	T-junction 56	102
24/20FS	77			X-junction 17	97
Rod bracket 82	42	Covers			
Wall bracket 11/25, 11/75	92	Cover W5	127	Junction box plates	
Wall bracket 20	78	Cover 90° bend	130	Earth clamp W79	107
Wall bracket 20F	78	Cover clamp	129	Junction box plate 35P	106
Wall bracket 80	31	Cover joint	128	Junction box plate 35S	107
		Cover T-junction	131		
Cable ladders		Profile support piece 37	129	Lashing wires	
Cable ladder view	4 – 6			Lashing wire	115
Cable ladder KHZ	24	Cover plates			
Cable ladder KHZP	25	Cover 64	114	Marking plates	
Cable ladder KHZPS	23	Cover plate 65	114	Marking plate 93	126
Cable ladder KHZPV	27	Junction box cover	115		
Cable ladder KHZSP	21	Protecting cover	132	Mesh trays	
Cable ladder KHZSPZ	22			Ceiling bracket WN16	84
Cable ladder KHZV	26	Dividers		Ceiling mesh tray WN2	84
		Cable divider 52	113	Fixing tray N for casting-in	117
Cable rollers		Distance piece W39	113		
Cable roller 38 Rig'n roll	125	Dividing strip 39	112	Mounting rails	
Cable roller S	124			Mounting rail 40	41
Cable roller set 66	125	End plugs		Mounting rail WMS25	123
		Cross member plug 27	92		
Cantilever arms		End plug 28, 28i	93	Paint	
Cantilever arm 30	37	End plug 28C,D,E,F	94	Anti-corrosive paint	
Cantilever arm 50L, 50, 50F	38	End plug 7	35	"Galvafruid"	126
Cantilever arm 80	30	Profile protection 28P	93	Repair paint	126
Cantilever arm 81	36				
		Fixings		Pendant/Fixing rails	
Cantilever arms		Concrete screws	146	Fixing rail 24/26x53 for	
- accessories		Expansion bolts	144	casting-in	65
Back plate 40	41			Fixing rail JSA 24/26x48 for	
Mounting rail 40	41	Installation examples		casting-in	65
Wall bracket 80	31	Cable ladders	162	Pendant/Fixing rail 24/20	66
		Frame installations	161	Pendant/Fixing rail 24/20F	67
Ceiling brackets				Pendant/Fixing rail 24/20FS	68
Beam clamp 5BK	71	Installation summeries		Pendant/Fixing rail 24/34	62
Ceiling bracket 5	70	KHZ	16 – 17	Pendant/Fixing rail 24/40	63
Ceiling bracket 5TP	72	KHZP	16 – 17	Pendant/Fixing rail 24/48	64
Ceiling bracket 5TPA	73	KHZPS	16 – 17	Pendant/Fixing rail 7, 7L	34
Ceiling bracket 7	35	KHZPV	18 – 19		
Ceiling bracket TF-10, TF-16	69	KHZSP, KHZSPZ	16 – 17	Risers	
Pendant base plate 520	71	KHZV	18 – 19	Riser 18	98
		Suspension components	28 – 29	Riser coupling 49	101
Ceiling plates				Round bar fixings	
Ceiling plate 20F	79	Installation plates		Round bar fixing for ceilings	75
Ceiling plate 20FS	79	Installation plate 60	109	Round bar fixing for floors	76
		Installation plate 61	111	Round bar fixing for walls	76
Clamps		Installation plate 62	110	View Round bar fixings	75
Cable clamp A	119	Mounting plate 63	108		
				Screw sets	
				Back nut M8	141
				Clamp set M6	142
				Expansion bolts	144
				Screw M10x20	141
				Screw set 2S	140
				Screw set 20S	140
				Screw set 22S	140
				Screw set M12 (joint KHZV/	
				KHZPV)	103
				Screw set W34	140
				Spring nut M8, M10	141
				T-bolt 26, 26F	143
				Steel wire installation system HT	
				Angle bracket 5L	134
				Carrying bracket HT-152	136
				Carrying bracket HT-31	135
				Carrying bracket HT-33/34	136
				Carrying sling HT-51	137
				End bracket HT-11	134
				Pipe HT-68, HTR-68	137
				Steel wire	133
				Tightening loop HT	138
				Wall bracket HT-14	135
				Support brackets	
				Support bracket 3	44
				Support bracket 6	48
				Support bracket HO	47
				Support bracket HSO	46
				Surface treatment	
				Corrosion classes	7
				Current load of cables	9
				Environment/Quality	10
				Installation regulations	9
				Potential balancing	13
				Product certificates	11 – 12
				Surface treatments	8 – 9
				Tele-conduits	
				Tele-conduit 36	116
				Vertical pieces	
				Threaded rod M10 W76	50
				Vertical piece 2	52
				Vertical piece 2F	54
				Vertical piece FPK	51
				Vertical piece 20	56
				Vertical piece 20F	58
				Vertical piece 20FS	60
				Vertical piece 7L and 7	32

Cable ladders – view		4
Corrosion classes		7
Surface treatments, Environment/quality, Product certificates, Potential balancing		8
Installation summaries KHZSP, KHZSPZ, KHZPS, KHZ, KHZP and KHZV, KHZPV		16-17 o 18-19
Cable ladders KHZSP, KHZSPZ, KHZPS, KHZ, KHZP, KHZV/KHZPV		21
Installation summary – Suspension components		28-29
Cantilever arms, Vertical piece 7/7L, Back plates Mount.rails, Profile clamps		30
Support bracket 3, HSO, -6,		34
Threaded rod M10 W76, Vertical pieces		50
Pendant/Fixing rails		62
Ceiling brackets		69
Round bar fixings, Wall brackets, Ceiling plates		75
Angle/end brackets, Pendant joints/bar, Ceiling mesh tray		80
Joints, Couplings		86
Details for KHZV, KHZPV		100
Junction box plates, Installation plates, Cable dividers		106
Covers, Tele-conduit, Fixing tray N for casting-in		114
Cable clamps, Cable rollers		119
Covers and Accessories		127
Steel wire system HT		133
Screw sets		142
Expansion bolts, Concrete screws		144
Frame installations, Installation examples - cable ladders		161



Wibe in Mora, Sweden

Wibe - a company within Schneider Electric - was the first producer of cable ladders in Sweden and has for more than 80 years been the market leader and foremost in the development of new products and systems.

Today we produce a wide programme for cable supports offering:

- Cable ladders
- Cable trays
- Mesh trays
- Lighting trunking
- Carrier system for light cables
- Installation rails and channels

Wibe has the unique advantage of being able to offer you a cable support system for each specific building sector, all from one source.

Wibe produces more than 2 million metres of cable ladder each year at our modern, 18 000 m² factory in Mora.

Our own hot dip galvanizing plant is one of the most modern in Northern Europe and has a capacity of 90 tons a day, close by is the painting plant which is one of the most advanced plants for powder coating in the world.

Wibe can offer you coatings to meet most of your corrosion protection requirements coupled with the colour of your choice.

When it comes to know how and service our resources are at your disposal to help you find the best solution. Our sales organisation in partnership with distributors and stockists all over the world guarantee you speedy deliveries.

Masts for communication and lighting have been manufactured by Wibe since the mid 40's and the company offers a wide range of guyed and unguyed masts from 3 to 300 meters and telescopic masts from 9 to 27 meters.

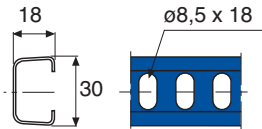
The masts are technically advanced, thoroughly tested constructions for radio and telecommunication, radio and telephonic links, lighting installations etc.

Wibe has the resources for qualified projection, calculation and construction, our installation teams have experience gained from installations of Wibe-masts in all kinds of climate around the world.



KHZ
SP

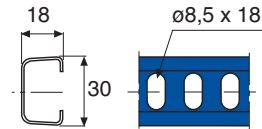
KHZSP-KHZSPZ



Length	3,4,6 m
Width	200-600 mm
Pre-galvanized	
Hot dip galvanized	
Zinkpox® coated white	
Stainless steel AISI 316L	

KHZ
PS

KHZPS

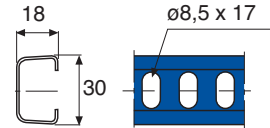


Length	6 m
Width	150-1000 mm
Pre-galvanized	
Hot dip galvanized	
Zinkpox® coated white	
Stainless steel AISI 316L	

KHZ KHZ®



KHZ P KHZP®

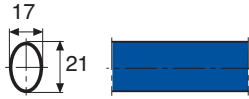


Length	6 m
Width	150-600 mm
Pre-galvanized	
Hot dip galvanized	
Zinkpox® coated white	
Stainless steel AISI 316L	

Length	3, 6 m
Width	150-1000 mm
Pre-galvanized	
Hot dip galvanized	
Zinkpox® coated white	
Stainless steel AISI 316L	

KHZ
V

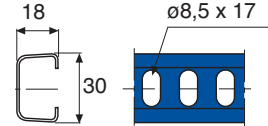
KHZV



Length	6 m
Width	200-600 mm
Pre-galvanized	
Hot dip galvanized	
Zinkpox® coated white	
Stainless steel AISI 316L	

KHZ
PV

KHZPV



Length	6 m
Width	200-1000 mm
Pre-galvanized	
Hot dip galvanized	
Zinkpox® coated white	
Stainless steel 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.

To achieve this, several corrosion classes have been drawn up in accordance with BSK99.

The table below shows various corrosion classes. As a guide, we have included the surface treatment recommended by Wibe 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-C5-M) as shown in table 1:23a. Reference values for the average level of corrosion in steel and zinc are given in table 1:23c. The corrosion classes comply with those stipulated in SS-EN ISO 12944-2.

Table 1:23a

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)		Recommended min. surface treatment
		Outdoors	Indoors	Wibe designations
C1	Very low	–	Heated areas with arid atmosphere and insignificant quantities of pollutant, e.g. offices, shops, schools and hotels.	Electro-galvanised
C2	Low	Atmospheres with low levels of airborne pollution. Rural areas.	Non-heated areas with fluctuating levels of temperature and humidity. Few instances of condensation and low levels of airborne pollution, e.g. sports halls and warehouses.	Pre-galvanised Z 275 in accordance with SS-EN 10142
C3	Average	Atmospheres containing some salt or average levels of airborne pollution. Urban and light industrial areas. Areas affected by coastal conditions.	Areas with average levels of humidity and some airborne pollution resulting from production processes, e.g. breweries, dairies, laundries.	Hot dip galvanised after manufacture in accordance with SS-EN ISO 1461
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 experience as the result of production processes, e.g. chemical plants, swimming pools and dockyards.	Hot dip galvanised after manufacture in accordance with SS-EN ISO 1461
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.	Zinkpox® Hot dip galv+powder coating Stainless steel SS2333 AISI 304
C5-M	Very high (marine)	Coastal and offshore areas with high salt content.	Areas with almost permanent condensation and large quantities of airborne pollution.	Stainless steel SS2348 AISI 316L

Table 1:23c

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/m ²)	Thickness reduction (µm)	Mass loss (g/m ²)	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.

Electro-galvanized Fzb

Some of Wibe's products are electro-galvanized in accordance with ISO 2081. Such products are intended for use only in warm, dry areas with negligible pollutant levels.

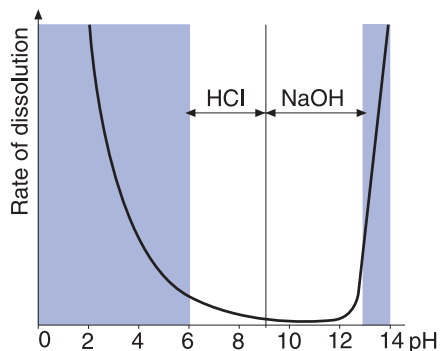
Pre-galvanized Fzs

Products are manufactured from Z 275 pre-galvanized sheet steel in accordance with SS-EN 10142. Surface sections created during cutting and drilling will, under normal conditions, repair themselves, providing the plant with superb anti-corrosion protection.

Hot dip galvanized Fzv

Wibe 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.

Once manufactured products are hot dip galvanized in accordance with SS-EN ISO 1461 whilst nuts and bolts are hot dip galvanized in accordance with SS-EN ISO 10684:2004. 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.



The rate of dissolution is determined by the pH value of pure zinc in distilled oxygenated water that has been pH adjusted to various levels using HCl or NaOH.

NB The curve only applies to conditions shown, and gives only an indication of the propensity for corrosion without consideration to time.

Zinkpox®

The Zinkpox method involves the coating of the zinc layer with a homogenous covering of epoxy/polyester. Epoxy/polyester is a plastic paint that displays the greatest resistance to most chemicals. The layer of zinc on the steel prevents the formation of underfilm corrosion, which is a contributing factor in paint degradation.

The paint layer is only affected by atmospheric erosion.

The zinc layer only deteriorates once the paint has been eroded, and this gives you considerable breathing room before the steel is subject to attack.

By using this treatment process, the life expectancy of the product is more than double that had it only been treated using hot dip galvanization.

In addition to providing excellent anti-corrosion protection, Zinkpox also allows freedom of choice as regards product colour. Powder coating is an extremely environmentally friendly finishing method. The pigment contains no solvents and has, to a great extent, replaced wet finishes.

In the case of visible cable ladder installations, both ladders and accessories can be painted in colours matching the décor of their surroundings.

Modern painting plant produces perfect results

Carefully and thoroughly pre-treating of galvanized products is the cornerstone of achieving perfect adhesion. We employ a nine-stage process, consisting of alkaline degreasing, rinsing, rinsing, activation, zinc-manganese phosphatising, rinsing, rinsing, passivation and rinsing with de-ionised water. Immediately after the pre-treatment process, products are dried in a tunnel oven and are then powder coated by an electronically controlled robot, guaranteeing that all components are treated perfectly. Finally, the coating is cured in a 24-section tunnel oven, the temperature in each section being regulated in a stepless manner, producing a perfect hardening curve. At no stage in the process does a human hand touch any of the products. Instead, they are moved between the various stages using a 355-metre long electronically controlled conveyor belt. A perfect result! The surface is now resistant to both scratches and impact.

Colour schemes

As standard, cable ladders and accessories are painted white RAL9010 Gloss 80. Other colours of your choice can also be offered. If the powder-coated surface is broken, e.g. when cutting during mounting, repair paint for minor damages can be supplied.

Quality – Epoxy/polyester

(very high chemical tolerance)

Zinc

Epoxy/polyester.....(min 70 µm)

Lustre (ISO 2813).....80

Finish (ISO 1519).....6 mm

Cross hatch (ISO 2409)

Erichsen test (ISO 1520)....8 mm

Stainless steel

Wibe stainless steel products, manufactured in accordance with SS 2333/AISI 304, or in accordance with SS 2348/AISI 316L, 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 fertiliser 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 pharmaceuticals 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.

Factors to consider when installing Stainless Steel Cable Ladder Systems

1. Transport/handling

Make sure that no iron objects come into contact with the stainless steel products.

2. Storing

Never store stainless steel products near 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!

into consideration.

5. Measures

If a blue annealing appears when cutting, grinding or drilling, remove 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:

- Washing away with water (high pressure if possible).
- Polishing with a cleaning cloth or a fine emery paper (wet or dry) and washing with water.
- Grinding with a fine-grained wheel and washing with water.
- 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 Ladder

The installation of cables on ladders comes within the IEE Regulations for Electrical Installations.

Because Wibe ladder has rungs which occupy less than 10% of the plan area under the cables, the installation is defined as cables in "free air" (Method 12 of Table 9A of the IEE Regulations).

Cable spaces in accordance with Method 12 do not require any de-rating factor for installation.

Cables touching must be de-rated in accordance with table 9B.

Extract from table 9B

Method of installation	Correction Factor Cg Number of circuits of multicore cables							
	2	3	4	5	6	7	8	9
Single layer multicore touching on ladder supports	0.86	0.82	0.80	0.79	0.78	0.78	0.78	0.77

Installation of Cable Ladder

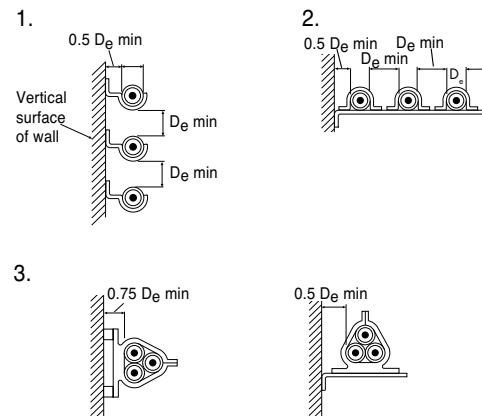
The installation of cable ladder is a structural steel support design question which does not have any regulations. Full design data is given in the Wibe data sheets in this catalogue showing all maximum and recommended loadings.

Any support system which is supported at intervals and loaded will deflect between the support intervals. Graphs are given in this catalogue to show the deflection against loading for various support distances.

Extract from table 9A

Sheathed single-core cables in free air (any supporting metalwork under the cables occupying less than 10% of the plan area):

- Two or three cables vertically one above the other, distance between cables equal to the overall cable diameter (D_e): Distance from the wall not less than $0.5 D_e$.
- Two or three cables horizontally, with spacings as above.
- Three cables in trefail, distance between wall and surface of nearest cable $0.5 D_e$ or nearest cables $0.75 D_e$.



Current load of cables

Installation instructions

Installation

The ladders and trays shall 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 and trays for current carrying cables along the ceiling shall be installed in such a way that the distance from the top of the ladder or tray to the ceiling shall not be less than 300 mm.

The free vertical distance between parallel ladders and trays shall be at least 200 mm.

Ladders and trays near walls shall 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 and trays along partition walls shall be installed with minimum free distance of 100 mm to the wall.

Sharp edges and screw ends on ladders or trays should be removed before the cables can be installed.

Expansion bolts for the installation of brackets/fixings shall be installed with such a distance between them, that the designated load for ladders and trays will not be exceeded. When selecting the

distance between cantilever arms or brackets/fixings, the bearing strength and designated load of the ladders and trays must be taken

Reinforced heavy duty cable ladders

Ladders shall be designed for a uniform load of at least 600 N per 1000 mm ladder length with a distance of 6000 mm between brackets/fixings. They shall also be able to carry an occasional point load as to the heavy duty ladders.

Heavy duty cable ladders, cable trays

Ladders and trays shall be designed for a uniform load of at least 200 N per 1000 mm ladder length and 100 mm width with a distance of 2000 mm between brackets/fixings. They shall also be able to carry an occasional point load of 1000 N with a double safety factor measured between supporting points 3 and 4 when using an installation with six supporting points.

Light duty cable ladders, cable trays

Ladders and trays shall be designed for a uniform load of at least 100 N per 1000 mm ladder length and 100 mm width with a distance of 2000 mm between brackets/fixings.

Environmental policy and certification

Environmental product declarations are available for all Wibe products.

These can be ordered direct from Wibe.

Declarations may also be downloaded from the Wibe website at www.wibe.com

Our product sheets and brochures are marked successively with the name of the environmental document (WEF-0001-).

Environmental policy

AB Wibe shall actively strive to minimise any negative impact its operations may have on the environment.

Besides working in a way that prevents pollution, we shall also ensure that, given Wibe's production and quality requirements, the most environment-friendly solutions are always chosen. All of this shall be within a framework of continual improvement.

Our environmental initiatives shall go beyond what is required by legislation.

In its work for the environment, Wibe shall maintain suitable dialogues and collaborations with all interested parties.

The environmental policy shall always be available to the public.

The company's environmental reviews shall be the base on which our environmental goals and programmes are founded.

We shall achieve the above by:

- Ensuring that, throughout manufacture and design, full attention is paid to ecological considerations, quality requirements, health factors and environmental sustainability
- Setting up environment-focused collaborations with suppliers and customers
- Giving training on our environmental initiatives and promoting staff involvement
- Maximising efficiency in the use of energy and raw materials
- Minimising the production of waste that cannot be recycled within our operations
- Ensuring that chemicals and dangerous waste are handled in the best possible manner
- Continuously evaluating the success of our initiatives

Management system - Quality and Environment



Wibe has a third-party certified management system for quality and environment in accordance with ISO 9001:2000 and ISO 14001:1996.

CE-marking of products

is placed on the product or on the packing according to "Declaration of Conformity" (D o C), applicable to Wibe Cable ladders, Cable trays and Lighting trunkings.

EMC directive 89/336 EEC

Above mentioned products are neutral according to the EMC directive 89/336 EEC.

Low voltage directive 73/23 EEC

According to the low voltage directive we refer to:

SFS 1993:1068 Regulations concerning electrical material.

SFS 1993:1068 General obligations regarding electrical material.

Wibe fulfils the demands according to the harmonized standard SS-EN 6153 Edition 1:2002.

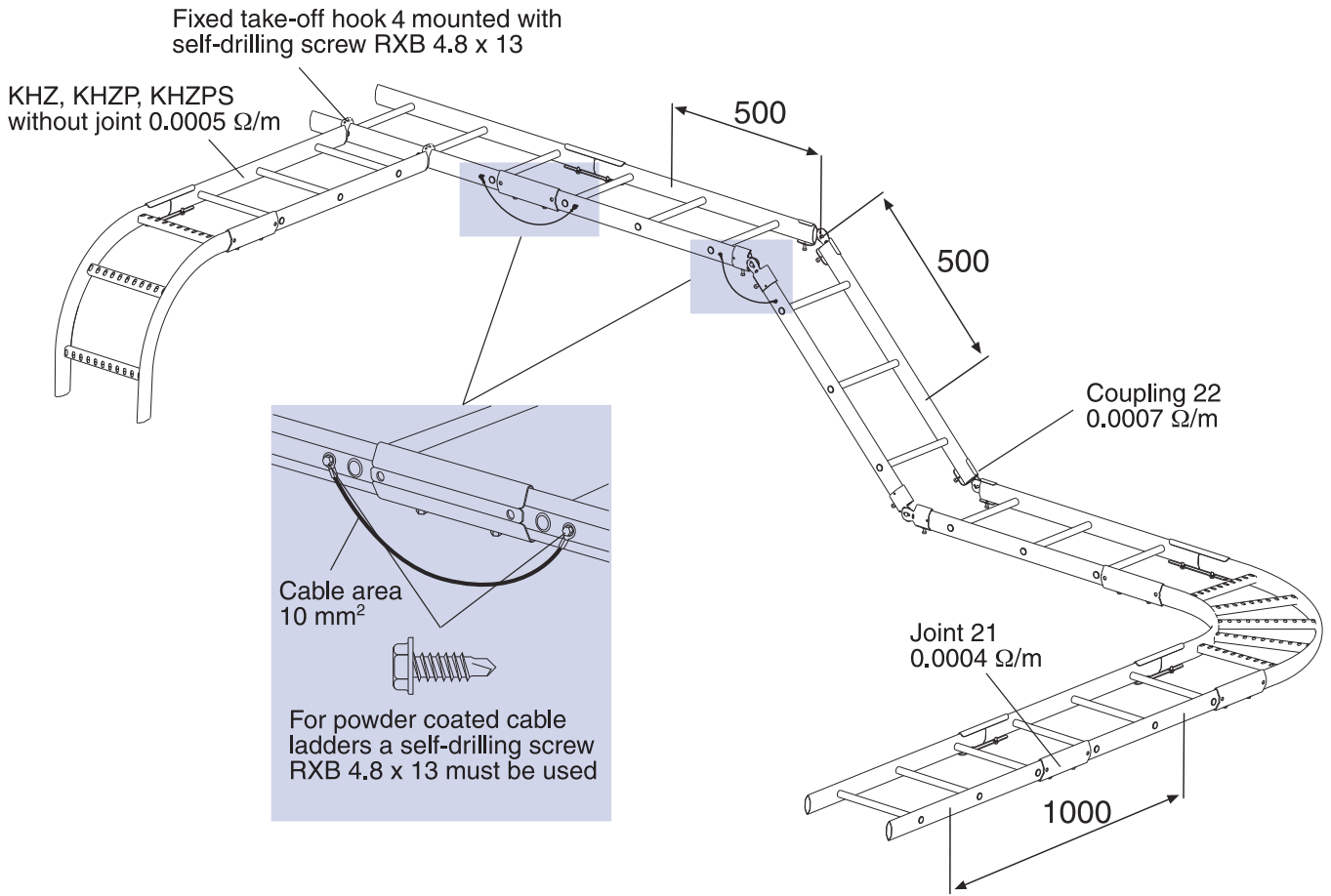




Potential balancing

Resistance testing of Wibe cable ladders has been performed by the Swedish National Testing & Research Institute in Borås and Wibe test laboratory.

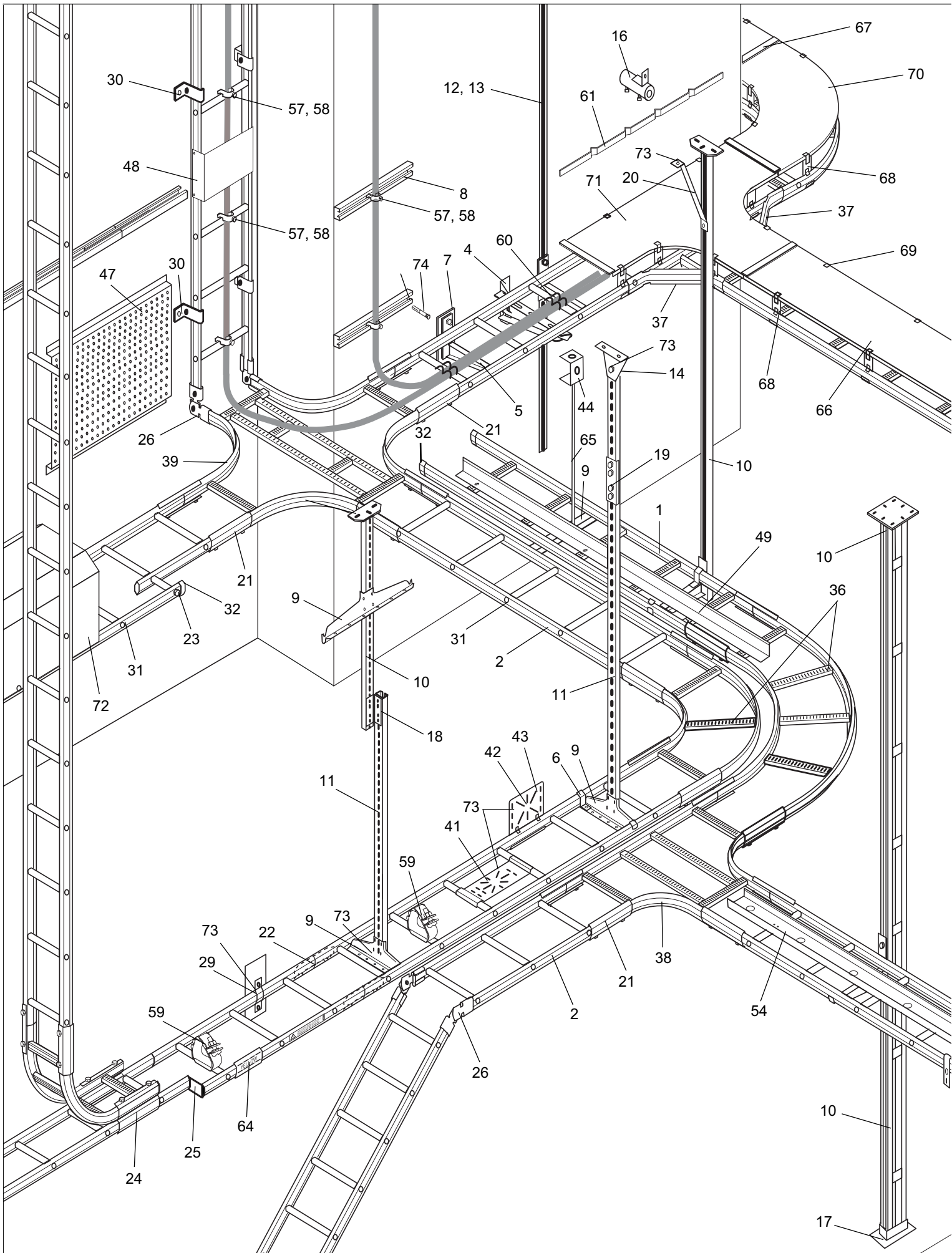
The tests have been carried out according to SS-EN 61537, IEC 61537 and EL-AMA SBD 2.

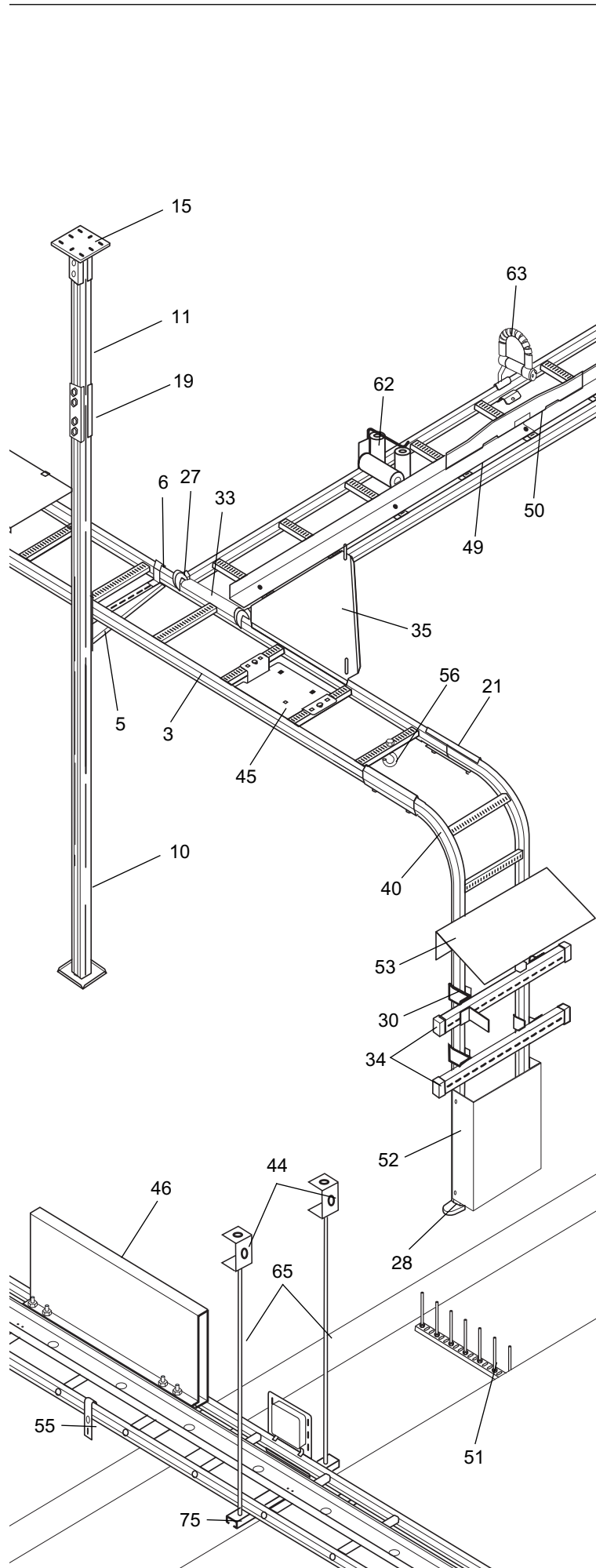


Product		Ohm/m
Cable Ladder KHZSP without joint, pre-galvanized		0.00089
Cable Ladder KHZSP with Joint 19, pre-galvanized		0.00100
Cable Ladder KHZSP with Coupling 22/22E, pre-galvanized		0.00160
Cable Ladder KHZ/KHZP without joint, hot dip galvanized		0.00050
Cable Ladder KHZ/KHZP with Joint 21, hot dip galvanized		0.00040
Cable Ladder KHZ/KHZP with Coupling 22/22E, 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



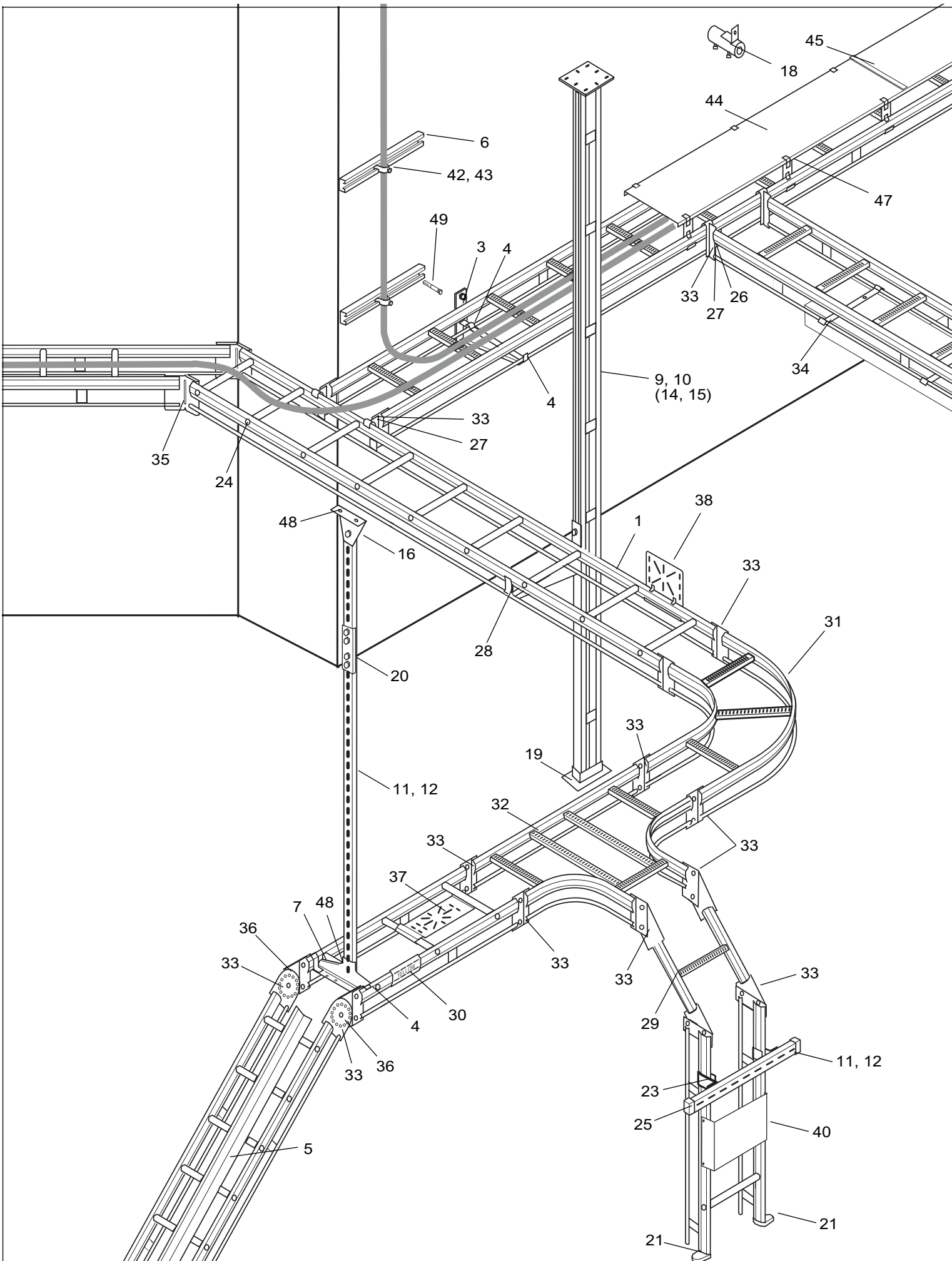


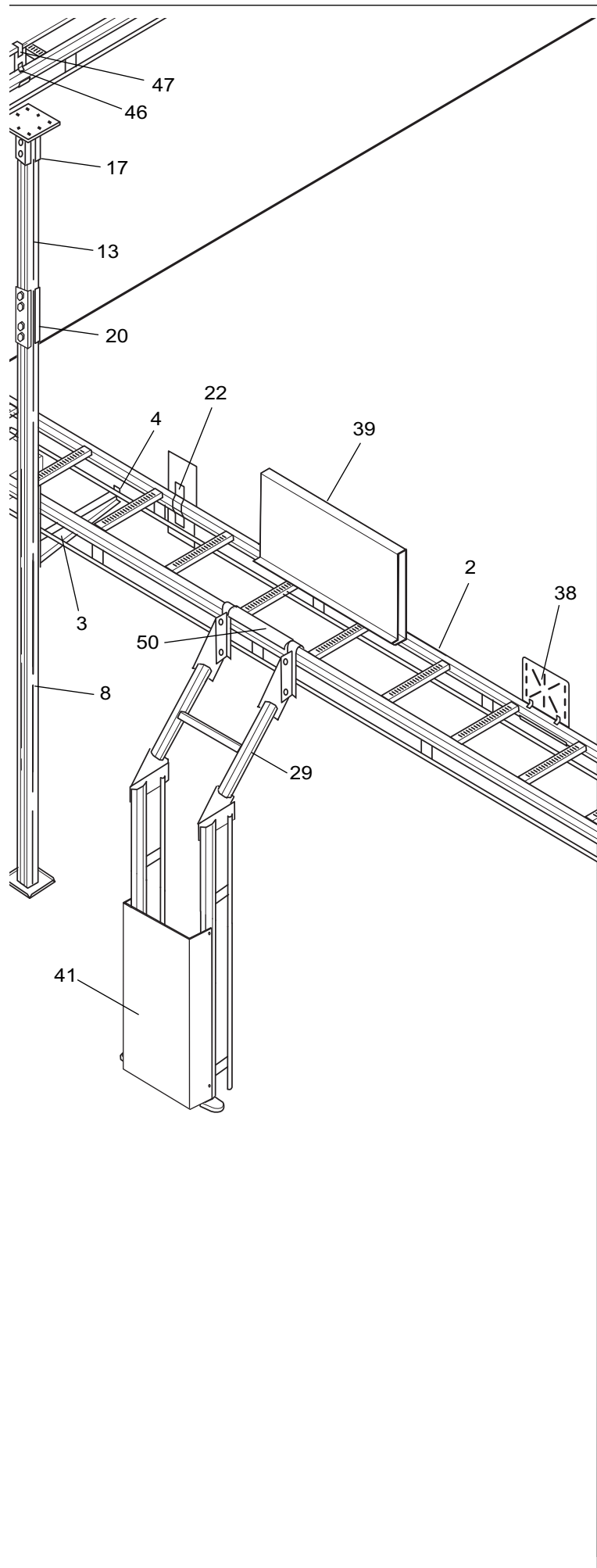




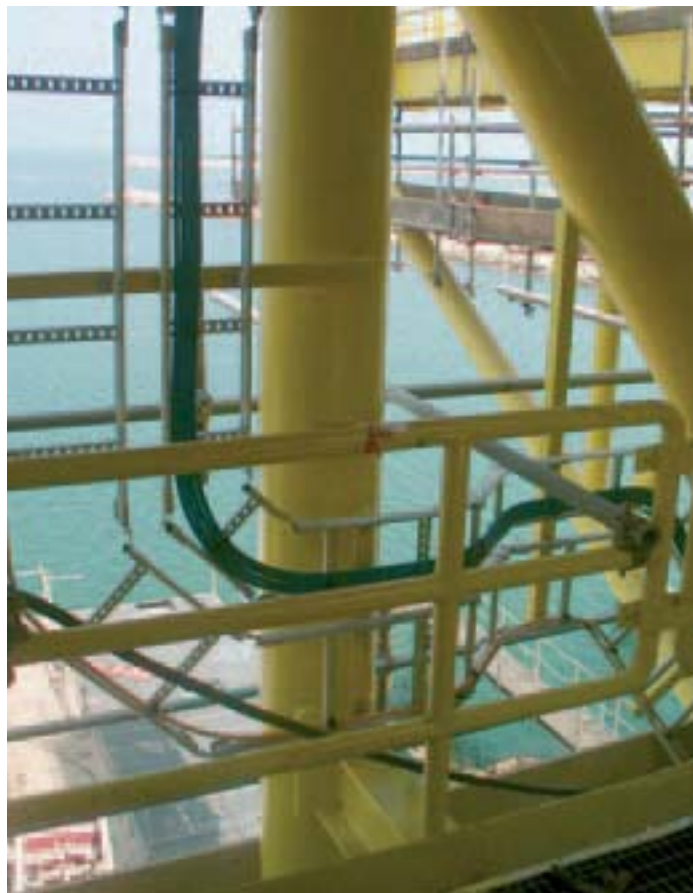
Components

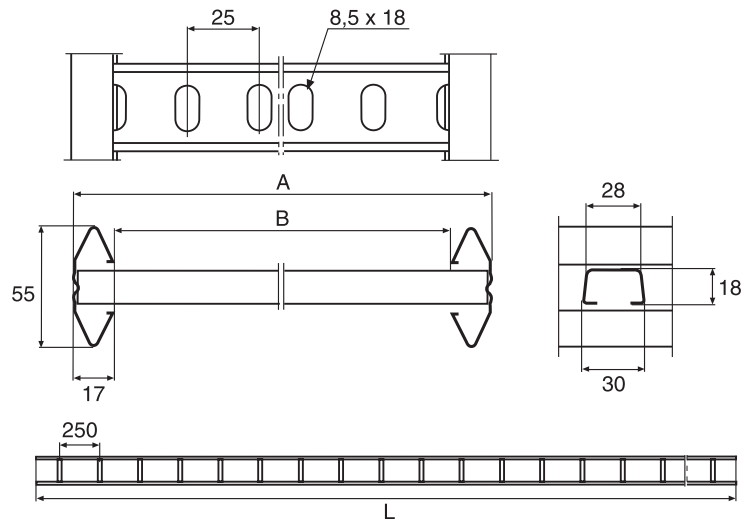
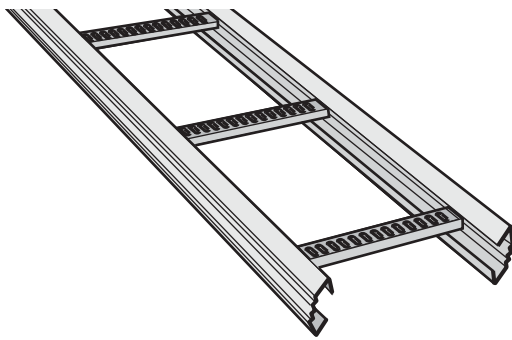
Component No.	Description	Page
1	Cable ladder KHZSP, KHZSPZ	21-22
2	Cable ladder KHZ	24
3	Cable ladder KHZPS, KHZP	23,25
4	Cantilever arm 81	36
5	Cantilever arm 50, 50L, 50F	38
6	Profile clamp 42	40
7	Back plate 40	41
8	Mounting rail 40	41
9	Support bracket 3, Support bracket 6	44,48
10	Vertical pieces	51-61
11	Pendant/Fixing rails	62-68
12	Fixing rail 24/26x53 for casting-in	65
13	Fixing rail JSA 24/26x40 for casting-in	65
14	Ceiling bracket 5	70
15	Pendant base plate 520	71
16	Round bar fixings(ceiling,wall,floor)	75,76
17	Rail fixing support 24/20F, 24/20FS	77
18	End bracket HT-11	81
19	Pendant joint 2J, 2FJ, 20J	82
20	Pendant bar 1	83
21	Joint 19, 21	86
22	Joint 9	87
23	Intermediate connection bolt 29	87
24	Dropper joint 32	88
25	Reducer 31	88
26	Coupling 22, 22E	89
27	Fixed take-off hook 4	90
28	End connection 10	90
29	Profile clamp 41	91
30	Wall bracket 11/25, 11/75	92
31	Cross member plug 27	92
32	End plug 28, 28i	93
33	Profile protection 28P	93
34	End plug 28E, 28D, 28C, 28F	94
35	Angle plate 33/1, 33/2	94
36	90° bend 15	95
37	Junction coupling 14	96
38	T-junction 16	96
39	X-junction 17	97
40	Riser 18	98
41	Junction box plate 35P	106
42	Junction box plate 35S	107
43	Earth clamp W79	107
44	Ceiling bracket TF10 and TF16	69
45	Mounting plate 63	108
46	Installation plate 60	109
47	Installation plate 62	110
48	Installation plate 61	111
49	Dividing strip 39	112
50	Distance piece W39	113
51	Cable divider 52	113
52	Cover plate 65	114
53	Junction box cover	115
54	Tele-conduit 36	116
55	Clamp 12	118
56	Hook 8	118
57	Cable clamp A and R	119-120
58	Insert piece EM	121
59	Cable clamp ER	122
60	Lashing wire	115
61	Mounting rail WMS25	123
62	Cable roller S	124
63	Cable roller 38 Rig'n roll/Cable roller set 66	125
64	Marking plate 93	126
65	Threaded rod M10W76	50
66	Cover W5	127
67	Cover joint	128
68	Profile support piece 37	129
69	Cover clamp	129
70	Cover 90° bend	130
71	Cover T-junction	131
72	Protecting cover	132
73	Screw sets	140-143
74	Expansion bolts	144
75	Support bracket HSO	46
	Fixings-concrete screws	146-160
	Fixing tray N for casting-in	117





Components	Page
1 Cable ladder KHZV	26
2 Cable ladder KHZPV	27
3 Cantilever arm 50F	38
4 Profile clamp 43	40
5 Dividing strip 39	112
6 Mounting rail 40	41
7 Support bracket 3	44
8 Vertical piece 20	56
9 Vertical piece 20F	58
10 Vertical piece 20FS	60
11 Pendant/Fixing rail 24/40	63
12 Pendant/Fixing rail 24/48	64
13 Pendant/Fixing rail 24/20	66
14 Pendant/Fixing rail 24/20F	67
15 Pendant/Fixing rail 24/20FS	68
16 Ceiling bracket 5	70
17 Pendant base plate 520	71
18 Round bar fixings (ceiling, wall, floor)	75-76
19 Rail fixing support 24/20F, 24/20FS	77
20 Pendant joint 2J, 2 FJ, 20J	82
21 End connection 10	90
22 Profile clamp 41	91
23 Wall bracket 11/25, 11/75	92
24 Cross member plug 27	92
25 End plug 28E, 28D, 28C, 28F	94
26 Joint 45	100
27 Take-off hook 47	100
28 Profile support piece 46	101
29 Riser coupling 49	101
30 Marking plate 93	126
31 90° bend 55	102
32 T-junction 56	102
33 Screw set M12	103
34 Lighting bracket 200	103
35 Coupling 44	104
36 Coupling 51	105
37 Junction box plate 35P	106
38 Junction box plate 35S	107
39 Installation plate 60	109
40 Installation plate 61	111
41 Cover plate 65	114
42 Cable clamp A and R	119
43 Insert piece EM	121
44 Cover W5	127
45 Cover joint	128
46 Profile support piece 37	129
47 Cover clamp	129
48 Screw sets	140-143
49 Expansion bolts	144
50 Profile protection 28P	93
Fixings - concrete screws	146-160





	A	B	L=6 m Pre-galv. Part.No. C*	L=4 m Pre-galv. Part.No. C*	L=3 m Pre-galv. Part.No. C*	Weight kg 100 m
	mm	mm				
KHZSP-200	198	164	734488 8	718572 6	783155 5	198
KHZSP-300	298	264	734489 5	718573 3	783156 2	217
KHZSP-400	398	364	734490 1	718574 0	783157 9	237
KHZSP-500	498	464	734491 8	718575 7	783158 6	257
KHZSP-600	598	564	734492 5	718576 4	783159 3	277

* EAN-code=732167+Part.no+C (control figure)

The cable ladders must not be used as walkways.

Applications

Hospitals, public buildings, schools, storage buildings, small industries, department stores, offices... wherever there are dry environments.

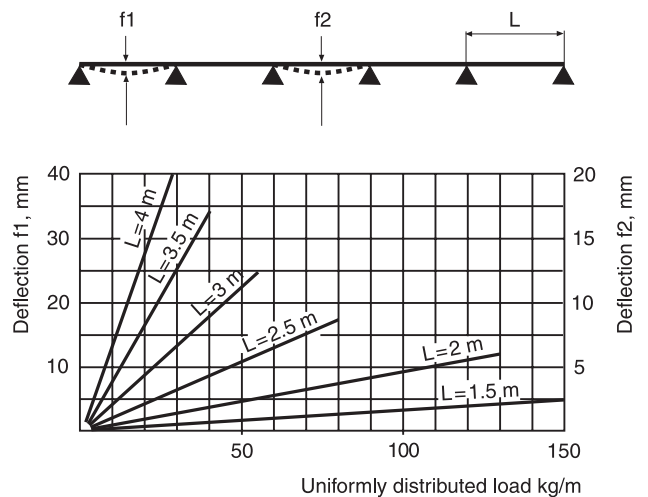
Going through a fire wall

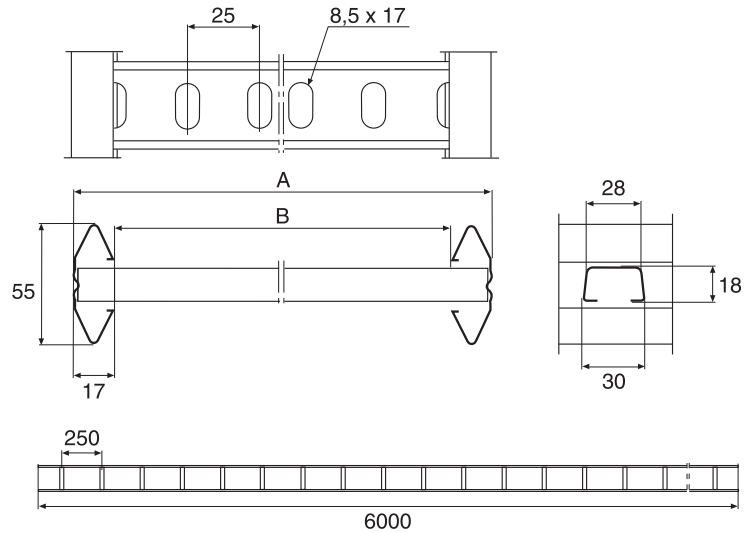
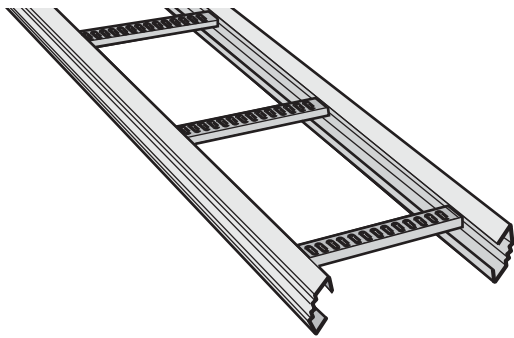
When passing through a fire wall, the ladder must be cut on either side of the fire barrier.

Loadings

f1 shows the deflection for an end span and f2 the deflection for a middle span with bracket spacing as shown.

If Joint 19 is used, the deflection will be as shown in the diagram. When using Joint 9 in the middle of a span, the deflection will be approx. 3 times larger.





	A	B	Hot dip galv. Part.No. C*	Weight kg 100 m
KHZSPZ-200	198	164	734494 9	200
KHZSPZ-300	298	264	734495 6	220
KHZSPZ-400	398	364	734496 3	240
KHZSPZ-500	498	464	734497 0	260
KHZSPZ-600	598	564	734498 7	280

*EAN-code=732167+Part.no+C (control figure)

The cable ladders must not be used as walkways.

Applications

Industrial installations both indoors and outdoors.

Going through a fire wall

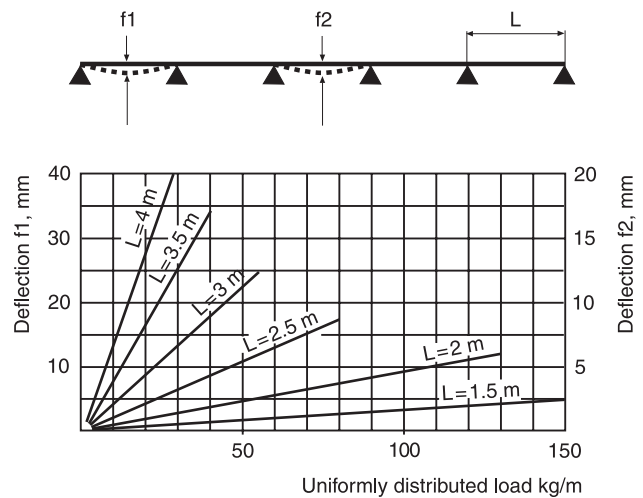
When passing through a fire wall, the ladder must be cut on either side of the fire barrier.

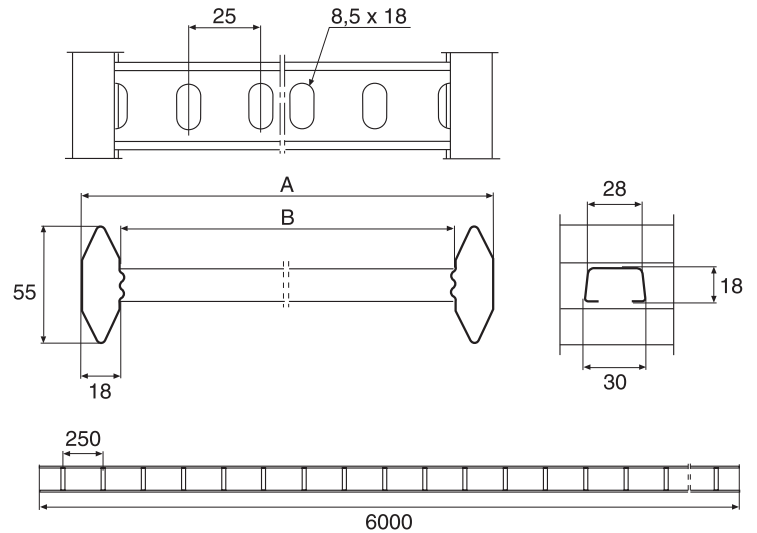
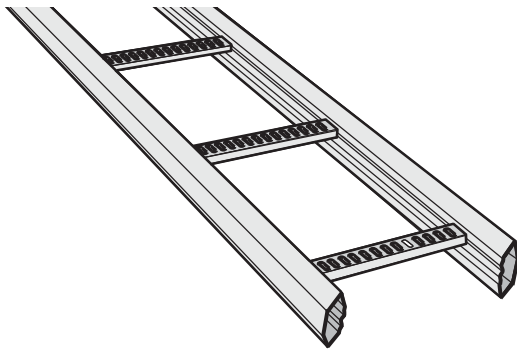
Loadings

f1 shows the deflection for an end span and f2 the deflection for a middle span with bracket spacing as shown.

If Joint 19 is used, the deflection will be as shown in the diagram.

When using Joint 9 in the middle of a span, the deflection will be approx. 3 times larger.





	A	B	Pre-galv. Part.No. C*	Weight kg 100 m
	mm	mm		
KHZPS-150	147	111	725350 0	225
KHZPS-200	197	161	725351 7	235
KHZPS-300	297	261	725352 4	255
KHZPS-400	397	361	725353 1	275
KHZPS-500	497	461	725354 8	300
KHZPS-600	597	561	725355 5	315
KHZPS-800	797	761	781099 4**	410
KHZPS-1000	997	961	725356 2	490

*EAN-code=732167+Part.no+C (control figure) **Produced to order

The cable ladders must not be used as walkways.

Applications

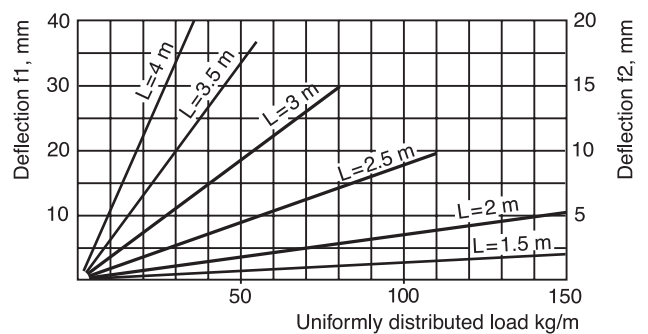
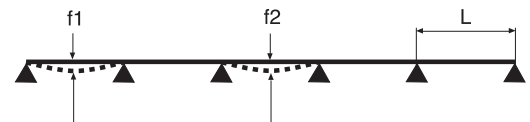
Hospitals, public buildings, schools, storage buildings, small industries, department stores, offices... wherever there are dry environments.

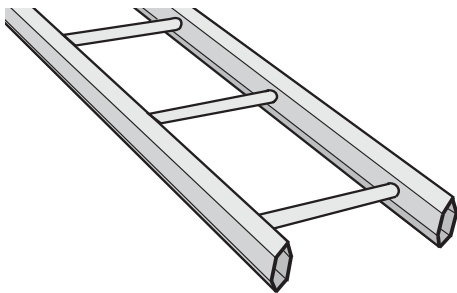
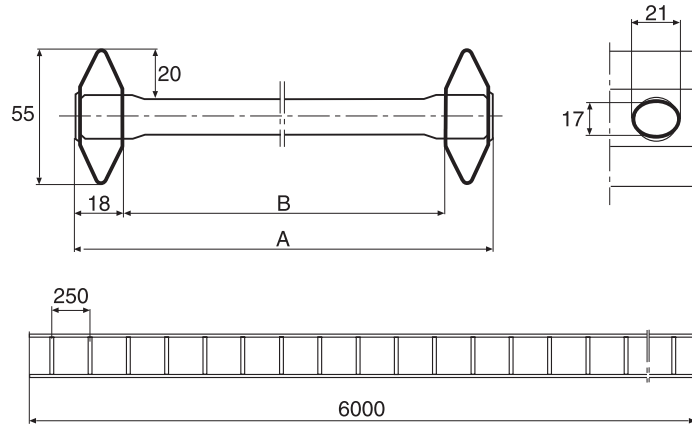
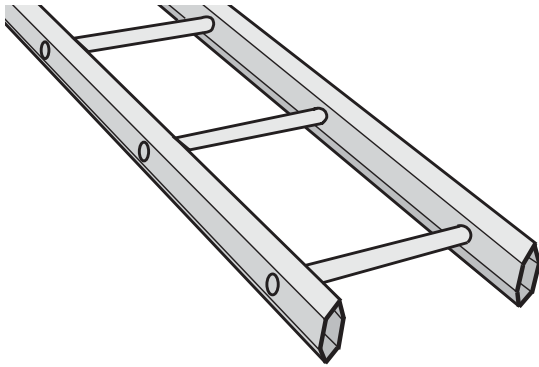
Going through a fire wall

When passing through a fire wall, the ladder must be cut on either side of the fire barrier.

Loadings

f1 shows the deflection for an end span and f2 the deflection for a middle span. With a bracket spacing of 2 m and an uniformly distributed load of 120 kg/m the ladder can take a point load of 100 kg at a middle span without remaining deformation and with a safety factor of 2 against breaking.





KHZ closed

	A		B		Closed		Closed		Weight kg 100 m
	mm	mm	Hot dip galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*			
KHZ-150	147	111	768001 6	726416 2**	727376 8**	714058 9	270		
KHZ-200	197	161	768002 3	726417 9**	727377 5**	714059 6	280		
KHZ-300	297	261	768004 7	726419 3**	727378 2**	714061 9	300		
KHZ-400	397	361	768005 4	726420 9**	727379 9**	714062 6	320		
KHZ-500	497	461	768006 1	726421 6**	727380 5**	714063 3	340		
KHZ-600	597	561	768007 8	726422 3**	727381 2**	714064 0	360		

*EAN-code=732167+Part.no+C (control figure) **Produced to order

The cable ladders must not be used as walkways.

Application

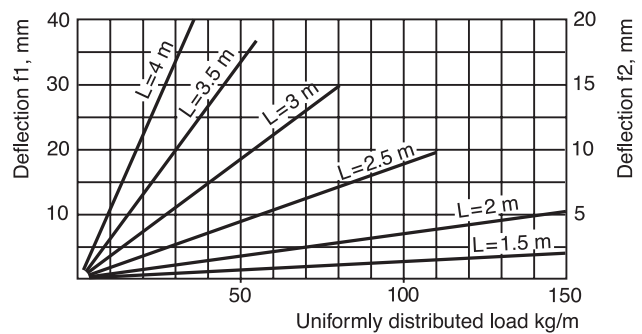
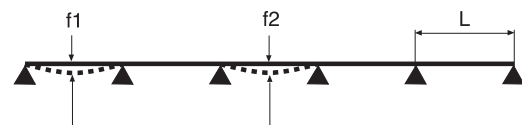
Industrial installations both indoors and outdoors.
KHZ (AISI 316L) for installations e.g. in food industries.

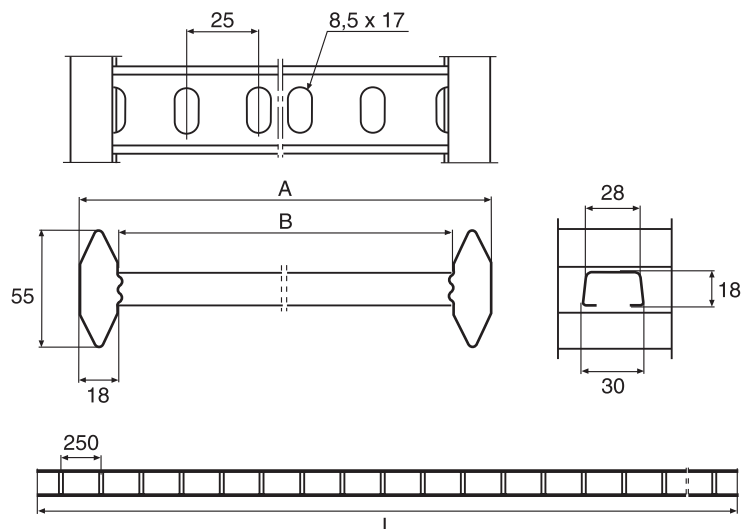
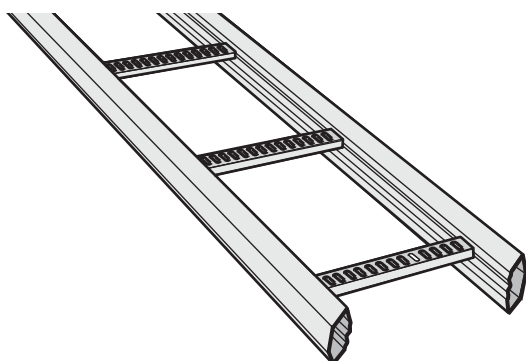
Going through a fire wall

When going through a fire wall one shall always cut the cable ladders just before and right after the opening in the wall.

Loadings

f1 shows the deflection for an end span and f2 the deflection for a middle span. With a bracket spacing of 2 m and an uniformly distributed load of 120 kg/m the ladder can take a point load of 100 kg at a middle span without remaining deformation and with a safety factor of 2 against breaking.





	L mm	A mm	B mm	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 m
KHZP-150	6000	147	111	718562 7	727382 9	718591 7	260
KHZP-200	6000	197	161	718563 4	727383 6	718592 4	270
KHZP-300	6000	297	261	718564 1	727384 3	718593 1	290
KHZP-400	6000	397	361	718565 8	727385 0	718594 8	315
KHZP-500	6000	497	461	718566 5	727386 7	718595 5	340
KHZP-600	6000	597	561	718567 2	727387 4	718596 2	360
KHZP-800	6000	797	761	721960 5	782128 0**	728033 9**	490
KHZP-1000	6000	997	961	718568 9	782129 7**	718597 9**	560
<hr/>							
KHZP-150	3000	147	111	783516 4**		783524 9**	260
KHZP-200	3000	197	161	783517 1**		783525 6**	270
KHZP-300	3000	297	261	783518 8**		783526 3**	290
KHZP-400	3000	397	361	783519 5**		783527 0**	315
KHZP-500	3000	497	461	783520 1**		783528 7**	340
KHZP-600	3000	597	561	783521 8**		783529 4**	360
KHZP-800	3000	797	761	783522 5**		783530 0**	490
KHZP-1000	3000	997	961	783523 2**		783531 7**	560

*EAN-code=732167+Part.no+C (control figure) **Produced to order

The cable ladders must not be used as walkways.

Application

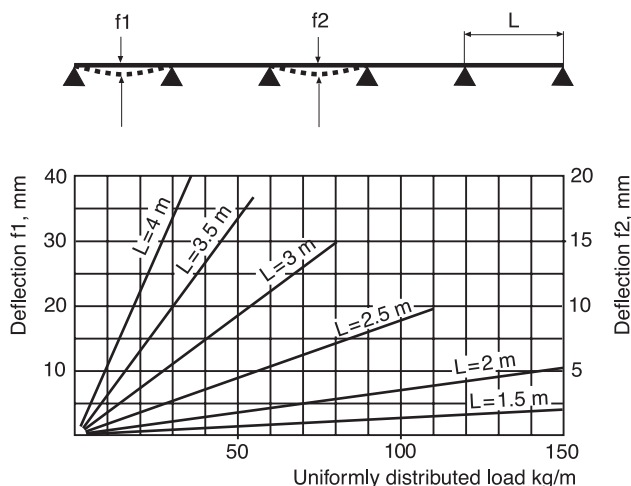
Industrial installations both indoors and outdoors.

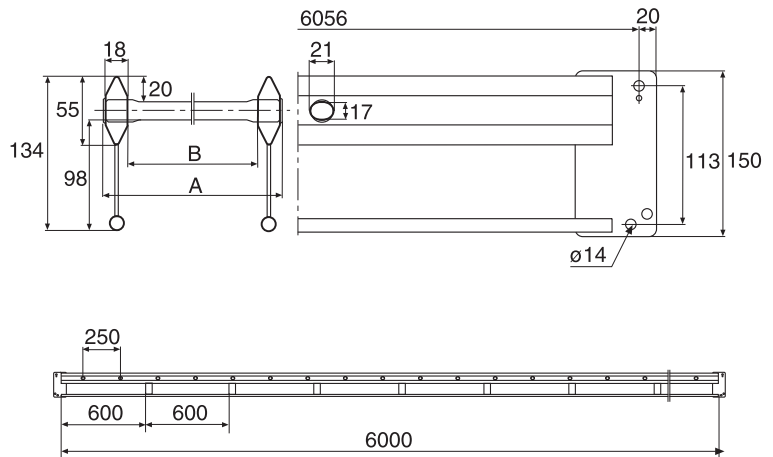
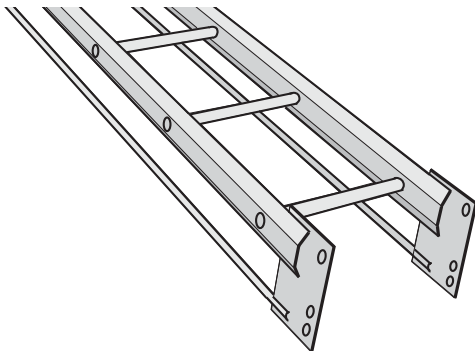
Going through a fire wall

When passing through a fire wall, the ladder must be cut on either side of the fire barrier.

Loadings KHZP® 6m

f1 shows the deflection for an end span and f2 shows the deflection for a middle span. With a bracket spacing of 2 m and an uniformly distributed load of 120 kg/m the ladder can take a point load of 100 kg at a middle span without remaining deformation with a safety factor of 2 against breaking.





	A	B	Hot dip galv.	ZINKPOX®	Weight kg
	mm	mm	Part. No. C*	White80	100 m
				Part. No. C*	
KHZV-200	197	161	712015 4	714198 2	440
KHZV-300	297	261	712017 8	714200 2	460
KHZV-400	397	361	712019 2	714202 6	480
KHZV-500	497	461	712018 5	714201 9	500
KHZV-600	597	561	712020 8	714203 3	530

*EAN-code=732167+Part.no+C (control figure)

The cable ladders must not be used as walkways.

Application

The ladder is designed for extreme support distances and loadings.

Going through a fire wall

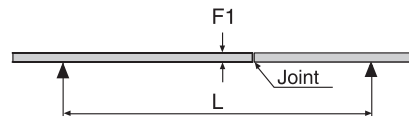
When passing through a fire wall, the ladder must be cut on either side on the fire barrier.

Loadings

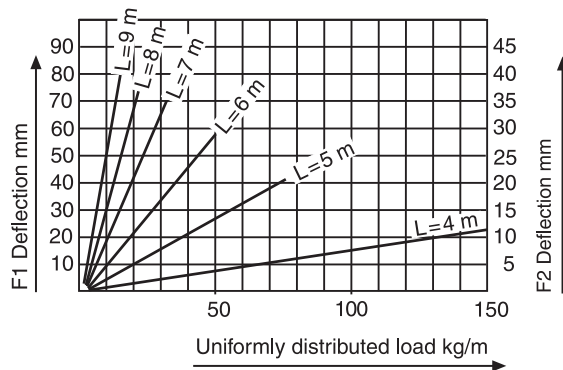
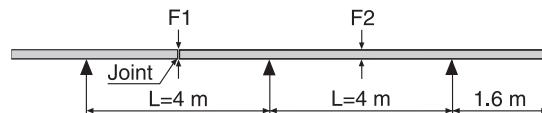
f1 shows the deflection for an end span and f2 the deflection for a middle span.

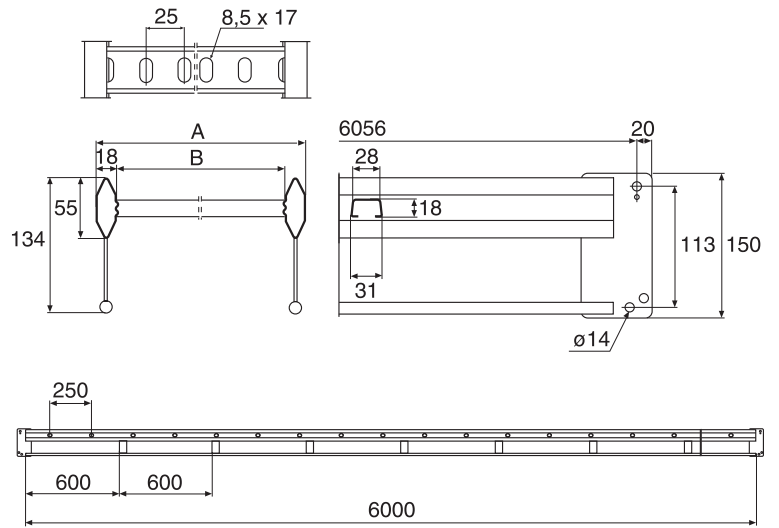
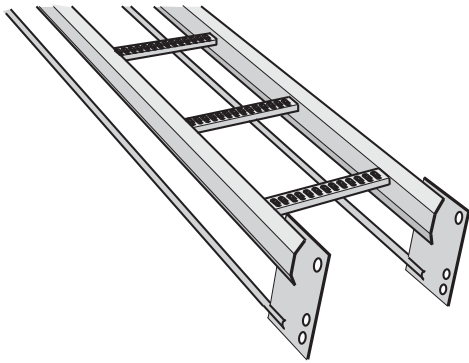
If the KHZV ladder is installed with its vault facing up, the max. loading must be reduced with 25%.

Test model for bracket distance more than 4 m (test type V)



Test model for bracket distance up to and including 4 m (test type I)





	A mm	B mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 m
KHZPV-200	197	160	717982 4	723390 8**	426
KHZPV-300	297	260	717983 1	723391 5**	448
KHZPV-400	397	360	717984 8	723392 2**	470
KHZPV-500	497	460	717985 5	723393 9**	493
KHZPV-600	597	560	717986 2	723394 6**	515
KHZPV-1000	997	960	716400 4	716401 1**	703

*EAN-code=732167+Part.no+C (control figure) **Produced to order

The cable ladders must not be used as walkways.

Application

The ladder is designed for extreme support distances and loadings.

Going through a fire wall

When passing through a fire wall, the ladder must be cut on either side on the fire barrier.

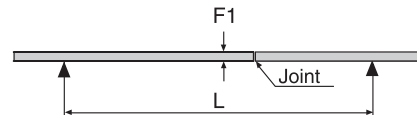
Benefits with perforated rungs.

Loadings

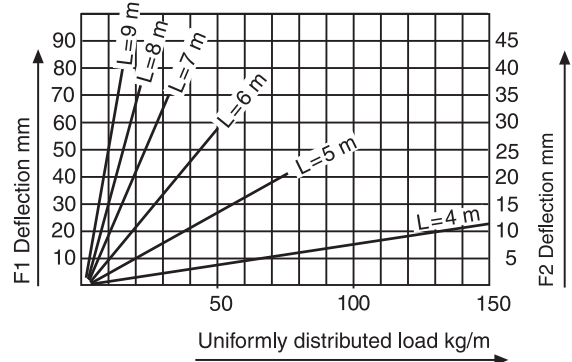
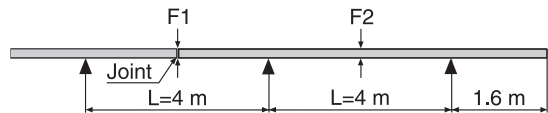
f1 shows the deflection for an end span and f2 the deflection for a middle span.

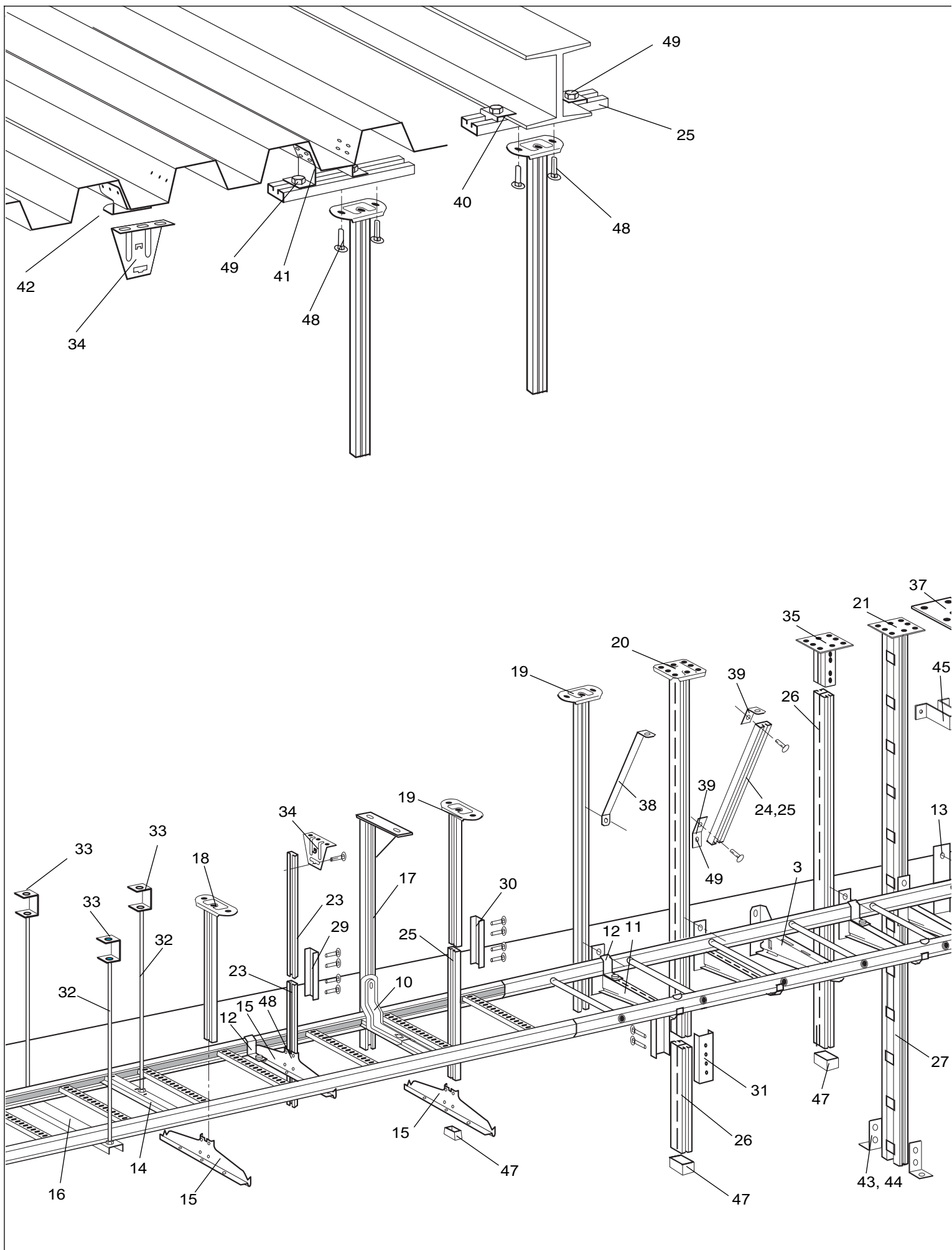
If the KHZPV ladder is installed with its vault facing up, the max. loading must be reduced with 25%.

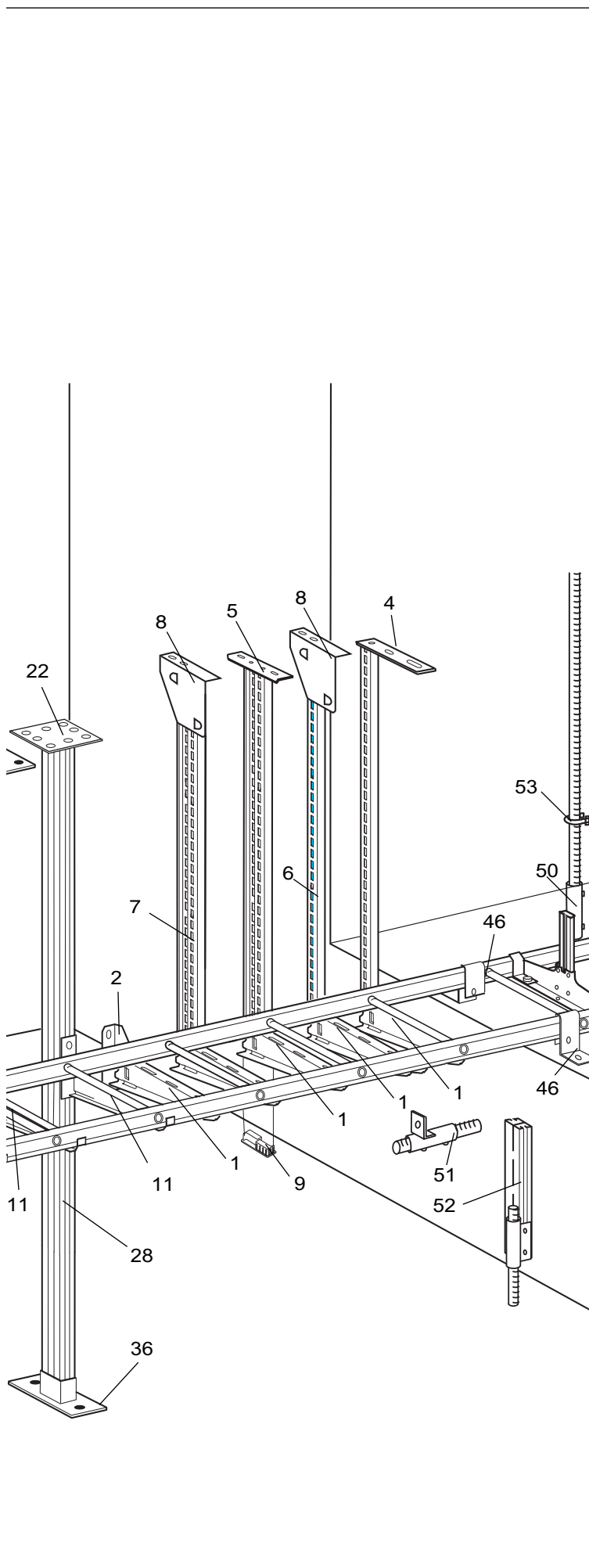
Test model for bracket distance more than 4 m (test type V)



Test model for bracket distance up to and including 4 m (test type I)







Suspension components _____	Page
1 Cantilever arm 80 _____	30
2 Wall bracket 80 _____	31
3 Cantilever arm 81 _____	36
4 Vertical piece 7L _____	32
5 Vertical piece 7 _____	32
6 Pendant/Fixing rail 7L _____	34
7 Pendant/Fixing rail 7 _____	34
8 Ceiling bracket 7 _____	35
9 End plug 7 _____	35
10 Cantilever arm 30 _____	37
11 Cantilever arm 50L, 50, 50F _____	38
12 Profile clamp 42 _____	40
13 Back plate 40 _____	41
14 Support bracket 6 _____	48
15 Support bracket 3 _____	44
16 Support bracket HSO _____	46
17 Vertical piece 2FPK _____	51
18 Vertical piece 2 _____	52
19 Vertical piece 2F _____	54
20 Vertical piece 20 _____	56
21 Vertical piece 20F _____	58
22 Vertical piece 20FS _____	60
23 Pendant/Fixing rail 24/34 _____	62
24 Pendant/Fixing rail 24/40 _____	63
25 Pendant/Fixing rail 24/48 _____	64
26 Pendant/Fixing rail 24/20 _____	66
27 Pendant/Fixing rail 24/20F _____	67
28 Pendant/Fixing rail 24/20FS _____	68
29 Pendant joint 2J _____	82
30 Pendant joint 2FJ _____	82
31 Pendant joint 20J _____	82
32 Threaded rod M10W76 _____	50
33 Ceiling bracket TF-10, TF-16 _____	69
34 Ceiling bracket 5 _____	70
35 Pendant base plate 520 _____	71
36 Rail fixing support 24/20F, 24/20FS _____	77
37 Ceiling plate 20F, 20FS _____	79
38 Pendant bar 1 _____	83
39 Bracket 60/40 _____	83
40 Beam clamp 5BK _____	71
41 Ceiling bracket 5TP _____	72
42 Ceiling bracket 5TPA _____	73
43 Angle bracket 5L _____	80
44 Angle bracket 5LS _____	80
45 Wall bracket 20, 20F _____	78
46 Wall bracket 11/25, 11/75 _____	92
47 End plug 28E, 28D, 28C, 28F _____	94
48 Screw sets _____	140
49 T-bolts _____	143
50 Round bar fixing for ceilings _____	75
51 Round bar fixing for walls _____	76
52 Round bar fixing for floors _____	76
53 Clamp set M6 _____	142
Fixings - expansion bolts, concrete screws _____	144 -160

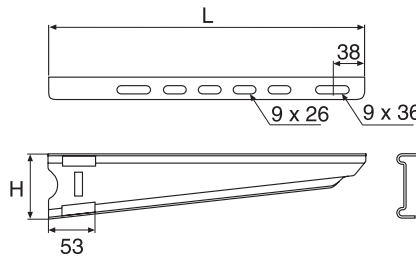
Cantilever arm 80



WIBE

WEF-0001

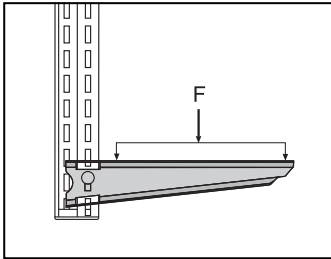
For installation on Vertical piece 7/7L or Wall bracket 80.
For cable ladder and cable tray installations.
(Screw set 22S not included.)



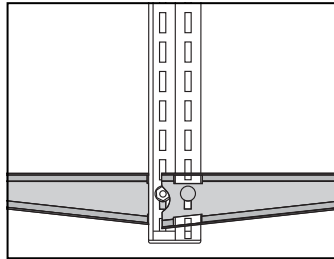
	L mm	H mm	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Cantilever arm 80-100	155	70	730448 6	732124 7**	12
Cantilever arm 80-150	205	70	730449 3	732125 4**	16
Cantilever arm 80-200	255	70	730450 9	732126 1**	20
Cantilever arm 80-250	305	70	730451 6	732127 8**	28
Cantilever arm 80-300	355	70	730452 3	732128 5**	35
Cantilever arm 80-400	455	80	730453 0	732129 2**	50
Cantilever arm 80-500	555	90	730454 7	732130 8**	65
Cantilever arm 80-600	655	100	730455 4	732131 5**	110

*EAN-code=732167+Part.no+(control figure) **Produced to order

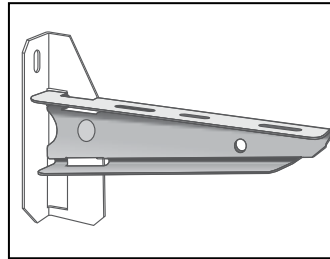
Use and installation



Cantilever arm 80 mounted on Vertical piece 7/7L with Screw set 22S. Infinitely adjustable along the vertical piece. Breaking load see loading table below.


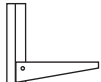
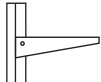


Cantilever arm 80 can also be mounted on both sides of Vertical piece 7 at the same level.



When mounting Cantilever arm 80 on wall, Wall bracket 80 shall be used together with Screw set 22S. Breaking load see loading table below.

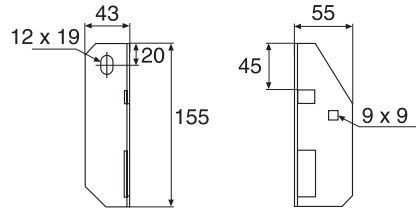
Breaking load F

Type of Cantilever arm	 Mounted on Wall bracket 80		 Mounted at the end of Vertical piece 7/7L with End plug 7 (on Vert. piece 7)		 Mounted along the Vertical piece 7/7L	
	kN	kg	kN	kg	kN	kg
80-100	2.5	250	2.5	250	2.3	230
80-150	2.3	230	2.5	250	2.3	230
80-200	2.2	220	2.5	250	2.3	230
80-250	2.0	200	2.0	200	2.0	200
80-300	1.9	190	2.2	220	2.0	200
80-400	1.7	170	1.9	190	1.8	180
80-500	1.7	170	1.9	190	1.8	180
80-600	1.7	170	1.9	190	1.6	160

Wall bracket 80



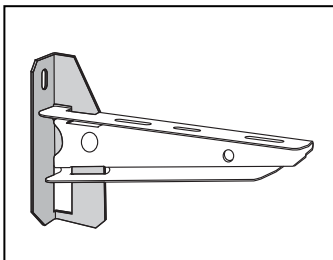
For installation of Cantilever arm 80 on wall.
Fits all widths. (Screw set 22S not included.)



	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Wall bracket 80	729216 5	733209 0**	23

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Wall bracket 80 shall be mounted with Screw set 22S.

Breaking load see loading table for Cantilever arm 80.

Vertical piece 7L/7

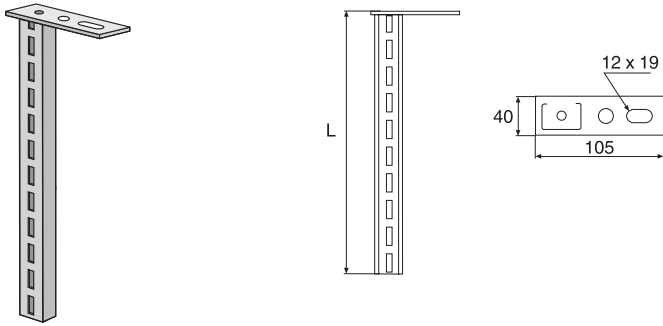


WIBE

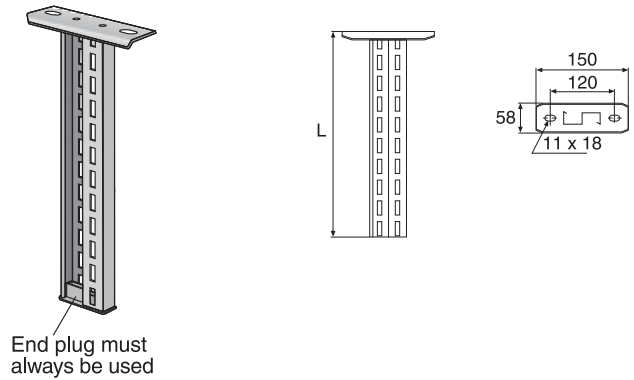
WEF-0001

To be used together with Cantilever arm 80. The Cantilever arm is infinitely adjustable along the Vertical piece. End plug 7 is mounted on Vertical piece 7 on delivery.

Vertical piece 7L



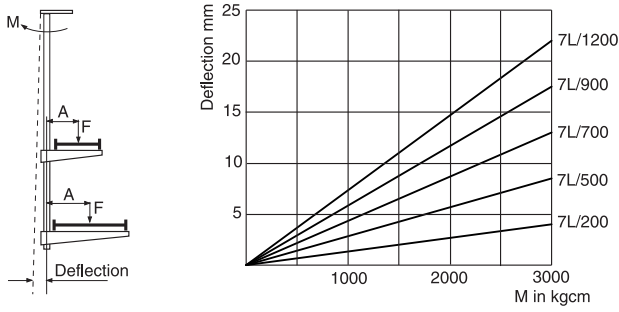
Vertical piece 7



	L mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Vertical piece 7L-200	218	735207 4	780417 7**	46
Vertical piece 7L-300	290	735208 1	780418 4**	56
Vertical piece 7L-400	398	735209 8	780419 1**	69
Vertical piece 7L-500	506	735210 4	780420 7**	83
Vertical piece 7L-600	614	735211 1	780421 4**	98
Vertical piece 7L-700	722	735212 8	780422 1**	111
Vertical piece 7L-800	794	735213 5	780423 8**	120
Vertical piece 7L-900	902	735214 2	780424 5**	135
Vertical piece 7L-1000	1010	735215 9	780425 2**	148
Vertical piece 7L-1100	1118	735216 6	780426 9**	162
Vertical piece 7L-1200	1190	735217 3	780427 6**	171
Vertical piece 7-200	216	731871 1	738487 7**	60
Vertical piece 7-300	288	731872 8	738488 4**	70
Vertical piece 7-400	396	731873 5	738489 1**	80
Vertical piece 7-500	504	731874 2	738490 7**	100
Vertical piece 7-600	612	731875 9	738491 4**	110
Vertical piece 7-700	720	731876 6	738492 1**	120
Vertical piece 7-800	792	731877 3	738493 8**	130
Vertical piece 7-900	900	731878 0	738494 5**	150
Vertical piece 7-1000	1008	731879 7	738495 2**	170
Vertical piece 7-1100	1116	731880 3	738496 9**	180
Vertical piece 7-1200	1188	731881 0	738497 6**	190
Vertical piece 7-1300	1296	731882 7	738498 3**	200
Vertical piece 7-1400	1404	731883 4	738499 0**	220
Vertical piece 7-1500	1512	731884 1	738500 3**	230
Vertical piece 7-1600	1620	731885 8	738501 0**	250

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Loading tables for Vertical piece 7L and 7 Vertical piece 7L



The bending moment M is the total sum of $F \times A$ in kgcm.

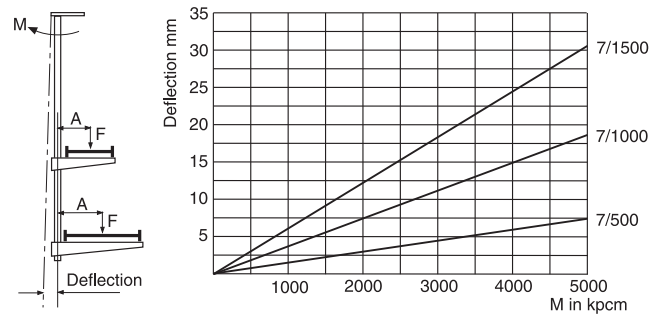
F = Force on cantilever arms in kg

F = Loading (kg/m) x Support distance (m)

A = Distance between force and centerline vertical piece in cm

$A = \frac{\text{Width of ladder} + 1.75}{2}$

Vertical piece 7



The bending moment M is the total sum of $F \times A$ in kgcm.

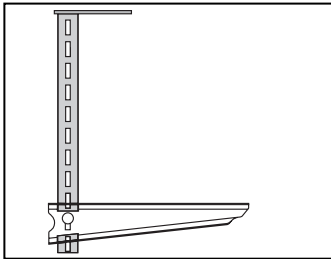
F = Force on cantilever arms in kg

F = Loading (kg/m) x Support distance (m)

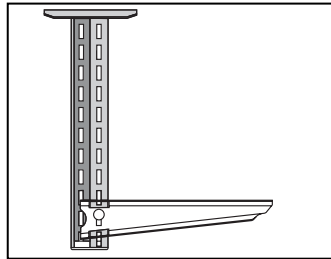
A = Distance between force and centerline vertical piece in cm

$A = \frac{\text{Width of ladder} + 3.5}{2}$

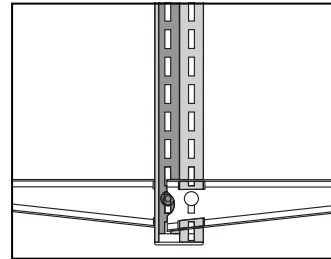
Use and installation



Cantilever arm 80 is infinitely adjustable along Vertical piece 7L. Screw set 22S must be used when mounting. The cantilever arm must always be mounted in the same direction as the ceiling bracket.



Cantilever arm 80 is infinitely adjustable along Vertical piece 7. Screw set 22S must be used when mounting. End plug 7 must be used on Vertical piece 7.



Cantilever arm 80 can also be mounted on both sides of the Vertical piece 7 at the same level (not 7L).
Breaking load for symmetrical loading 2500 kg (25 kN).

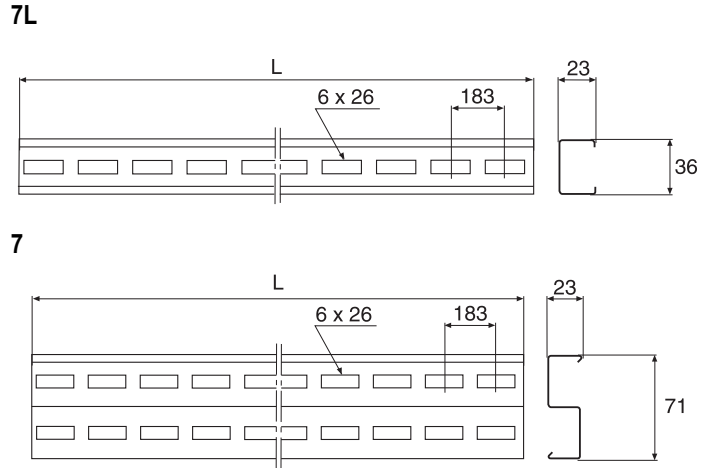
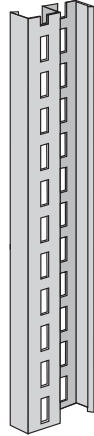
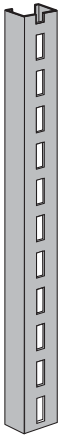
P/F rail 7L,7



Used with Ceiling bracket 7 to form vertical pieces on site.
End plug 7 must be used in Pendant/Fixing rail 7.

Pendant/Fixing rail 7L

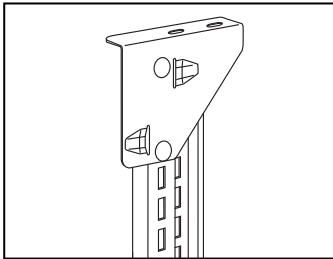
Pendant/fixing rail 7



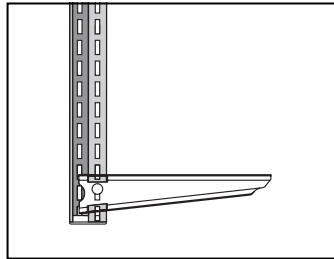
	L mm	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Pendant/Fixing rail 7L	3020		735432 0	360
Pendant/Fixing rail 7	3020	734206 8	734205 1**	370

*EAN-code=732167+part.no+C (control figure) **Produced to order

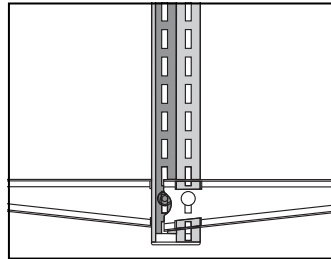
Use and installation



Using Ceiling bracket 7 together with Pendant/Fixing rail 7L/7 makes it possible to produce vertical pieces in different lengths on site. Use 2 Screw sets 22S.



Cantilever arm 80 is infinitely adjustable along Pendant/Fixing rail 7L/7. Screw set 22S shall be used when mounting. End plug 7 must be used on Pendant/Fixing rail 7.



Cantilever arm 80 can also be mounted on both sides of the Pendant/Fixing rail 7 at the same level (not 7L). Breaking load for symmetrical loading 2500 kg (25 kN).

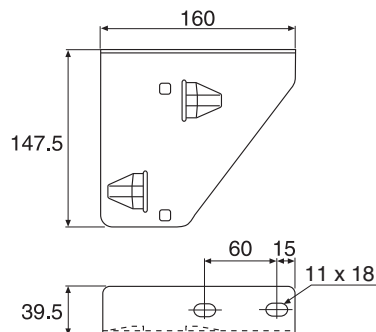
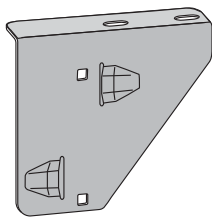
Ceiling bracket 7



WIBE

To be used with Pendant/Fixing rail 7/7L to form vertical pieces on site.

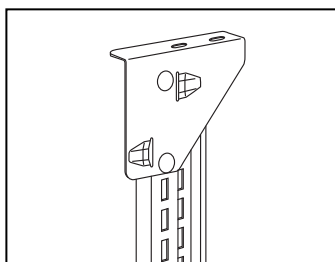
WEF-0001



	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Ceiling bracket 7	734331 7**	734458 1**	40

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Using Ceiling bracket 7 together with Pendant/Fixing rail 7/7L makes it possible to produce vertical pieces in different lengths on site. Use 2 Screw sets 22S.

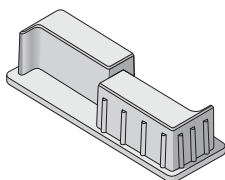
End plug 7



WIBE

For Vertical piece 7 or Pendant/Fixing rail 7.

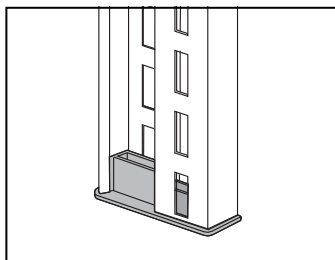
WEF-0014



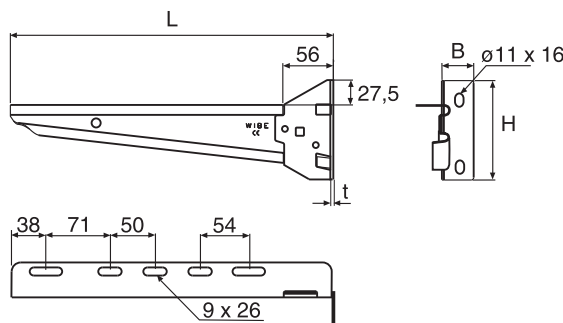
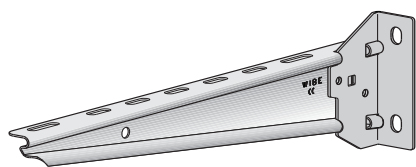
	Polyamide (PA) Red Part. No. C*	Weight kg 100 pcs
End plug 7	730178 2	1.5

*EAN-code=732167+Part.no+C (control figure)

Use and installation



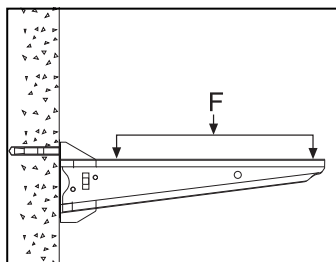
End plug 7 must always be used at the cut end of Vertical piece 7 or Pendant/-Fixing rail 7.



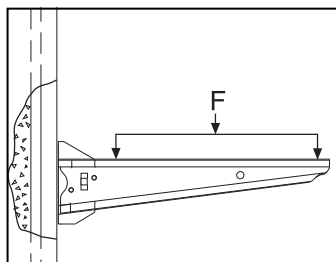
	L mm	B mm	H mm	t mm	Pre-galv. Part. No. C*	Pre-galv. White80 Part. No. C*	Weight kg 100 pcs
Cantilever arm 81-100	171	39	110	2.5	780156 5	780849 6**	30
Cantilever arm 81-150	208	39	110	2.5	780157 2	780850 2**	32
Cantilever arm 81-200	258	39	110	2.5	780158 9	780851 9**	36
Cantilever arm 81-250	308	39	110	2.5	780159 6	780852 6**	44
Cantilever arm 81-300	358	39	110	2.5	780160 2	780853 3**	51
Cantilever arm 81-400	458	39	122	2.5	780161 9	780854 0**	67
Cantilever arm 81-500	568	40	150	3.0	780162 6	780855 7**	100
Cantilever arm 81-600	658	40	150	3.0	780163 3	780856 4**	140

*EAN-code=732167+Part.no+C (control figure) **Produced to order

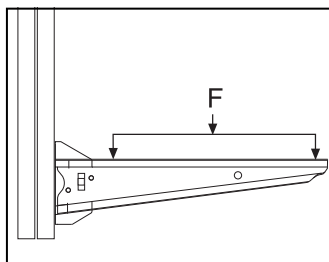
Use and installation



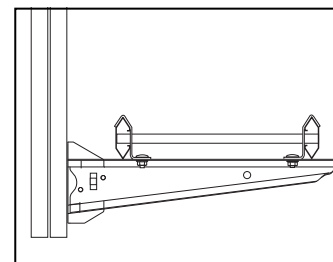
Installation of a cantilever arm to a wall using an Expansion bolt. Breaking load - see below.



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

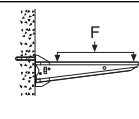
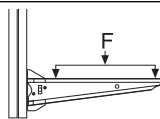
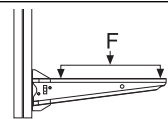


Installation of cantilever arm using T-bolt with vertical pieces. Breaking load - see below. Also check breaking load of the vertical piece.



Cable ladder KHZSP mounted on Cantilever arm 81, Profile clamp 42 is used.

Breaking load F

Type of Cantilever arm	 Mounted on wall		 Mounted on P/F rail 24/48 with T-bolt 26F		 Mounted on P/F rail 24/40 and 24/48 with T-bolt 26	
	kN	kg	kN	kg	kN	kg
81-100	2.5	250	2.5	250	2.5	250
81-150	2.3	230	2.3	230	2.3	230
81-200	2.2	220	2.2	220	2.2	220
81-250	2.0	200	2.0	200	1.8	180
81-300	2.0	200	2.0	200	2.0	200
81-400	1.8	180	1.8	180	1.8	180
81-500	1.9	190	1.9	190	1.9	190
81-600	1.9	190	1.9	190	1.9	190

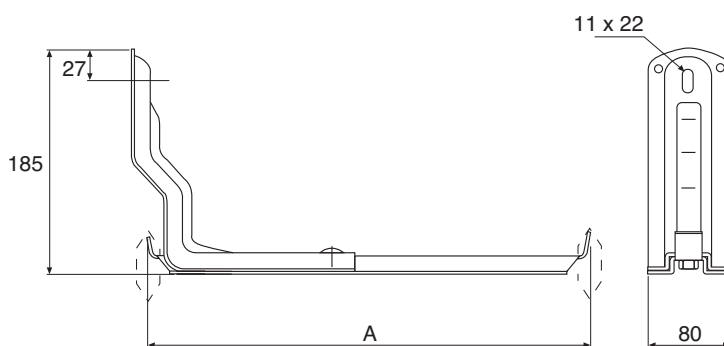
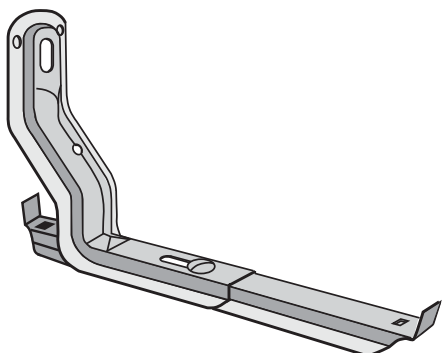
Cantilever arm 30

KHZ
SP

WIBE

For installation inside cable ladder KHZSP

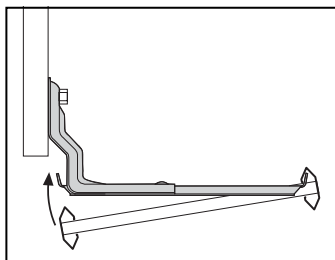
WEF-0001



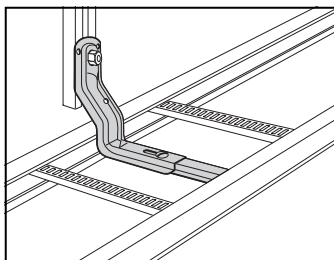
	A mm	Pre-galv. Part. No. C*	Weight kg 100 pcs
Cantilever arm 30-200	184	727777 3	90
Cantilever arm 30-300	284	727778 0	110
Cantilever arm 30-400	384	727779 7	120
Cantilever arm 30-500	484	727780 3	140
Cantilever arm 30-600	584	727781 0	160

*EAN-code=732167+Part.no+C (control figure)

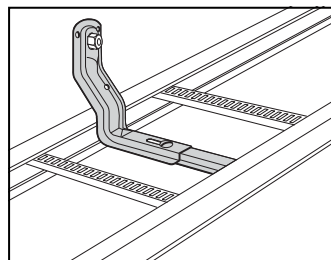
Use and installation



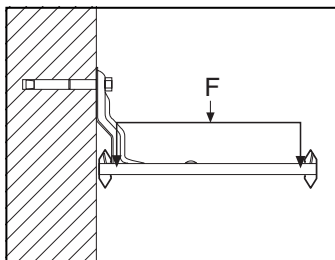
Installation of cable ladder KHZSP. Place the ladder on the outer tab and press it over the inner tab. When necessary, the ladder can be locked with a Profile clamp 43.



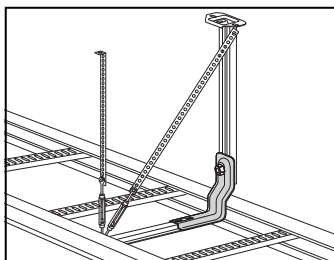
Installation on Vertical piece 2F. Cable ladder KHZSP can be adjusted max 40 mm.



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.

Loading table

Cantilever arm type	Max load F on cantilever arm at a deflection of 3°		Deflection at 3° deflection of cantilever arm	Breaking load	
	kN	kg		mm	kN
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

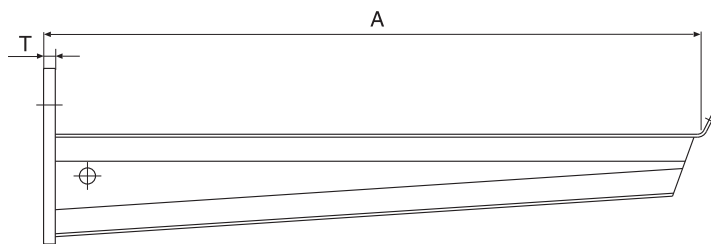
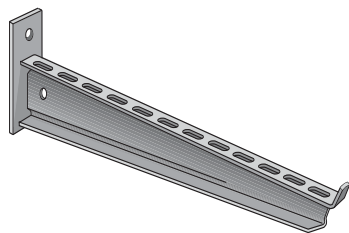
Cantilever arm 50L,50 and 50F



WIBE

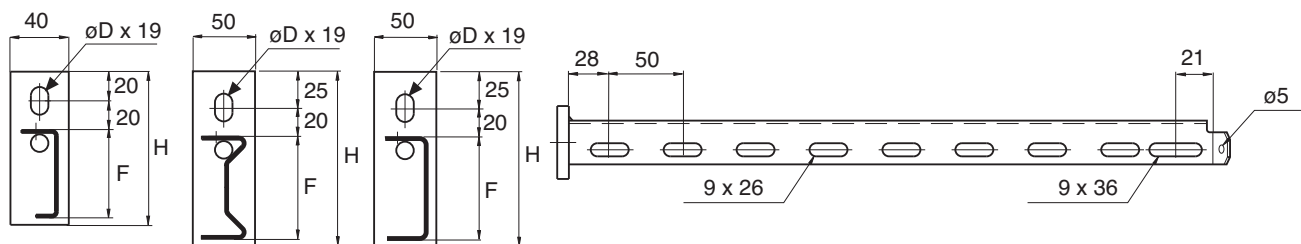
For mounting on walls, pendant/fixing rails or vertical pieces.

WEF-0001



Cantilever arm 50L and 50

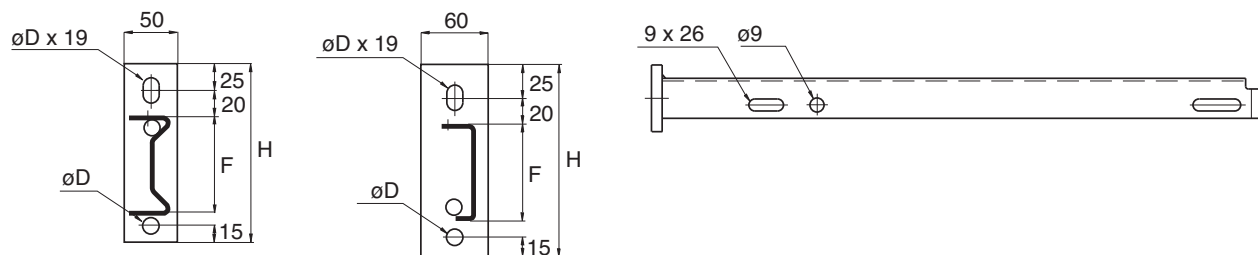
50L,50/100-300 50L,50/400-600 50/700-1000



Cantilever arm 50F

50F/200-600

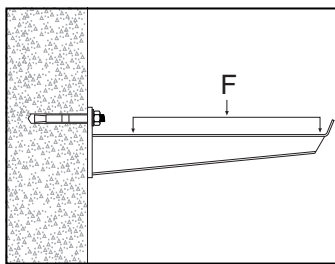
50F/1000



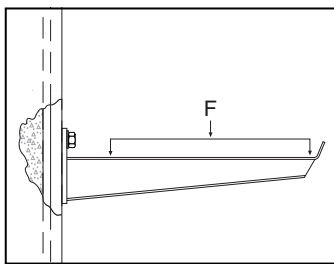
	A	D	F	H	T	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
	mm	mm	mm	mm	mm				
50L-100	150	12	34	85	4	725105 6		725113 1**	24
50L-150	200	12	36	85	4	725106 3		725114 8**	28
50L-200	250	12	39	85	4	725107 0		725115 5**	34
50L-250	298	12	56	105	4	725108 7		725116 2**	46
50L-300	348	12	60	105	4	725109 4		725117 9**	54
50L-400	447	12	70	120	5	725110 0		725118 6**	103
50L-500	548	12	77	140	6	725111 7		725119 3**	160
50L-600	646	12	84	150	6	725112 4		725120 9**	191
50-100	150	12	34	85	4	723432 5	725618 1	723440 0	24
50-150	200	12	36	85	4	723433 2	725619 8	723441 7	28
50-200	250	12	39	85	4	723434 9	725620 4	723442 4	34
50-250	300	12	56	105	6	723435 6	725621 1	723443 1	52
50-300	350	12	60	105	6	723436 3	725622 8	723444 8	60
50-400	450	12	70	120	8	723437 0	725623 5	723445 5	118
50-500	550	12	77	140	8	723438 7	725624 2	723446 2	172
50-600	650	12	84	150	10	723439 4	725625 9	723447 9	215
50-700	750	12	90	150	10	727125 2		727782 7**	270
50-800	850	12	95	160	10	727126 9		727783 4**	310
50-900	950	12	100	160	10	727127 6		727784 1**	350
50-1000	1050	12	105	170	10	727128 3		727785 8**	390
50F-200	245	12	72	148	8	718624 2		714021 3	95
50F-300	345	12	79	175	8	718625 9		714700 7	125
50F-400	445	12	86	175	8	718626 6		714022 0	170
50F-500	547	14	93	180	10	718627 3		718793 5	220
50F-600	647	14	100	180	10	718628 0		714023 7	250
50F-1000	1052	14	160	240	12	712465 7		714024 4	770

*EAN-code=732167+Part.no+C (control figure) **Produced to order

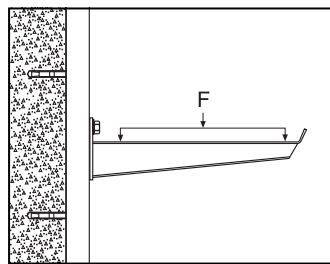
Use and installation



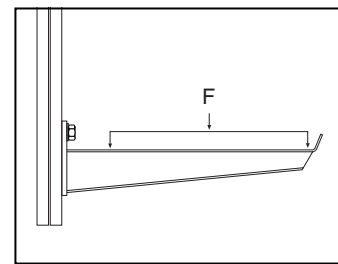
Installation of a cantilever arm to a wall using an Expansion bolt. Breaking load – see below.



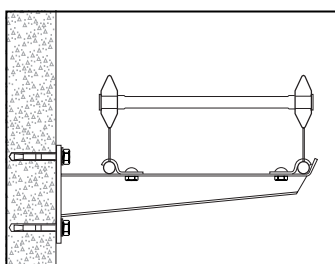
Installation of a cantilever arm using a T-bolt on a Fixing rail 24/26 x 53 rail for casting-in or Pendant/Fixing rails mounted on the wall. Breaking load – see below.



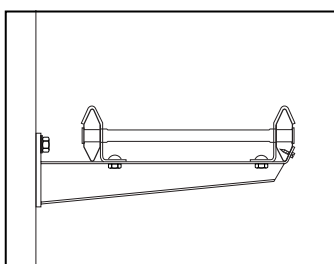
Mounting of a cantilever arm using a T-bolt on a Pendant/Fixing rail mounted on a wall.



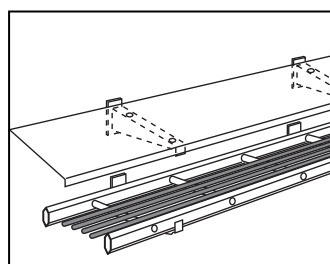
Installation of a cantilever arm using T-bolt with vertical pieces. Breaking load – see below. Also check breaking load of the vertical piece.



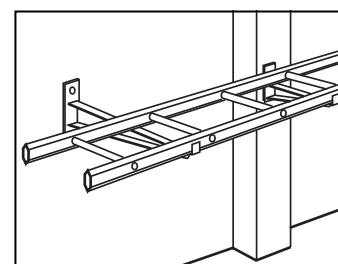
Profile clamp 43 is used for attaching a KHZV onto a Cantilever arm 50F.



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 selftapping sheet screws or suchlike with 5 mm dia. holes in the bracket and in the side section.

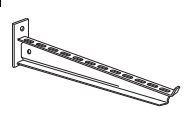
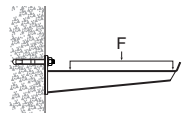

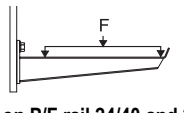


Cantilever arm 50F mounted upside down can be used for installation of tilted protective roofs.



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

Breaking load F

 Type of cantilever arm	 Mounted on wall		 Mounted on P/F rail 24/48 with T-bolt 26F		 Mounted on P/F rail 24/40 and 24/48 with T-bolt 26	
	kN	kg	kN	kg	kN	kg
50L-100	1.5	150	1.5	150	1.5	150
50L-150	1.5	150	1.5	150	1.5	150
50L-200	1.5	150	1.5	150	1.5	150
50L-250	2.0	200	2.0	200	2.0	200
50L-300	2.0	200	2.0	200	2.0	200
50L-400	3.0	300	3.0	300	3.0	300
50L-500	3.0	300	3.0	300	3.0	300
50L-600	3.0	300	3.0	300	3.0	300
50-100	3.0	300	3.0	300	3.0	300
50-150	3.0	300	3.0	300	3.0	300
50-200	2.5	250	2.5	250	2.5	250
50-250	4.0	400	4.0	400	3.5	350
50-300	4.0	400	4.0	400	3.0	300
50-400	6.5	650	6.5	650	4.5	450
50-500	7.0	700	7.0	700	4.5	450
50-600	7.0	700	7.0	700	4.0	400
50-700	6.0	600	5.5	550	4.0	400
50-800	5.5	550	5.2	520	3.8	380
50-900	5.3	530	4.8	480	3.5	350
50-1000	5.0	500	4.2	420	3.4	340
50F-200	10.0	1000	10.0	1000	8.0	800
50F-300	10.0	1000	10.0	1000	7.0	700
50F-400	11.0	1100	9.0	900	6.0	600
50F-500	10.0	1000	8.0	800	5.0	500
50F-600	10.0	1000	8.0	800	5.0	500
50F-1000	11.0	1100	8.0	800	5.5	550

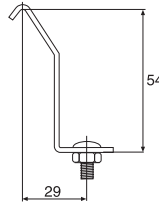
Profile clamp 42



WIBE

WEF-0001

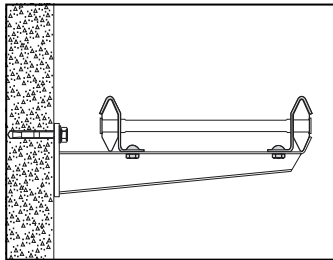
For installation where the cable ladder is to be fixed to cantilever arms, support brackets etc.



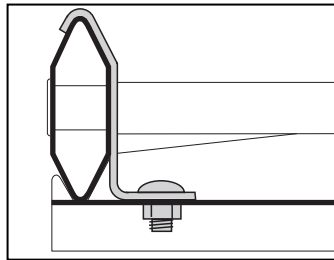
	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Profile clamp 42 (screw M8 + nut supplied)	721121 0	705611 8	725763 8	714164 7	11

*EAN-code=732167+Part.no+C (control figure)

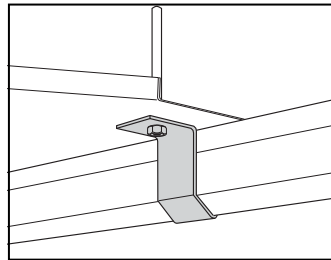
Use and installation



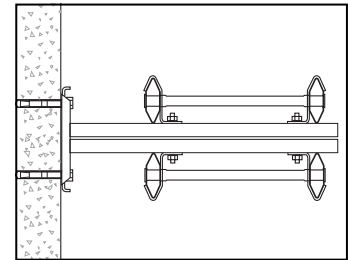
Use Profile clamp 42 for attaching KHZSP, KHZPS, KHZ and KHZP to Cantilever arm 50 and Support bracket 3. For small loads, mount the ladder with a clamp on each cantilever arm, alternately right side and left side.



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 clamps 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.

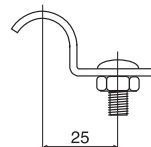
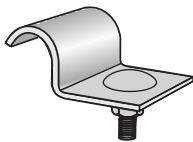
Profile clamp 43



WIBE

WEF-0001

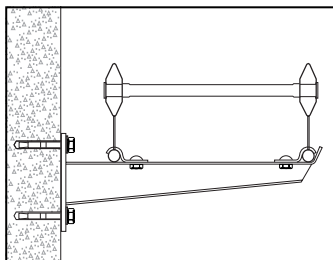
For installation where cable ladder KHZV and KHZPV is to be fixed to cantilever arms, support brackets etc.



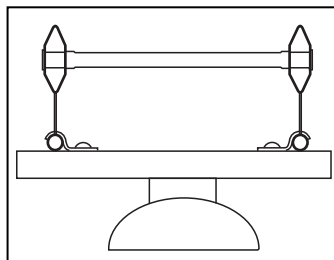
	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Profile clamp 43 (screw M8+nut supplied)	707511 9	714165 4	5

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Use Profile clamp 43 to attach KHZV/KHZPV to Cantilever arm 50. For small loads, mount the ladder with a clamp on each cantilever arm, alternating right side and left side.



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

Back plate 40



WIBE

WEF-0001

For installation behind Cantilever arm 50 to reduce the surface pressure on porous walls.

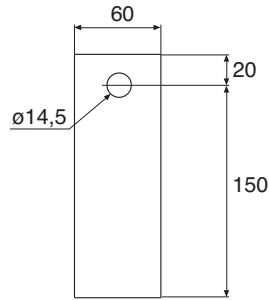
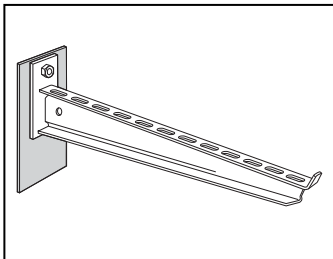


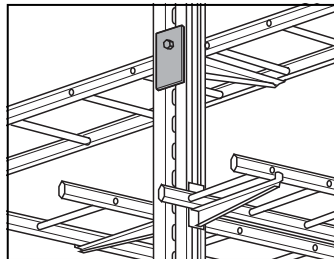
	Plate thickness mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Back plate 40	6	768738 1	714029 9	55

*EAN-code=732167+Part.no+C (control figure)

Use and installation



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

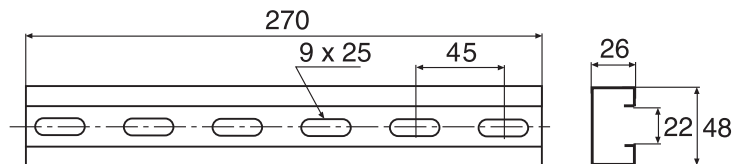
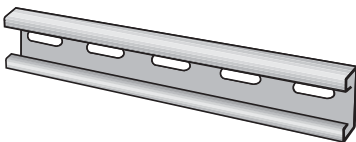


WIBE

WEF-0001

For installation behind Cantilever arm 50 to reduce the surface pressure on porous walls.

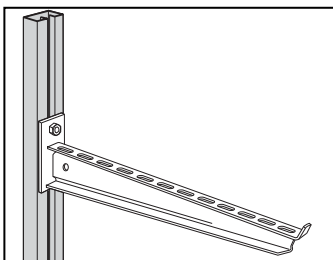
The rail permits vertical adjustment of the cantilever arm.



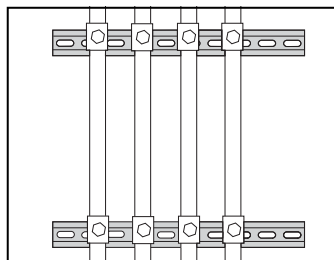
	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Mounting rail 40	717001 2	717006 7	56

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Mounting rails reduce the surface stress on porous walls. Mount the cantilever arm using T-bolt 26, which permits height adjustment.



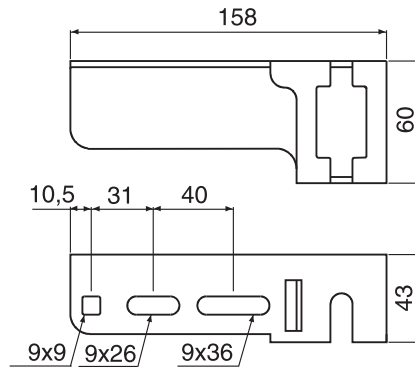
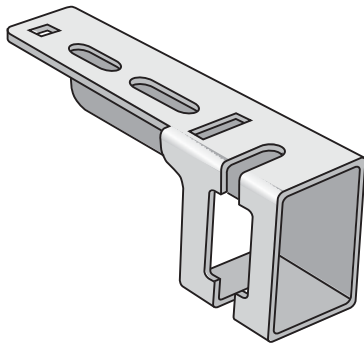
Cables may be mounted on walls using Mounting rail 40 and a suitable Cable clamp Type A.

Rod bracket 82



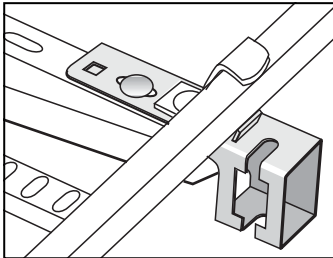
Rod bracket 82 is adapted to fit both on Cantilever arm 50 and on Cantilever arm 80.

WEF-0001

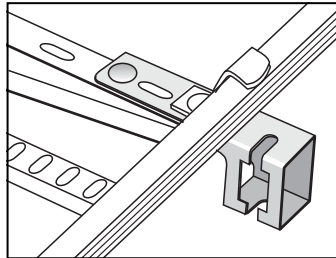


	Hot dip galv.	Weight kg
Rod bracket 82	Part. No. C*	100 pcs
	786768 4	360
*EAN-code=732167+Part.no+C (control figure)		

Use and installation



Rod bracket 82 mounted on Cantilever arm 50. Screw set 22S and Profile clamp 42 are to be used.



Rod bracket 82 mounted on Cantilever arm 80. Screw set 22S and Profile clamp 42 are to be used.



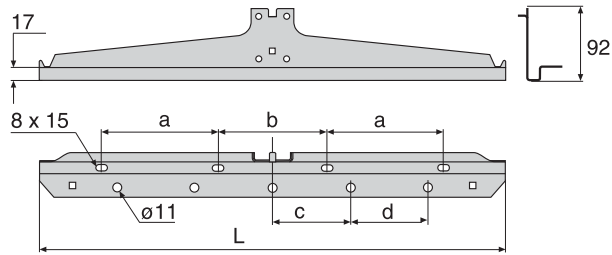
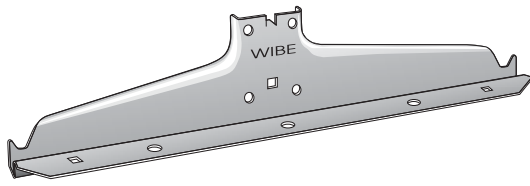
Support bracket 3



WIBE

Used for centre installation of cable ladders on pendant/fixing rails and vertical pieces.

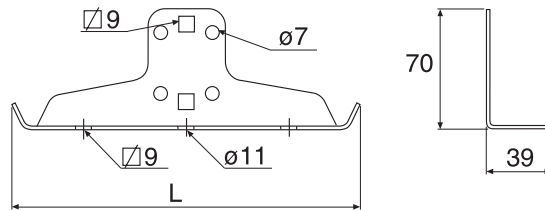
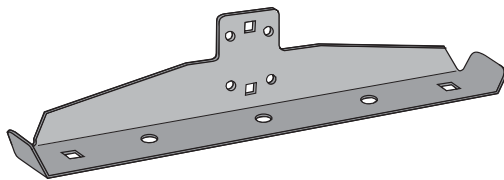
WEF-0001



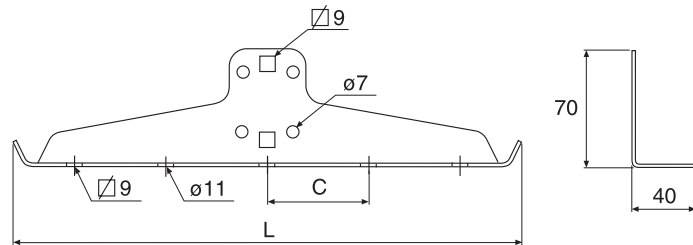
	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX White80 Part. No. C*	Weight kg 100 pcs
Support bracket 3-150		720761 9	726433 9**	721862 2	26
Support bracket 3-200	721869 1	720762 6	726434 6	721863 9	33
Support bracket 3-300	721870 7	720763 3	726435 3	721864 6	58
Support bracket 3-400	721871 4	720764 0	726436 0	721865 3	78
Support bracket 3-500	721872 1	720765 7	726437 7**	721866 0**	120
Support bracket 3-600	721873 8	720766 4	726438 4	721867 7	145

* EAN-code=732167+Part.no+C (control figure) **Produced to order

Stainless steel AISI 316L



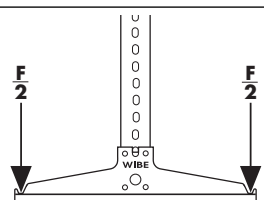
3/150-200



3/300-600

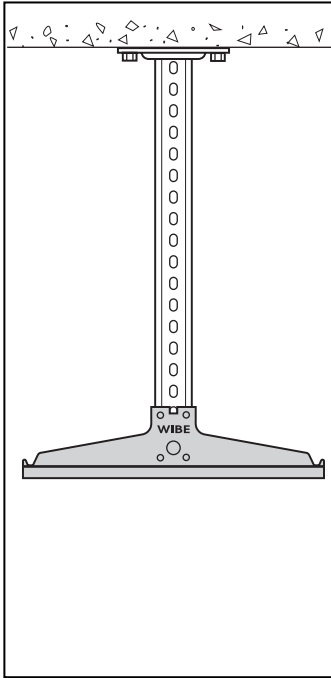
Stainl. steel						
	L	L	a	b	c	d
Support bracket 3-150	150	154	—	100	—	—
Support bracket 3-200	200	204	—	100	—	—
Support bracket 3-300	300	306	70	100	—	—
Support bracket 3-400	400	406	70	100	100	—
Support bracket 3-500	500	506	100	140	100	—
Support bracket 3-600	600	606	150	140	100	100

Breaking load-symmetrical loading

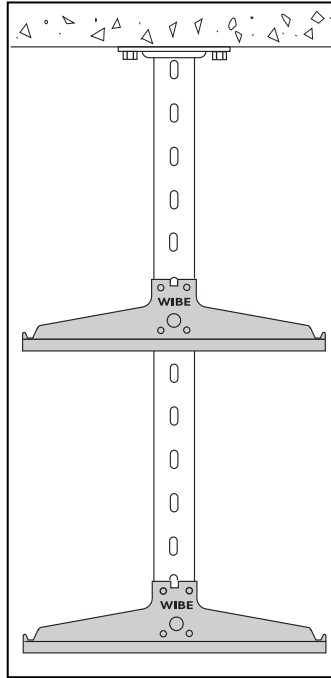


	Breaking load F	
	kN	kg
Support bracket 3-150	16	1600
Support bracket 3-200	16	1600
Support bracket 3-300	16	1600
Support bracket 3-400	12	1200
Support bracket 3-500	12	1200
Support bracket 3-600	10	1000

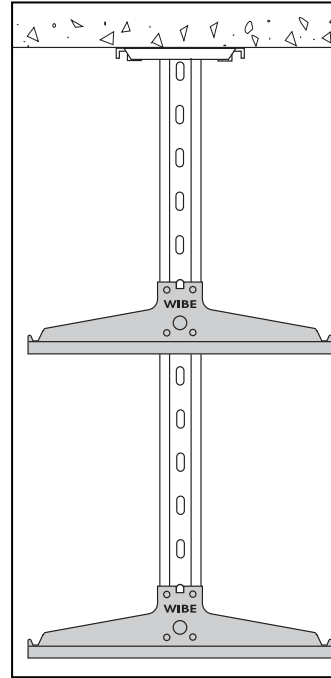
Use and installation



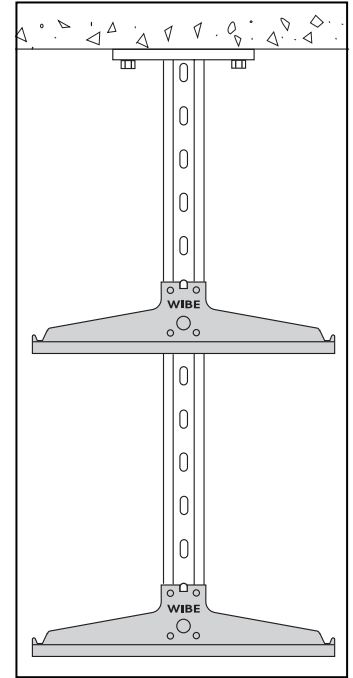
Mount Support bracket 3 on Vertical piece 2 with Screw set 22S.



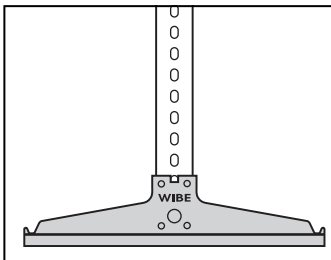
Mount Support bracket 3 on Vertical piece 2F with Screw set 22S.



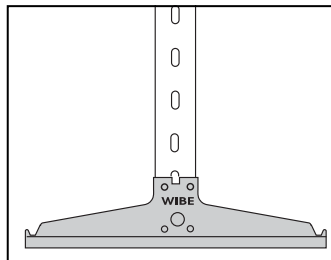
Mount Support bracket 3 on Vertical piece 20 with Screw set 20S.



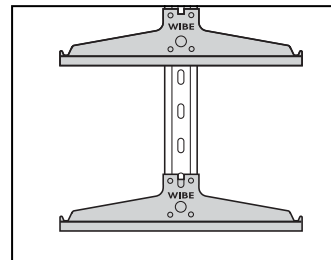
Mount Support bracket 3 on Vertical piece 20F with Screw set 2S.



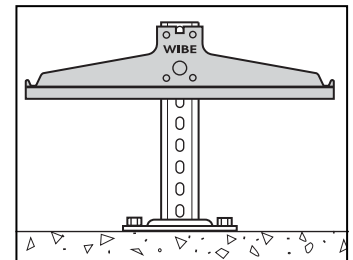
Mount Support bracket 3 on Pendant/Fixing rail 24/34 with Screw set 22S.



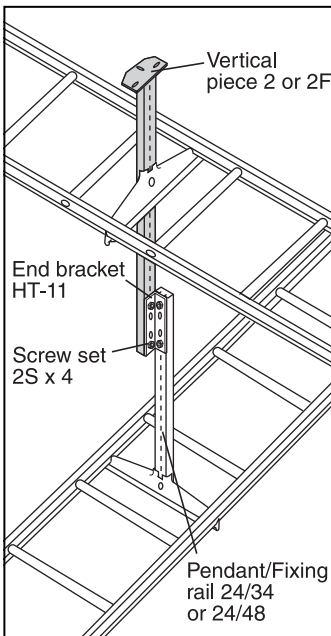
Mount Support bracket 3 on Pendant/Fixing rail 24/20, or 24/48 with Screw set 22S.



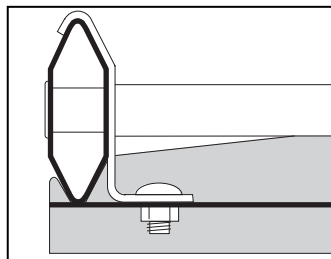
Support bracket 3 installed on Pendant rail 24/20F with Screw set 2S.



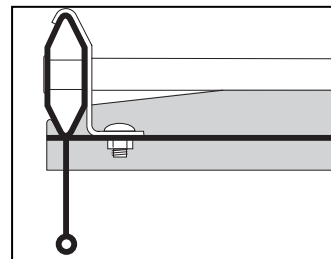
Support bracket 3 can be mounted on floor or under data floor with a suitable vertical piece.



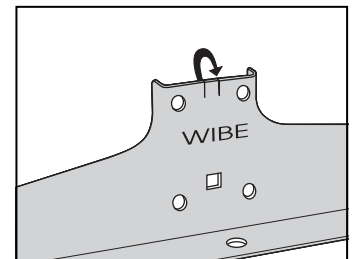
End bracket HT-11 permits the mounting of crossing cable ladders at different levels with Support bracket 3 mounted on pendant/fixing rail.



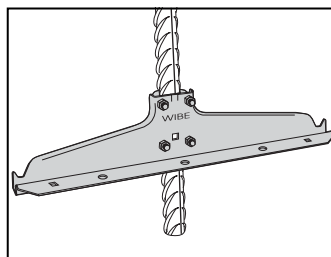
For installation of KHZSP, KHZ, KHZP and KHZPS on Support bracket 3 Profile clamp 42 is used.



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.

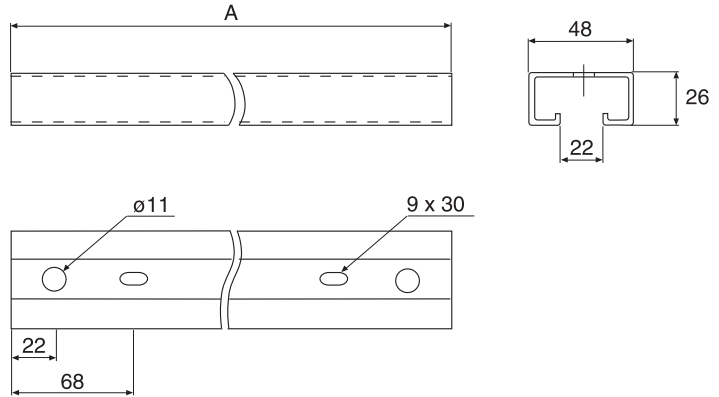
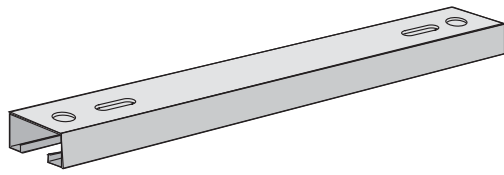
Support bracket HSO



WIBE

Support bracket HSO is used with Threaded rod M10 W76 for installation of cable ladders.

WEF-0001

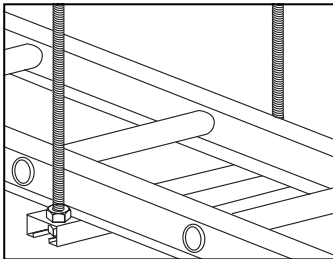


	A mm	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Support bracket HSO-150	210	788166 6	41
Support bracket HSO-200	260	788167 3	51
Support bracket HSO-250	310	788168 0	61
Support bracket HSO-300	360	788169 7	71
Support bracket HSO-400	460	788170 3	90
Support bracket HSO-500	560	788171 0	110
Support bracket HSO-600	660	788172 7	130

(2 nuts M10 incl.)

*EAN-code=732167+Part.no+C (control figure)

Use and installation

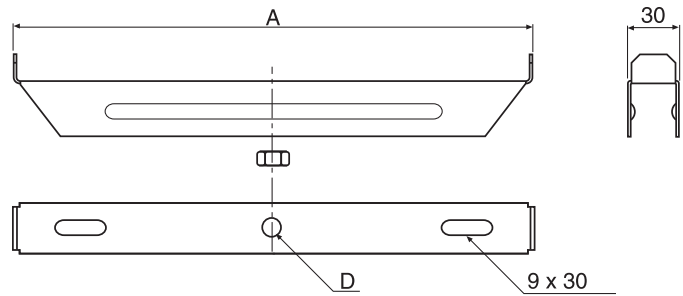
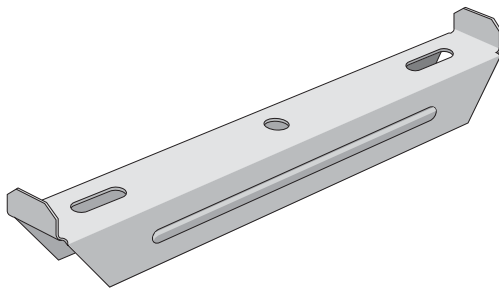


Support bracket HSO installed with 2 Threaded rods M10 W76.

Support bracket HO



Support brackets HO10 and HO16 are used for centre installation with Threaded rods M10 or M16.
The cable ladder is mounted on the support bracket by using Profile clamp 42.



	A mm	D mm	Plate thickness mm	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Support bracket HO10-150	155	11	1.5	788173 4	15
Support bracket HO10-200	205	11	1.5	788174 1	20
Support bracket HO10-250	255	11	1.5	788175 8	25
Support bracket HO10-300	305	11	1.5	788176 5	30
Support bracket HO10-400	405	11	1.5	788177 2	40
Support bracket HO10-500	505	11	2.0	788178 9	100
Support bracket HO10-600	605	11	2.0	788179 6	125
(2 Nuts M10 incl.)					
Support bracket HO16-150	155	18	1.5	788157 4	15
Support bracket HO16-200	205	18	1.5	788158 1	20
Support bracket HO16-250	255	18	1.5	788159 8	25
Support bracket HO16-300	305	18	1.5	788160 4	30
Support bracket HO16-400	405	18	1.5	788161 1	40
Support bracket HO16-500	505	18	2.0	788162 8	100
Support bracket HO16-600	605	18	2.0	788163 5	125
(2 Nuts M16 incl.)					
*EAN-code=732167+Part.no+ C (control figure)					

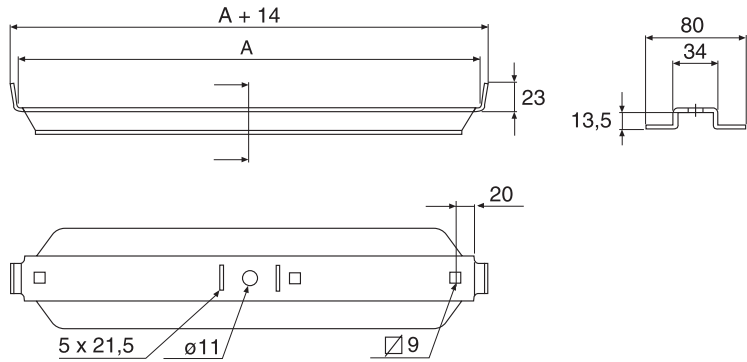
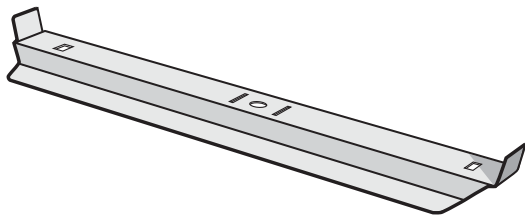
Support bracket 6

KHZ
SP

WIBE

For centre installation of cable ladder KHZSP.
Thickness of material 2.5 mm.

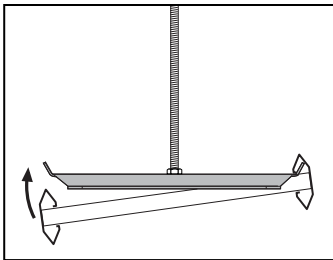
WEF-0001



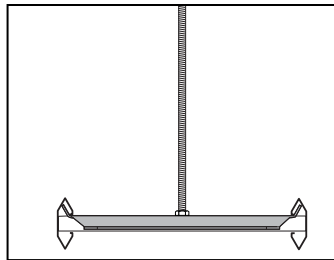
	A	Pre-galv. Part. No. C*	Weight kg 100 pcs
Support bracket 6-200	170	727582 3	27
Support bracket 6-300	270	727583 0	45
Support bracket 6-400	370	727584 7	63
Support bracket 6-500	470	727585 4	81
Support bracket 6-600	570	727586 1	99

* EAN-code=732167+Part.no+C (control figure)

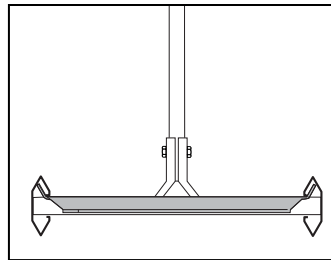
Use and installation



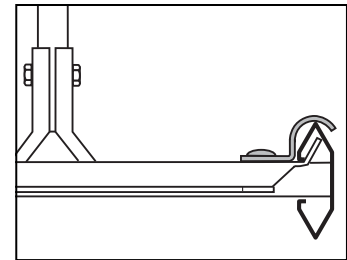
Support bracket 6 must be mounted inside cable ladder KHZSP.



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



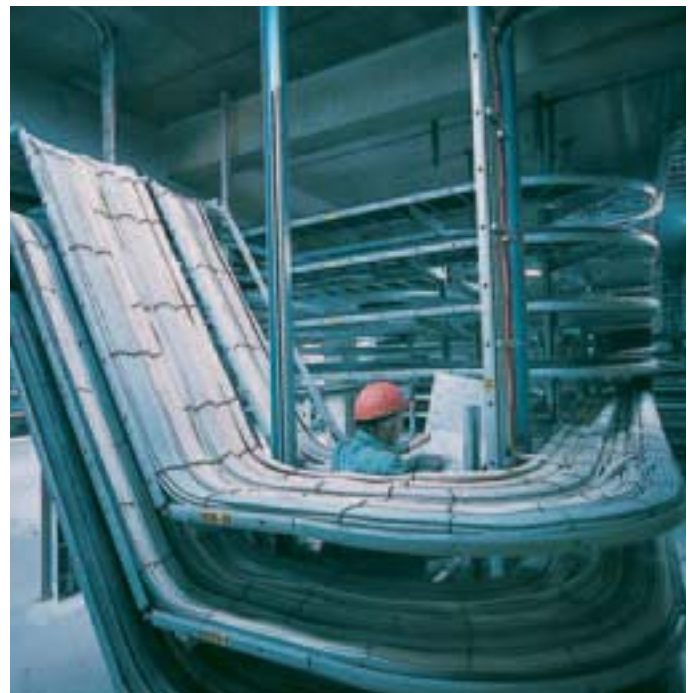
Support bracket 6 mounted with Pendant rail W32, Pendant attachment W21 and Screw set W37.



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

Breaking load-symmetrical loading

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



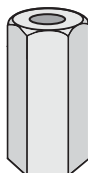
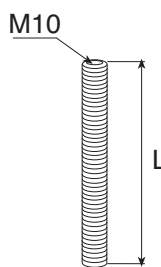
Threaded rod M10 W76

KHZ
SP

WIBE

Threaded rod M10 W76 is used for installations of cable ladders KHZSP.
Joint nut M10 is used for joining of Threaded rods M10 W76.

WEF-0001



	L mm	Electro-galv. Part. No. C*	Stainl. steel (AISI316) Part. No. C*	Electro-galv. White80 Part. No. C*	Weight kg 100 pcs
Threaded rod M10 W76-2000	2000	716792 0	723925 2**	718795 9**	100
Threaded rod M10 W76-3000	3000	716793 7	723926 9**	718797 3**	150
Joint nut M10		724806 3**	724807 0**		7.2

*EAN-code=732167+Part.no+C (control figure) **Produced to order

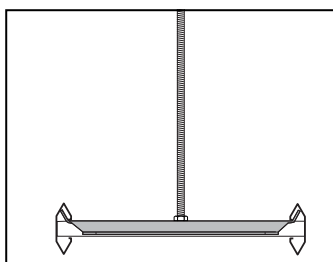
Nut M10 for assembling of Threaded rod M10 W76 on Support bracket 6.



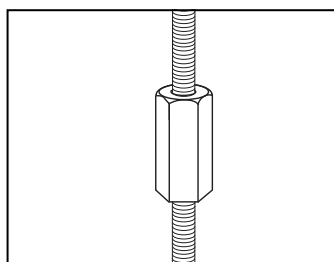
	Hot dip galv. Part. No. C*	Stainl. steel (AISI316) Part. No. C*	Weight kg 100 pcs
Nut M10	723938 2	723939 9	1.1

*EAN-code=732167+Part.no+C (control figure)

Use and installation



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



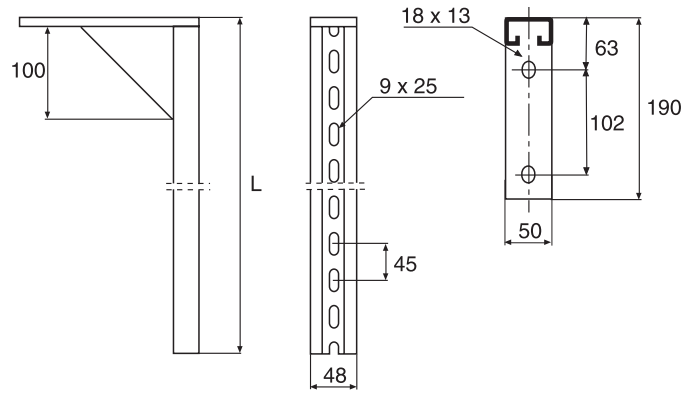
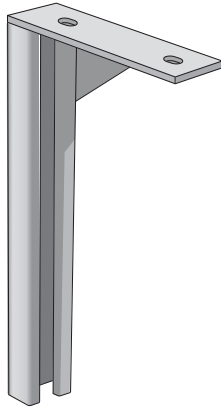
When joining two pieces of Threaded rod M10 W76 use Joint nut M10.

Vertical piece 2FPK



For installations in ceilings close to wall.

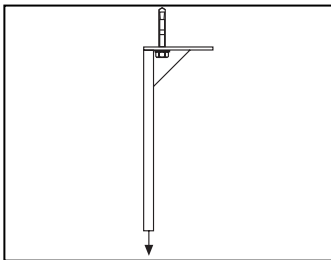
WEF-0001



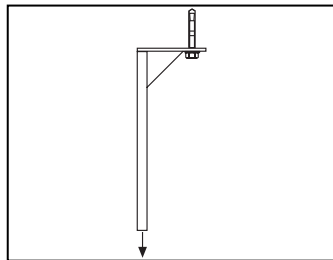
	L mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Vertical piece 2FPK-300	280	788655 5	788660 9**	120
Vertical piece 2FPK-500	500	788656 2	788661 6**	155
Vertical piece 2FPK-750	730	788657 9	788662 3**	205
Vertical piece 2FPK-1000	1000	788658 6	788663 0**	250

*EAN-code=732167+Part.no+C (control figure) **Produced to order

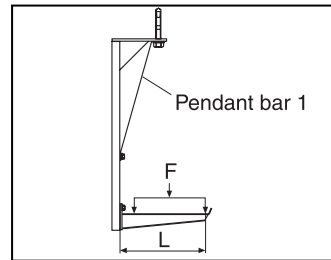
Loadings



Vertical piece 2FPK mounted in the inner hole.
Breaking load=1400 kg (14 kN) at symmetrical loading.



Vertical piece 2FPK mounted in the outer hole.
Breaking load=200 kg (2kN) at symmetrical loading.

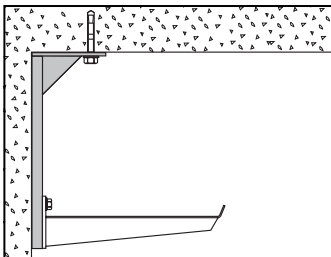


Deflection of Vertical piece 2FPK is reduced by installing Pendant bar 1. Loadings in accordance with table below.

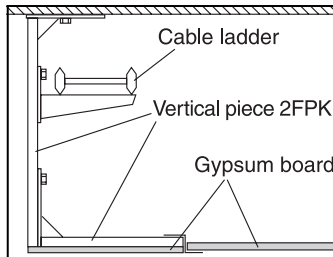
Max permitted load F at max permitted deflection 1/20 of the length L of the cantilever arm in accordance to standard IEC 61537.

	Cantilever arm	2FPK-300 kg	2FPK-500 kg	2FPK-750 kg	2FPK-1000 kg
Without Pendant bar 1	50-200 L=250	140	130	100	80
	50-400 L=450	145	135	95	75
	50-600 L=650	105	100	80	60
With Pendant bar 1-500	50-200 L=250			155	125
	50-400 L=450			165	120
	50-600 L=650			115	90

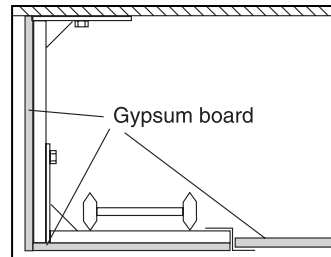
Use and installation



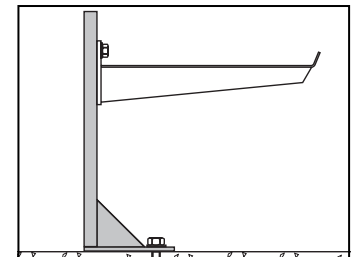
Vertical piece 2FPK can be mounted in ceiling close to wall.



Vertical piece 2FPK mounted horizontally on wall or vertical piece as carrier of gypsum boards.



Vertical piece 2FPK can be used as carrier of gypsum boards in order to build in cable ladder passages.



Vertical piece 2FPK is suitable for floor mounting.

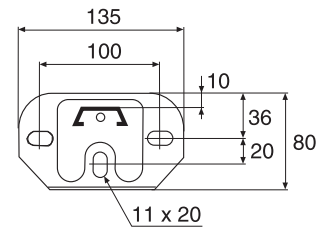
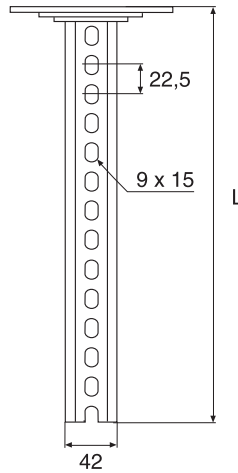
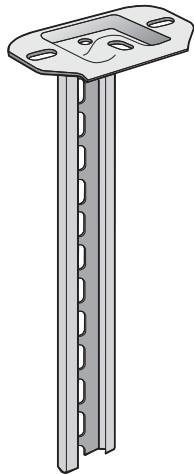
Vertical piece 2



WIBE

WEF-0001

Used for installation of Support bracket 3. Symmetrical loading.
Not suitable for KHZV and KHZPV.
Can be joined to Pendant/Fixing rail 24/34 with Pendant joint 2J.

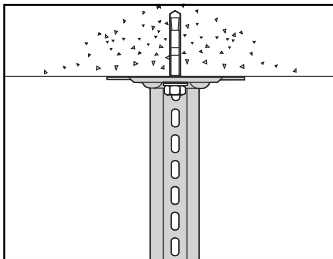


	L mm	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Vertical piece 2-300	279	717191 0	725557 3	716283 3	52
Vertical piece 2-400	392	717192 7	725558 0	716284 0	62
Vertical piece 2-500	504	717193 4	725559 7	716285 7	72
Vertical piece 2-700	729	717194 1	725560 3	716286 4	93
Vertical piece 2-1000	1022	717195 8	725561 0	716287 1	120

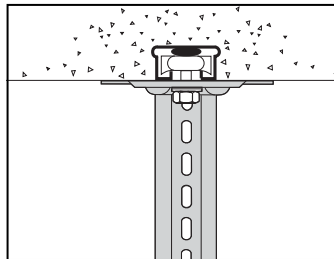
*EAN-code=732167+Part.no+C (control figure)

Use and installation

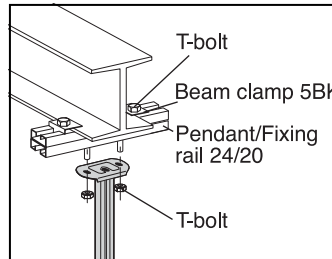
At asymmetrical loading of KHZ, KHZP, KHZSP or KHZPS width 600, Vertical piece 2F or 20 must be used.



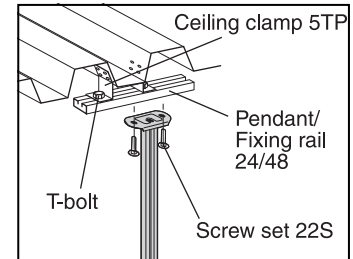
Mount Vertical piece 2 using an Expansion bolt.



Mount Vertical piece 2 on a Fixing rail 24/26x53 for casting-in using T-bolt 26.

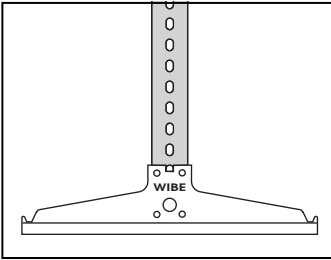


On beams in ceilings, mount Vertical piece 2 as in the figure above. When the beam flange thickness does not exceed 13 mm, use Beam clamp 5BK-10 and T-bolt 26F/40. For flange thicknesses not exceeding 30 mm use Beam clamp 5BK-30 and T-bolt 26F/50.

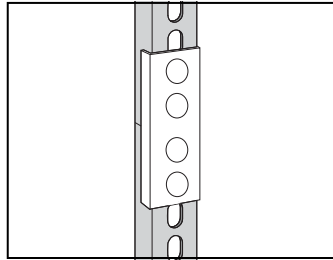


In ceilings with trapezoidal profile sheeting, mount Vertical piece 2 as shown above.

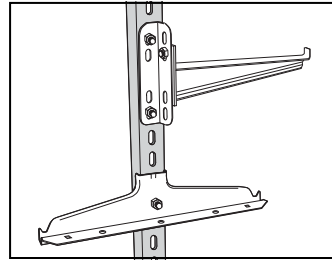
Use and installation



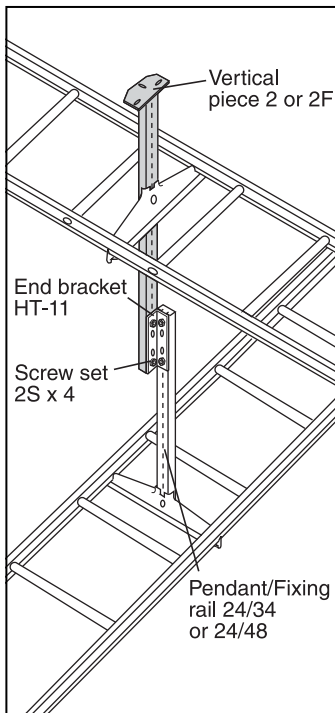
On Vertical piece 2, mount Support bracket 3 using Screw set 22S.



Vertical piece 2 can be joined to achieve the required length using Pendant/Fixing rail 24/34 and Pendant joint 2J.

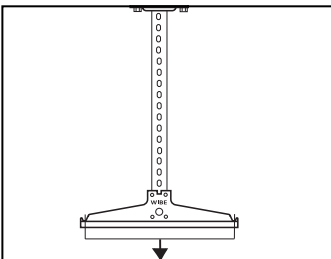


Cantilever arm 50 can, using End bracket HT-11, be mounted at 90° to the pendant/fixing rail. Only for lightweight mounting, such as data cables and suchlike.



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

Breaking load



Breaking load for Vertical piece 2 with a symmetrical loading = 1400 kg (14 kN). See also Breaking load for Support bracket 3.

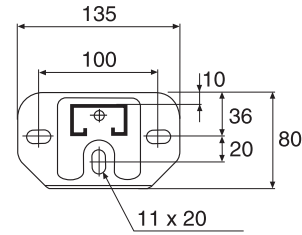
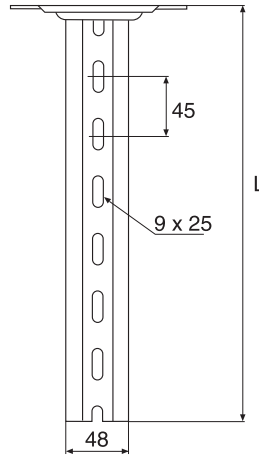
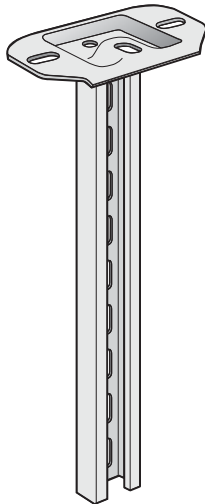
Vertical piece 2F



WIBE

Used for installation of Support bracket 3 or Cantilever arm 50.
Can be joined to Pendant/Fixing rail 24/48 with Pendant joint 2FJ.

WEF-0001



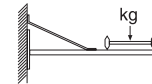
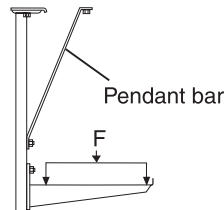
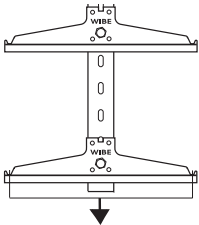
	L mm	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Vertical piece 2F-280	280	717196 5	725562 7	717201 6	80
Vertical piece 2F-370	370	717197 2	725563 4	717202 3	100
Vertical piece 2F-505	505	717198 9	725564 1	717203 0	130
Vertical piece 2F-730	730	717199 6	725565 8	717204 7	170
Vertical piece 2F-1000	1000	717200 9	725566 5	717205 4	220
Vertical piece 2F-1500	1495	787276 3	787278 7	787277 0	290

*EAN=732167+Part.no+C (control figure)

Breaking load

Loading table

Vertical piece 2F installed as a cantilever arm



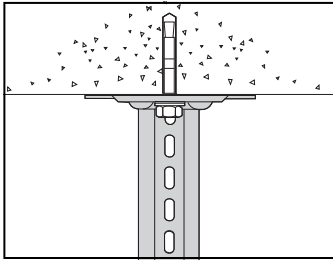
Vertical piece 2F with
Pendant bar 1-300

		Pendant type	2F-730		2F-1000	
		Ladder width	3° defl.	Break. load	3° defl.	Break. load
Breaking load for Vertical piece 2F = 2300 kg (23 kN) at symmetrical loading.	Deflection of Vertical piece 2F is	150	90	120	60	75
	reduced by installing Pendant bar 1	200	95	125	65	80
	alt. Pendant/Fixing rail and Bracket	300	100	135	70	90
	60/40. Loadings in accordance with	400	105	140	75	100
	table below.	600	—	—	100	120

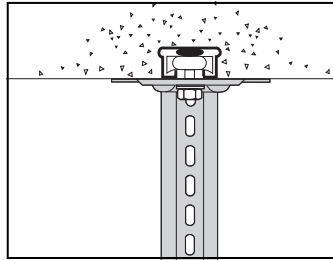
Max. loading F at 3° deflection of cantilever arm

Cantilever arm		2F-280		2F-370		2F-505		2F-730		2F-1000		2F-1500	
type		kN	kg	kN	kg	kN	kg	kN	kg	kN	kg	kN	kg
Without bar	50-200	1.15	115	1.1	110	1.0	100	0.9	90	0.8	80	0.38	38
	50-400	1.4	140	1.35	135	1.25	125	0.85	85	0.6	60	0.35	35
	50-600	1.25	125	1.1	110	0.9	90	0.7	70	0.55	55	0.30	30
With bar 1-300	50-200					1.2	120	1.0	100	0.85	85		
	50-400					1.5	150	1.1	110	0.65	65		
	50-600					1.3	130	1.0	100	0.6	60		
With bar 1-500	50-200							1.2	120	0.95	95	0.71	71
	50-400							1.4	140	0.8	80	0.57	57
	50-600							1.25	125	0.7	70	0.49	49
With bar 1-800	50-200									1.35	135	0.72	72
	50-400									1.25	125	0.75	75
	50-600									1.2	120	0.66	66

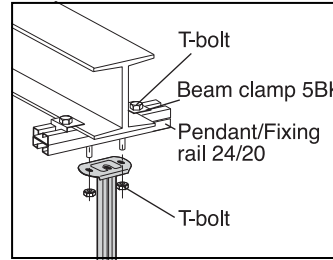
Use and installation



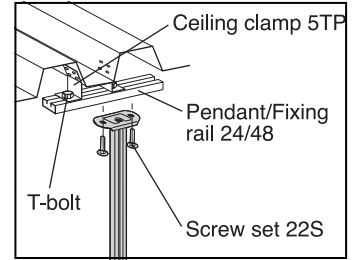
Mount Vertical piece 2F using Expansion bolt alt. Concrete screw.



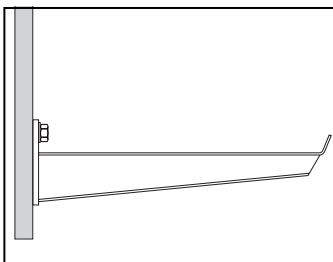
On Fixing rail for casting-in, mount Vertical piece 2F using T-bolt.



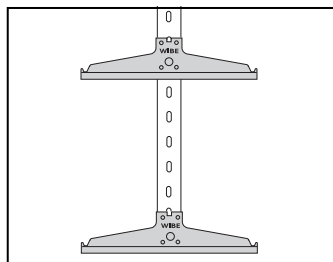
On beams in ceilings, mount Vertical piece 2F as shown in the figure above. When the beam flange thickness does not exceed 13 mm, use Beam clamp 5BK-10 and T-bolt 26F/40. For flange thicknesses not exceeding 30 mm use Beam clamp 5BK-30 and T-bolt 26F/50.



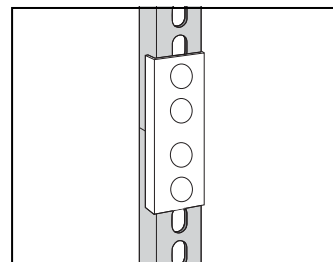
In ceilings with trapezoidal sheeting, mount Vertical piece 2F as shown above.



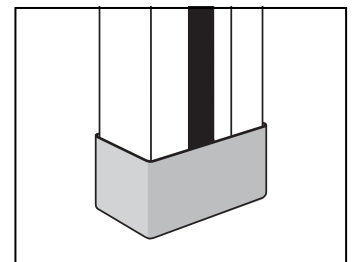
On Vertical piece 2F, mount Cantilever arm 50 using T-bolt 26.



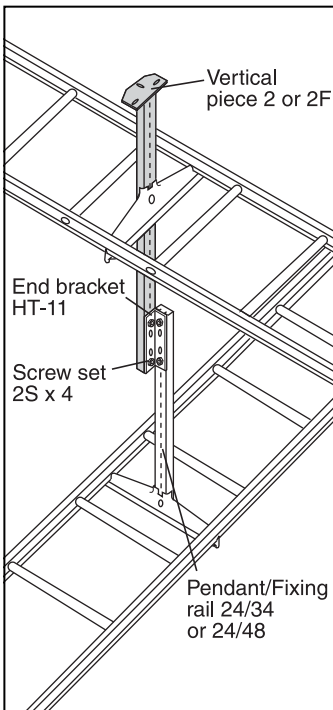
On Vertical piece 2F, mount Support bracket 3 using Screw set 22S.



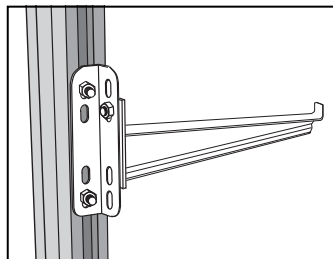
Vertical piece 2F can be joined to achieve the required length using Pendant/fixing rail 24/48 and Pendant joint 2FJ.



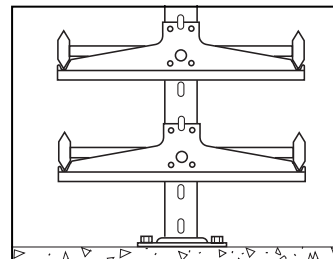
Vertical piece 2F may be equipped with a protective orange End plug 28E.



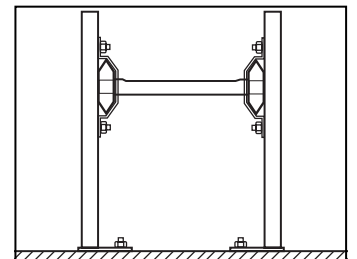
End bracket HT-11 permits mounting of crossing cable ladders on different levels on the same pendant/fixing rail.



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.

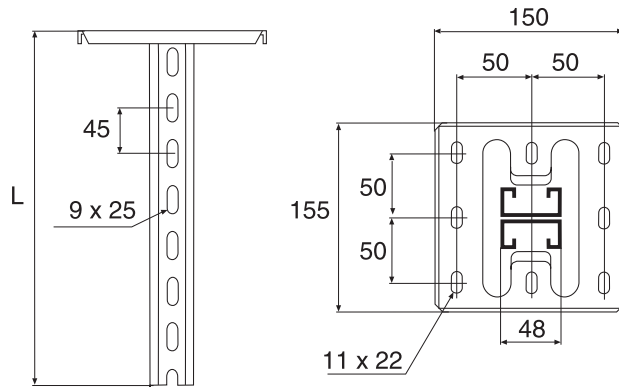
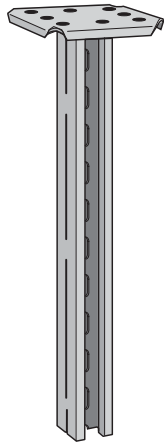


For installation on floor the cable ladders can be mounted with Vertical piece 2F, Profile clamp 41 and T-bolt.

Vertical piece 20



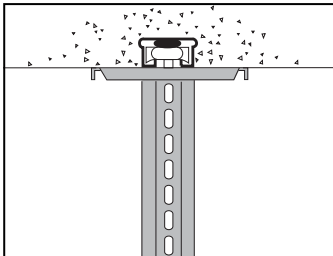
Used for vertical installation with Cantilever arm 50 from a ceiling or on a floor.
 Can also be installed as a cantilever arm on a wall.
 Cable ladders are fixed with profile clamps.



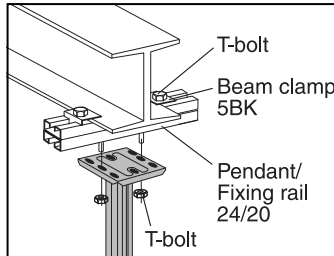
	L mm	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Vertical piece 20-505	505	715723 5	725567 2	716276 5	250
Vertical piece 20-730	730	715724 2	725568 9	716277 2	330
Vertical piece 20-1000	1000	715725 9	725569 6	716278 9	440
Vertical piece 20-1500	1495	715726 6	725570 2	716279 6	620
Vertical piece 20-2000	1990	715727 3	725571 9	716280 2	800
Vertical piece 20-3000	2980	715728 0	725572 6	716281 9	1180

*EAN-code=732167+Part.no+C (control figure)

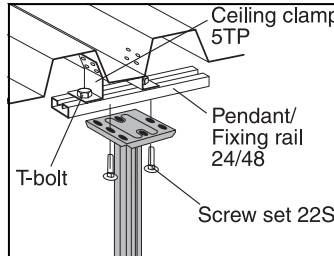
Use and installation



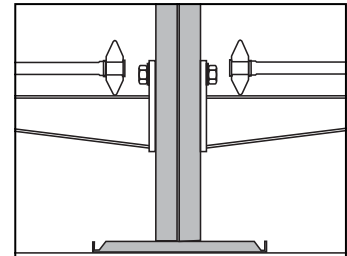
On fixing rail for casting-in, mount Vertical piece 20 using T-bolts.



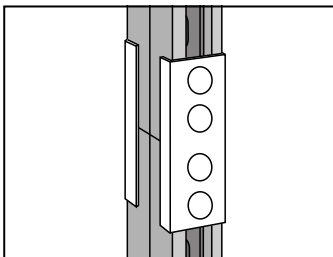
On beams in ceilings, mount Vertical piece 20 as shown in the figure above. When the beam flange thickness does not exceed 13 mm, use Beam clamp 5BK-10 and T-bolt 26F/40. For flange thicknesses not exceeding 30 mm use Beam clamp 5BK-30 and T-bolt 26F/50.



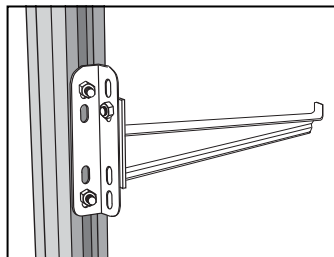
In ceilings with trapezoidal profile sheeting, mount Vertical piece 20 as shown above.



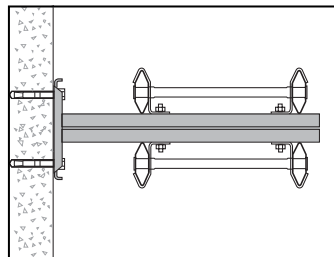
Vertical piece 20 is also suitable for floor mounting.



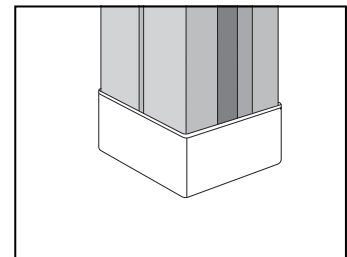
Vertical piece 20 can be joined to achieve the required length using Pendant/fixing rail 24/20 and Pendant joint 20J.



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.

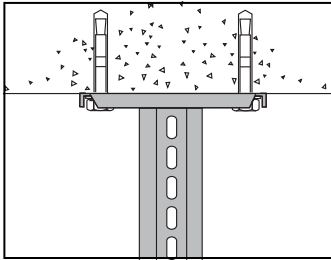


Vertical piece 20 may be used for vertical mounting in a shaft, for example. Mount Wall bracket 11 or Profile clamp 42 using T-bolts. The vertical piece may also be mounted horizontally as a cantilever arm, such as when passing columns.

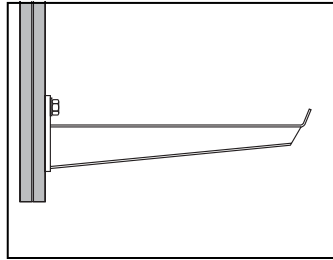


Vertical piece 20 may be equipped with a protective orange End plug 28D.

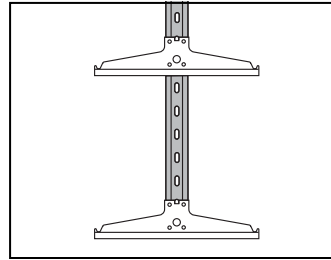
Use and installation



Mount Vertical piece 20 using Expansion bolt.

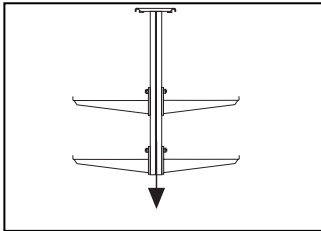


On vertical piece, mount Cantilever arm 50 using T-bolt 26. For loadings see Cantilever arm 50.

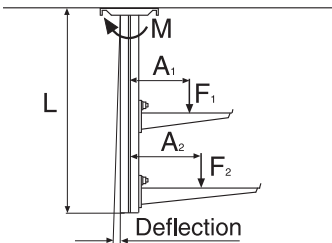


On Vertical piece 20, mount Support bracket 3 using Screw set 20S.

Breaking load



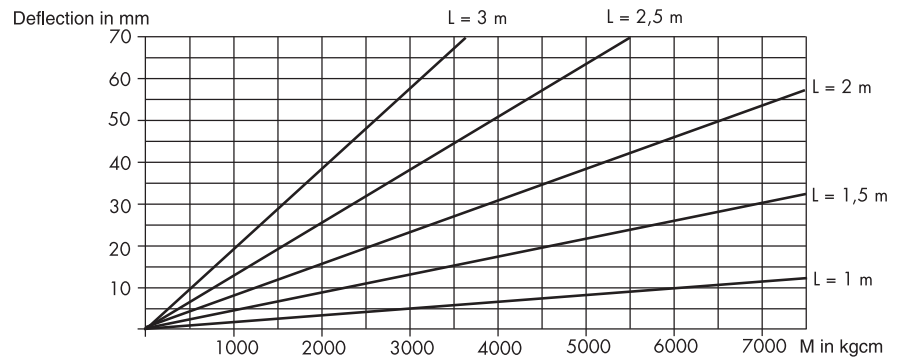
Symmetrical loading:
Breaking load for vertical piece = 3000 kg (30 kN).



Asymmetrical loading:

$$M = \sum F \times A$$

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.

Bending torque M is total sum of $F \times A$ (kgcm).

F = Cantilever arm loading (kg)

F = Loading (kg/m) x arm distance (m).

A = Distance between loading and pendant centre line (cm)

$$A = \frac{\text{Ladder width} + 7.7}{2}$$

Break load torque 19 000 (kgcm)

L = Pendant length

Example:

Conditions:

- 2 m bracket distance
- 30 kg/m ladder
- Two ladders, 400 and 600 mm
- One-side loading
- Pendant 20-1000
- Bending?

$$M = \sum F \times A \text{ (kgcm)}$$

$$M = 30 \times 2 \times \frac{(F_1)(A_1)}{2} + 30 \times 2 \times \frac{(F_2)(A_2)}{2}$$

$$(F_1) \quad (A_1) \quad (F_2) \quad (A_2)$$

$M = 3\,924$ kgcm — bending as per diagram, about 6 mm.

Loading table for Vertical piece 20 installed as a cantilever arm

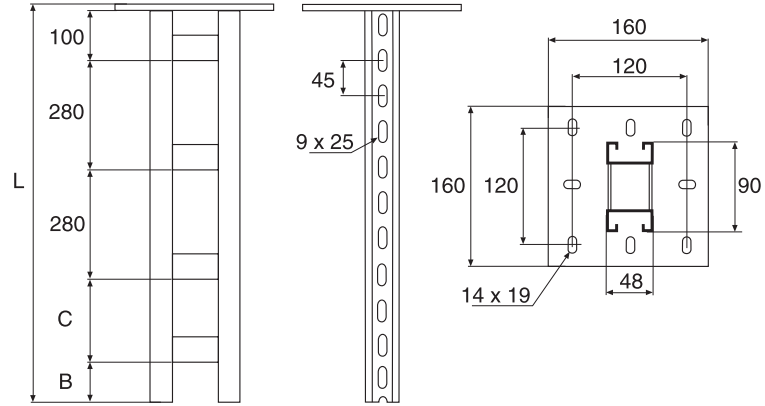
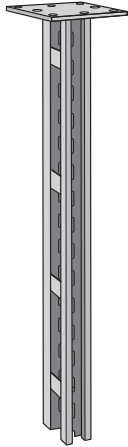
Pendant type	Vertical piece 20 with Pendant bar 1-300						Vertical piece 20 without Pendant bar 1					
	20-730		20-1000		20-1500		20-730		20-1000		20-1500	
Width Ladder type	3° defl.	Break. load	3° defl.	Break. load	3° defl.	Break. load	3° defl.	Break. load	3° defl.	Break. load	3° defl.	Break. load
150	330	380	180	210	105	155	190	230	130	165	70	115
200	350	400	200	240	110	160	200	250	140	170	70	115
300	375	425	225	270	115	165	215	280	150	175	75	120
400	400	450	250	300	120	170	230	310	160	180	80	125
600	—	—	280	320	130	180	280	370	170	190	90	130

Vertical piece 20F



Vertical piece 20F can be mounted from the ceiling or on the floor.
Suitable for rather heavy loadings.

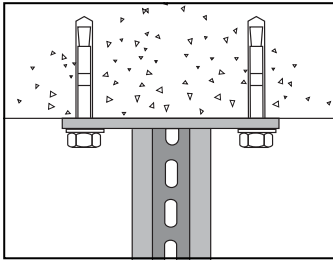
WEF-0001



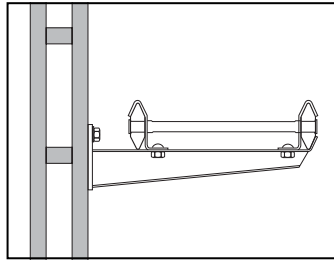
	B mm	C mm	L mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Vertical piece 20F-1000	50	280	995	718249 7	718484 2	590
Vertical piece 20F-1500	70	195	1490	718250 3	718485 9	790
Vertical piece 20F-2000	5	195	1985	718251 0	718486 6	990
Vertical piece 20F-3000	70	280	2980	709799 9	716282 6	1240

*EAN-code=732167+Part.no+C (control figure)

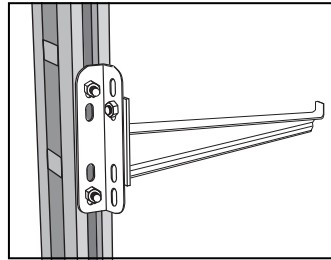
Use and installation



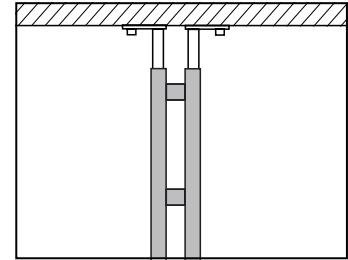
Mount Vertical piece 20F using Expansion bolt alt. Concrete screw.



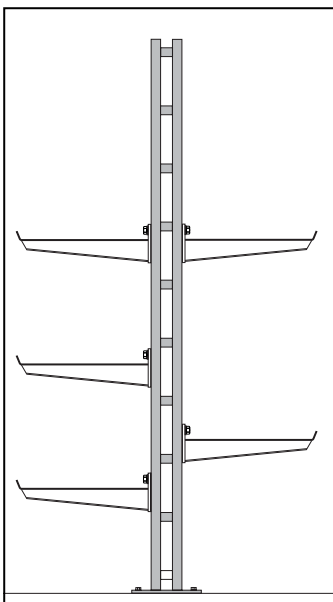
Cantilever arm 50 can be mounted using T-bolt 26. For loads on Cantilever arm 50, see Cantilever arm 50L, 50 and 50F.



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 suchlike.

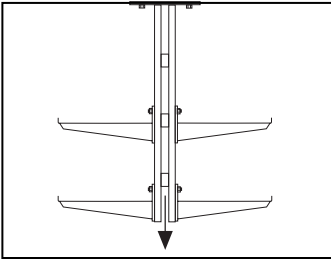


Vertical piece 20F mounted on floor can be fixed using Vertical piece 2 as ceiling bracket, adjustable in the pendant.



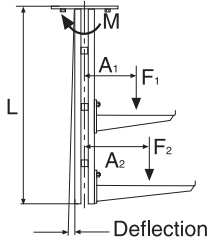
Floor mounting example.

Loading table



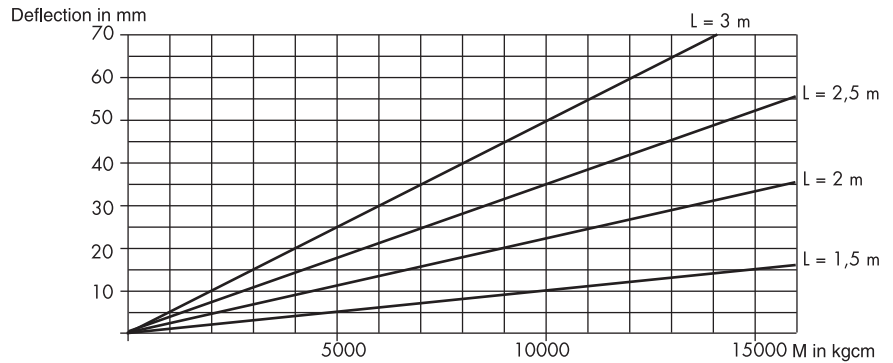
Symmetrical loading

Breaking load for Vertical piece 20F = 5000 kg (50kN)



Asymmetrical loading

Vertical piece 20F mounted in ceiling, see diagram.



For values outside diagram please contact Wibe.

Bending torque M is total sum of $F \times A$ (kgcm).

F = Cantilever arm loading (kg)

F = Loading (kg/m) \times arm distance (m).

A = Distance between loading and pendant centre line (cm)

$A = \frac{\text{Ladder width} + 9.4}{2}$

Break load torque 30 000 (kgcm)

L = Pendant length

Example:

Conditions:

- 2 m arm distance
- 50 kg/m ladder
- Two ladders, 400 and 600 mm
- One-side loading
- Pendant 20F-1500
- Bending?

$M = \sum F \times A$ (kgcm)

$M = 50 \times 2 \times \frac{(40 + 9.4)}{2} + 50 \times 2 \times \frac{(60 + 9.4)}{2}$

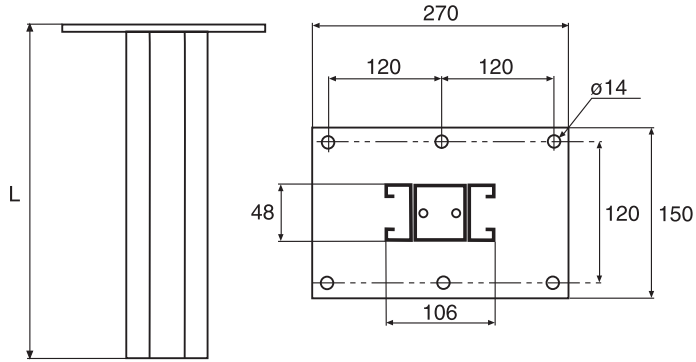
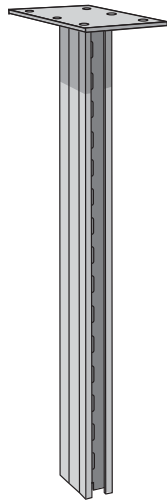
$(F_1) \quad (A_1) \quad (F_2) \quad (A_2)$

$M = 6\,880$ kgcm — bending as diagram, about 6 mm.

Vertical piece 20FS



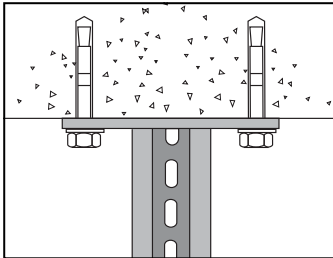
The Vertical piece 20FS can be mounted from the ceiling or on the floor.
Suitable for very heavy loadings.



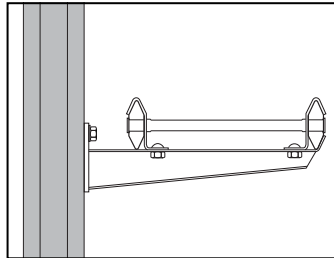
	L mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Vertical piece 20FS-1500	1495	718718 8	720521 9**	1460
Vertical piece 20FS-2000	1990	718719 5	720522 6**	1810
Vertical piece 20FS-2500	2485	718720 1	720523 3**	2160
Vertical piece 20FS-3000	2980	718721 8	720524 0**	2520

*EAN-code=732167+Part.no+C (control figure) **Produced to order

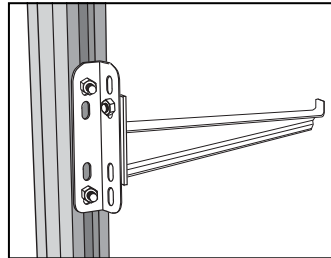
Use and installation



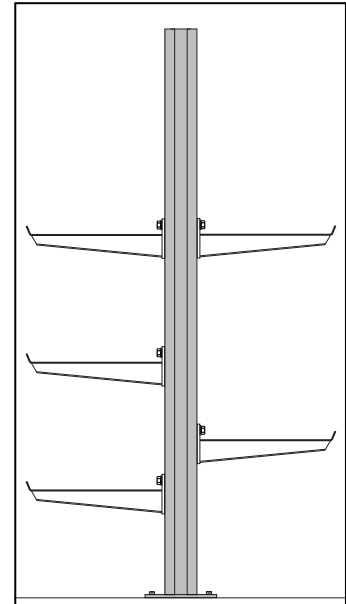
Mount Vertical piece 20FS using Expansion bolt alt. Concrete screw.



Mount Cantilever arm 50 using T-bolt 26. For loads on Cantilever arm 50, see Cantilever arm 50L, 50 and 50F.

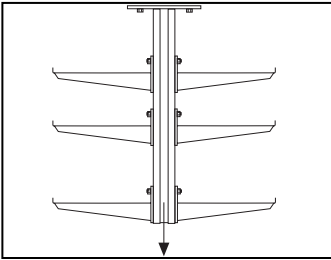


Using End bracket HT-11, Cantilever arm 50 can be mounted at 90° to the vertical piece. Only for lightweight mounting of data cable type or suchlike.

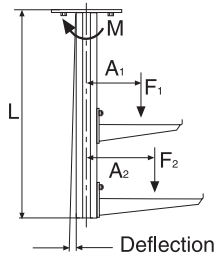


Vertical piece 20FS is suitable for floor mounting.

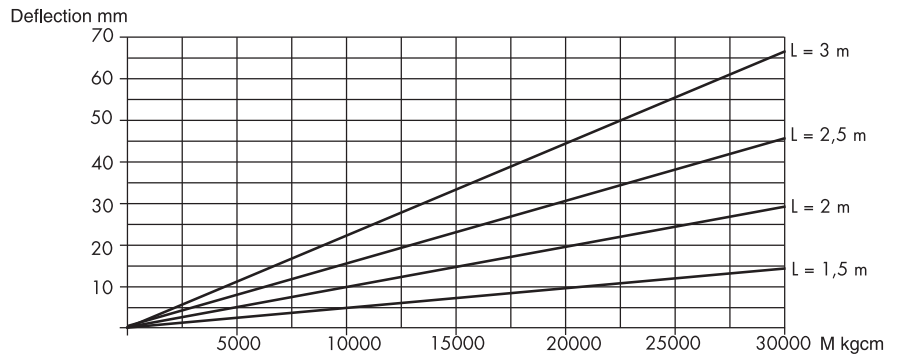
Loading table



Symmetrical loading
 Breaking load for Vertical piece
 20FS = 5000 kg
 (50 kN)



Asymmetrical loading
 Vertical piece 20FS mounted in ceiling, see diagram.



For values outside diagram please contact Wibe.
 Bending torque M is total sum of $F \times A$ (kgcm)
 F = Cantilever arm loading (kg)
 F = Loading (kg/m) x arm distance (m).
 A = Diastance between loading and pendant centre line (cm)
 $A = \frac{\text{Ladder width} + 10.4}{2}$ cm
 Break load torque 60 000 (kgcm)
 L = Pendant length

Example:

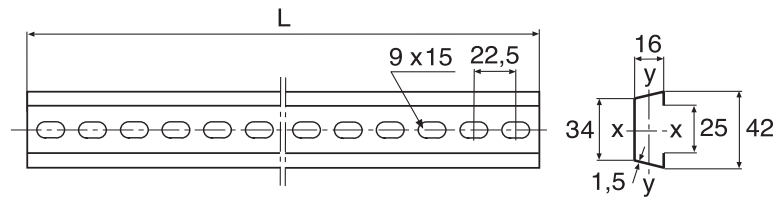
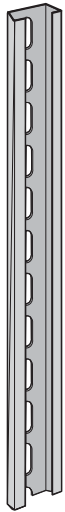
- Conditions:
- 2 m arm distance
 - 75 kg/m ladder
 - Two ladders, 400 and 600 mm
 - One-side loading
 - Pendant 20FS-1500
 - Bending?

$$M = \sum F \times A \text{ (kgcm)}$$

$$M = 75 \times 2 \times \left(\frac{40}{2} + 10.4 \right) + 75 \times 2 \times \left(\frac{60}{2} + 10.4 \right)$$

$$(F_1) \quad (A_1) \quad (F_2) \quad (A_2)$$

$M = 10\,620$ kgcm — bending as per diagram, about 5 mm.

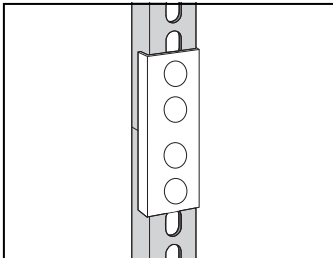


	Transverse force			
	I_x	W_x	I_y	W_y
Pendant/Fixing rail 24/34	2.17 cm ⁴	1.03 cm ³	0.36 cm ⁴	0.39 cm ³

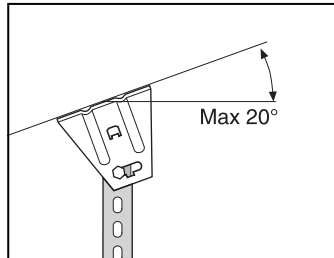
	L ± 2 mm	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 st
P/F-rail 24/34	292.5	725357 9		725574 0		23
P/F-rail 24/34	382.5	725358 6		725575 7		31
P/F-rail 24/34	495	725359 3		725576 4		40
P/F-rail 24/34	697.5	725360 9		725577 1		56
P/F-rail 24/34	990	725361 6		725578 8		80
P/F-rail 24/34	2970	721102 9	715879 9	725579 5	716309 0	240

*EAN-code=732167+Part.no+C (control figure)

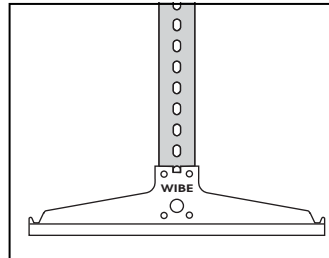
Use and installation



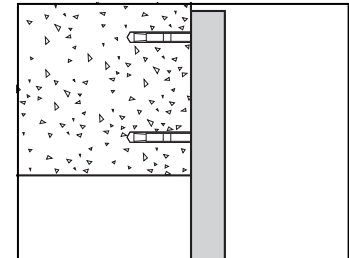
Vertical piece 2 may be joined to Pendant/Fixing rail 24/34 and Pendant joint 2J to achieve a suitable length.



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.



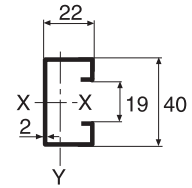
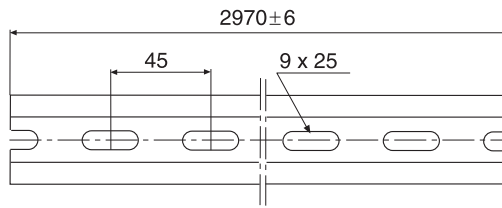
Side mounting of pendant/fixing rails may be done using 2 Expansion bolts alt. 2 Concrete screws.

Pendant/Fixing rail 24/40



For mounting of support brackets, cantilever arms etc.

WEF-0001

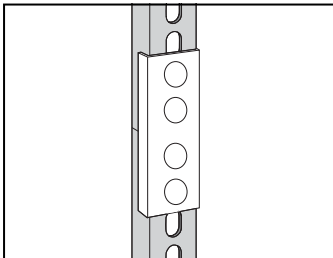


	Transverse force			
	I_x	W_x	I_y	W_y
Pendant/Fixing rail 24/40	4.68 cm ⁴	2.34 cm ³	1.32 cm ⁴	1.07 cm ³

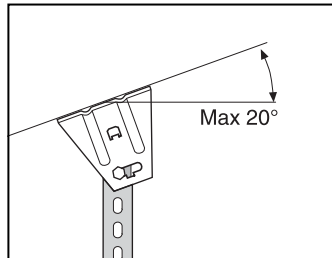
	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg
P/F-rail 24/40	731744 8	705092 5	716305 2	100 st 440

*EAN-code=732167+Part.no+C (control figure)

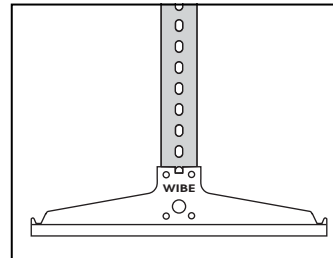
Use and installation



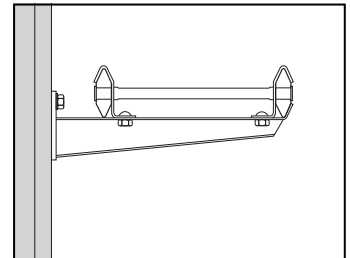
Vertical piece 2 may be joined to Pendant/Fixing rail 24/40 and Pendant joint 2J to achieve the required length.



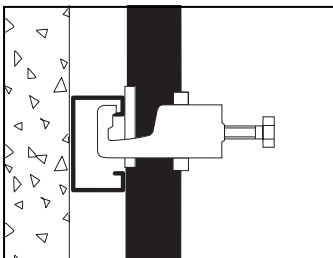
Ceiling bracket 5 and 1 Screw set 22S together provide a vertical piece that can be mounted with up to 20° slope. Only for mounting support bracket.



Mount Support bracket 3 using Screw set 22S .



Mount Cantilever arm 50 using T-bolt 26.



Mounting of cables on Pendant/Fixing rail 24/40 using Cable clamp type A.

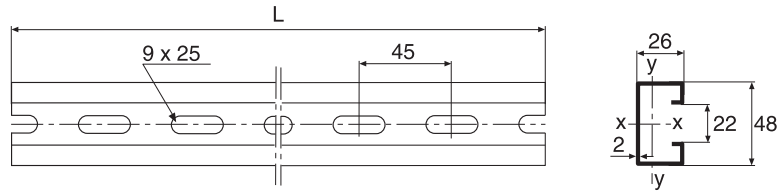
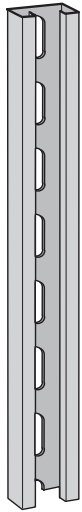
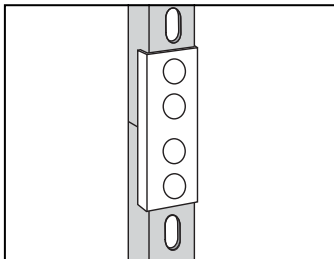


	Plate thickness	Transverse force			
	mm	I_x	W_x	I_y	W_y
Pendant/Fixing rail 24/48	2	7.93 cm^4	3.30 cm^3	2.23 cm^4	1.52 cm^3

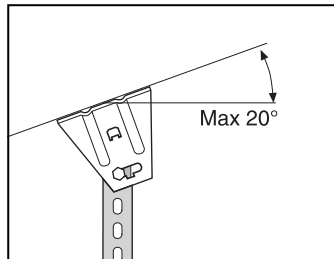
	L ± 6 mm	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
P/F-rail 24/48	2970	731717 2	705093 2	728595 2	716306 9	520
P/F-rail 24/48	5940	731721 9	731719 6	731727 1**	731724 0**	1120

*EAN-code=732167+Part.no+C (control figure) **Produced to order

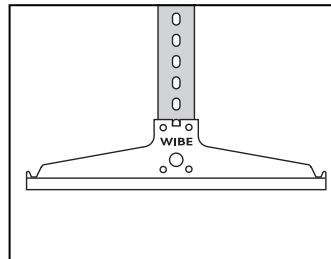
Use and installations



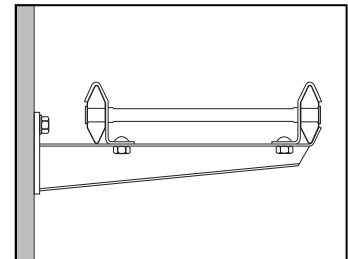
Vertical piece 2F may be joined using Pendant/Fixing rail 24/48 and Pendant joint 2FJ to achieve the required length.



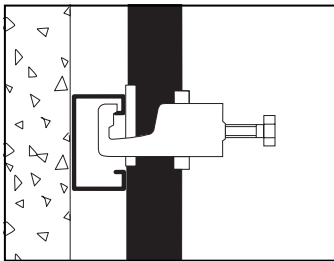
Ceiling bracket 5 and 1 Screw set 22S together provide a vertical piece that can be mounted with up to 20° slope. Only for mounting support brackets.



Mount Support bracket 3 using Screw set 22S.



Mount Cantilever arm 50 using T-bolt 26.



Cables are mounted on a Pendant/Fixing rail 24/48 using cable clamps of type A.

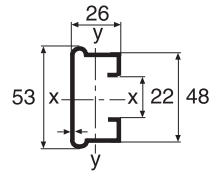
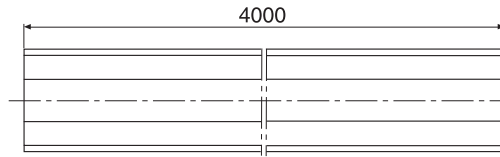
Fixing rail 24/26x53 for casting-in



WIBE

For casting-in in walls and ceilings.

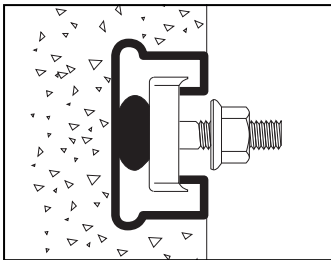
WEF-0001



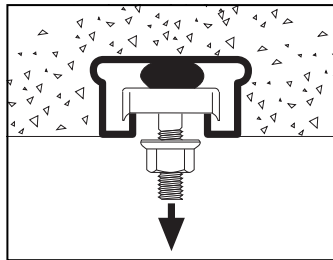
	Transverse force				Hot dip galv. Part. No. C*	Weight kg 100 pcs
	lx	Wx	ly	Wy		
Fixing rail 24/26 x 53 for casting-in	10.39 cm ⁴	3.92 cm ³	2.78 cm ⁴	1.90 cm ³	768063 4	970

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Fixing rail 24/26 x 53 for casting-in in walls and ceilings. Mount cantilever arms with T-bolt type 26 or 26F.



Max. pull-out load: 1000 kg/ 0.5 m of casting-in fixing rail (Concrete class K200).

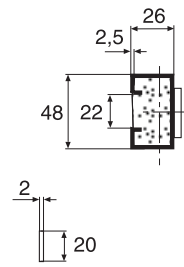
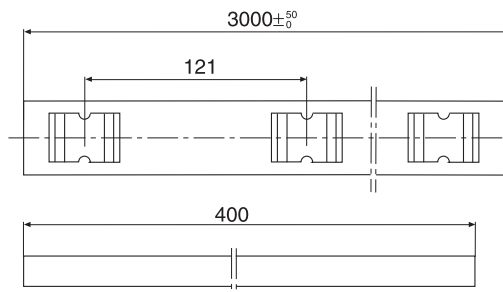
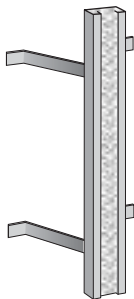
Fixing rail JSA 24/26x48 for casting-in



WIBE

For casting-in in walls and ceilings. Filled with cellular plastic to prevent concrete piercing into the rail.

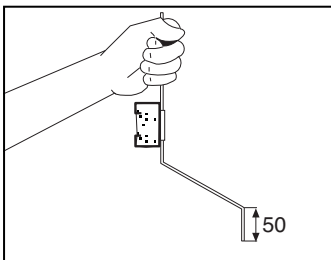
WEF-0029



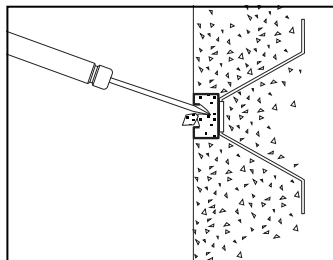
	Pre-galv.	Hot dip galv.	Weight kg 100 pcs
	Part. No. C*	Part. No. C*	
Fixing rail JSA 24/26 x 48 for casting-in		732227 5	700
Strap iron JSA (13 pcs/rail)	732468 2		13

*EAN-code=732167+Part.no+C (control figure)

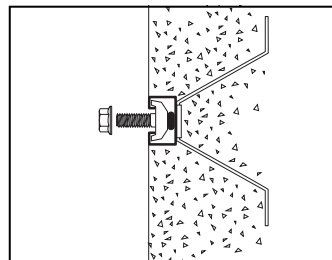
Use and installation



Push the strap iron JSA through the loop of the rail and bend to required shape before embedment.



Take away the cellular plastic with a tool (screwdriver etc) where the T-bolt shall be mounted.



Cantilever arms must be mounted with T-bolt 26 or 26F. Max permissible extraction force: 1000 kg/0.25 m rail when every second loop is equipped with strap iron. The first and the last loop, however, must always be equipped with strap iron. (Concrete class K25).

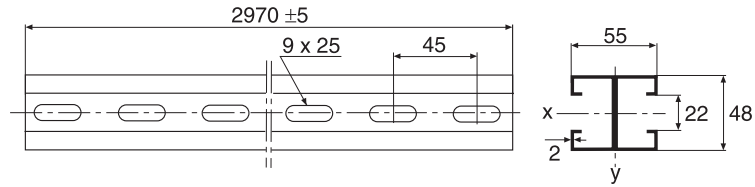
Pendant/Fixing rail 24/20



WIBE

For mounting of support brackets, cantilever arms etc.

WEF-0001

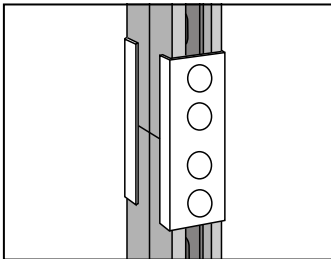


	Transverse force			
	I_x	W_x	I_y	W_y
Pendant/Fixing rail 24/20	15.86 cm ⁴	6.62 cm ³	11.50 cm ⁴	4.10 cm ³

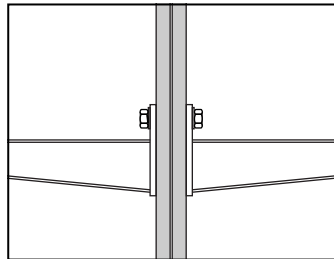
	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Pendant/Fixing rail 24/20	709795 1	716307 6	1130

*EAN-code=732167+Part.no+C (control figure)

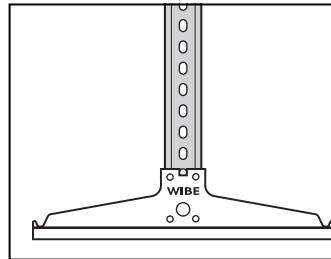
Use and installation



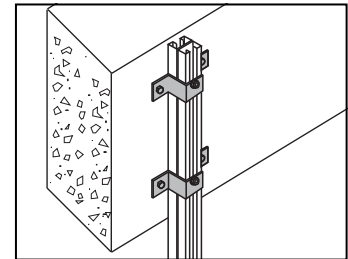
Vertical piece 20 may be joined using Pendant/Fixing rail 24/20 and Pendant joint 20J. Only for symmetrical loading.



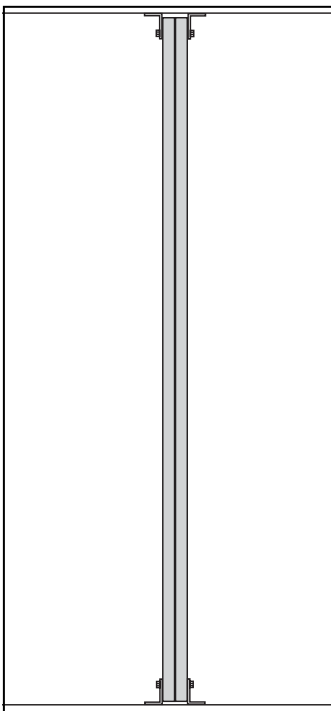
Mount Cantilever arm 50 using T-bolts 26.



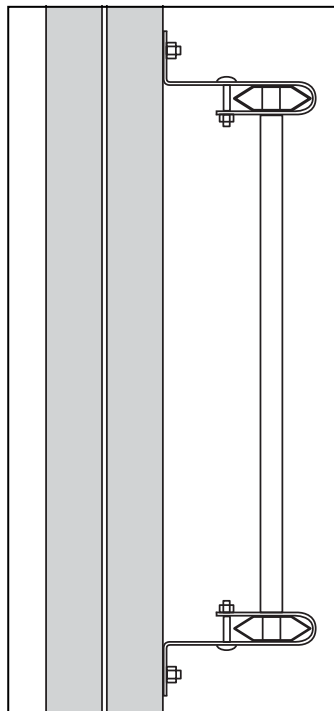
Mount Support bracket 3 using Screw set 20S.



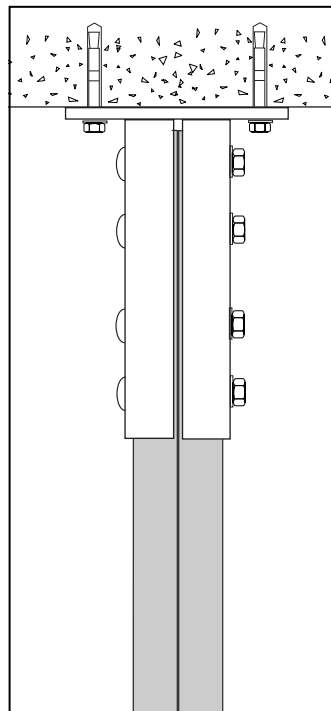
Pendant/Fixing rail can be mounted on beam or wall with Wall bracket 20.



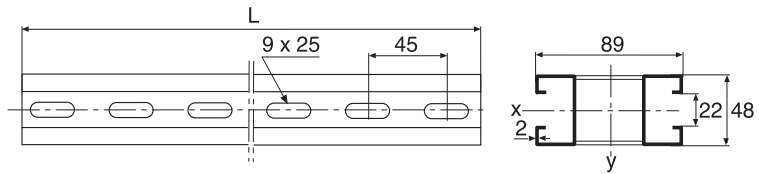
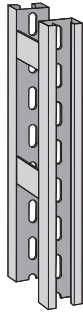
Pendant/Fixing rail 24/20 may be mounted as a riser between the floor and ceiling using 4 Angle brackets 5L and 4 T-bolts 26.



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.

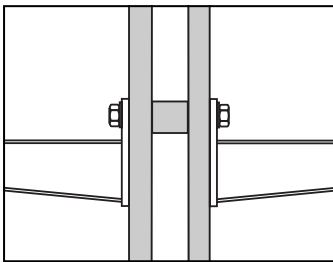


	Transverse force			
	I_x	W_x	I_y	W_y
Pendant/Fixing rail 24/20F	15.86 cm ⁴	6.62 cm ³	44.00 cm ⁴	9.89 cm ³

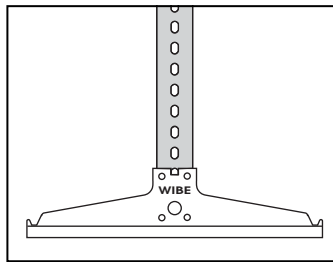
	L mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Pendant/Fixing rail 24/20F-3000	2970	709798 2	716308 3**	1160
Pendant/Fixing rail 24/20F-6000	5940	718808 6	720525 7**	2370

*EAN-code=732167+Part.no+C (control figure) **Produced to order

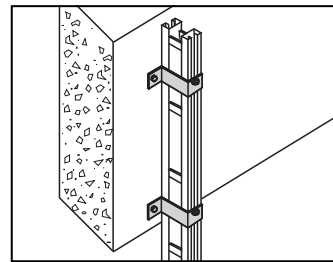
Use and installation



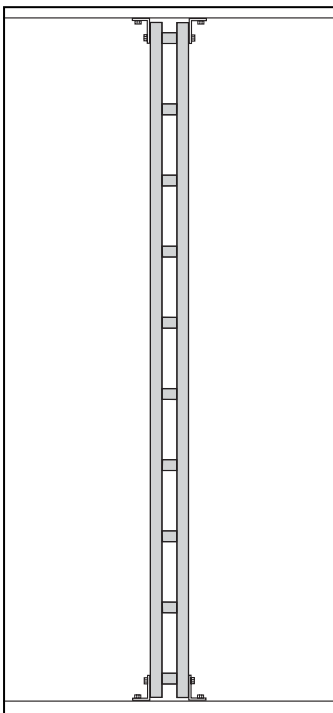
Mount Cantilever arm 50 using T-bolts 26.



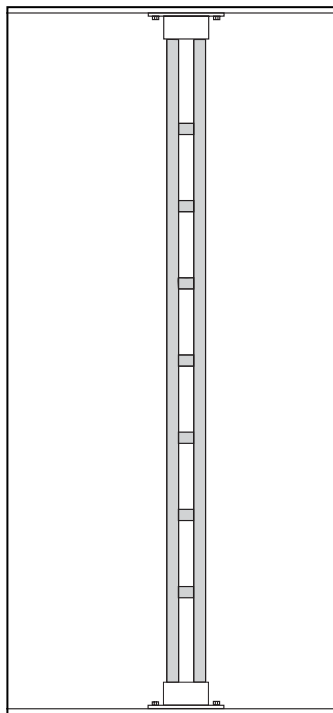
Mount Support bracket 3 using Screw set 2S.



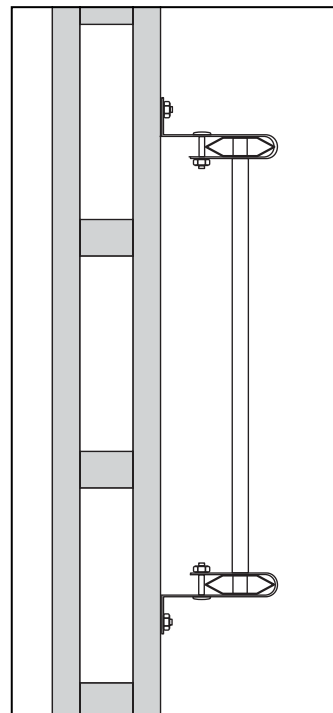
Pendant/Fixing rail 24/20F can be mounted on beam or wall with Wall bracket 20F.



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 26.



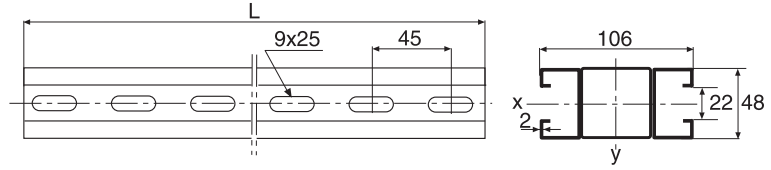
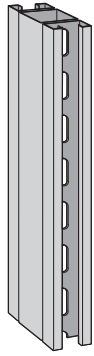
Mount Pendant/Fixing rail 24/20F between a floor and ceiling using 2 Rail fixing supports.



Cable ladder can be mounted vertically or horizontally on Pendant/Fixing rail 24/20F using Wall bracket 11/25 or 11/75.

For mounting of cantilever arm etc.

WEF-0001

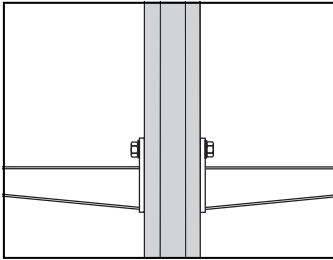


	Transverse force			
	Ix	Wx	Iy	Wy
Pendant/Fixing rail 24/20FS	30.20 cm ⁴	12.55 cm ³	85.00 cm ⁴	16.20 cm ³

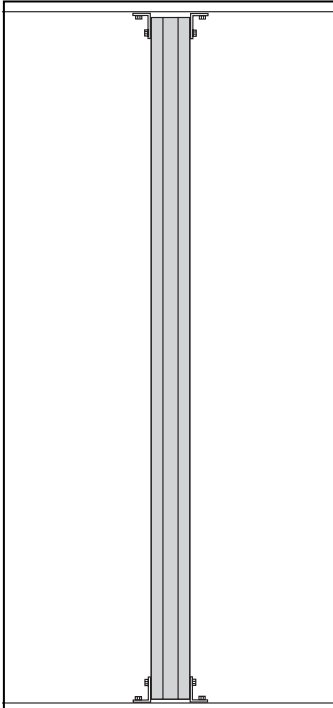
	L mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Pendant/Fixing rail 24/20FS	5940	709031 0	720526 4**	4200

*EAN-code=732167+Part.no+C (control figure) **Produced to order

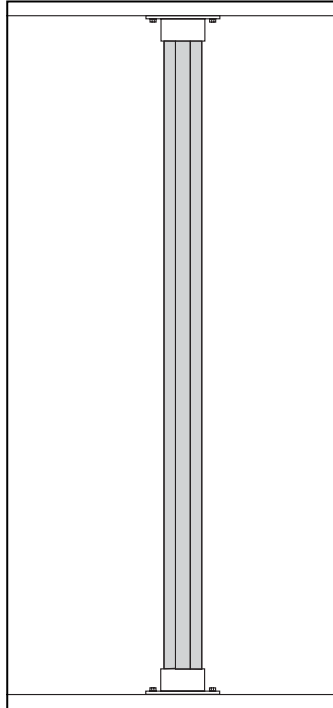
Use and installation



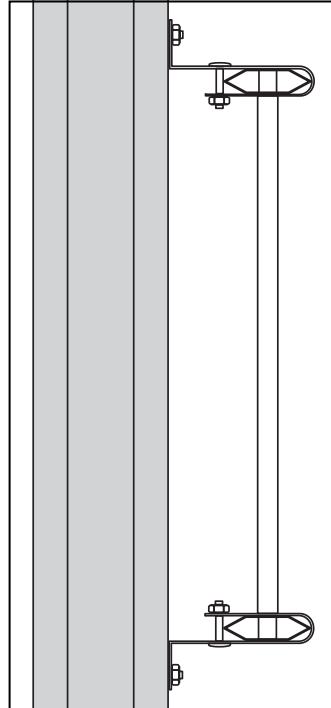
Mount Cantilever arm 50 using T-bolts 26.



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 26.



Mount Pendant/Fixing rail 24/20FS between floor and ceiling using 2 Rail fixing supports.

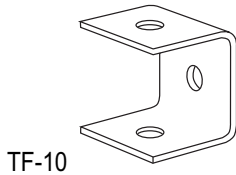


Cable ladders can be mounted vertically or horizontally on Pendant/Fixing rail 24/20FS using Wall bracket 11/25 or 11/75 and T-bolt 26.

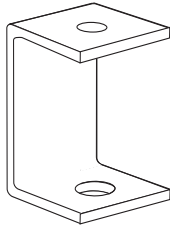
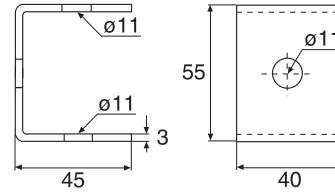
Ceiling bracket TF-10 and TF-16



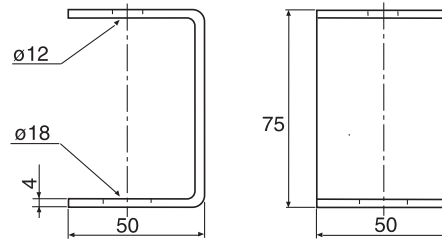
For installation with Threaded rods.



TF-10



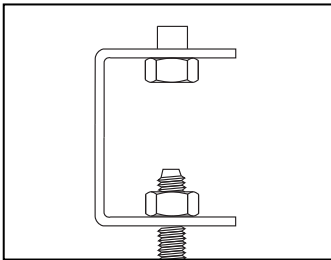
TF-16



	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Ceiling bracket TF-10 (nut M10 incl.)	788164 2	15
Ceiling bracket TF-16 (nut M16 incl.)	788165 9	30

*EAN-code=732167+Part.no+C (control figure)

Use and installation



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

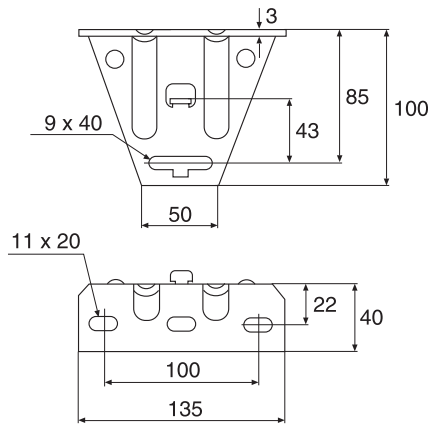
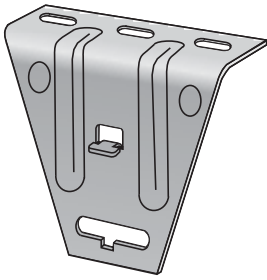
Ceiling bracket 5



WIBE

For installation with Pendant/Fixing rails 24/34, 24/40 and 24/48.

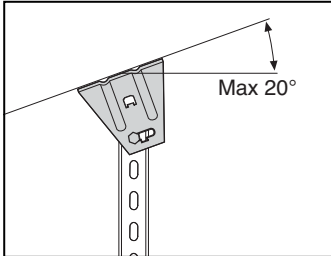
WEF-0001



	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Ceiling bracket 5 (screw excl.)	721101 2	718640 2	725573 3	716293 2	35

* EAN-code=732167+Part.no+C (control figure)

Use and installation



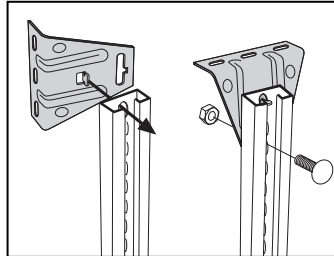
Using Pendant/Fixing rail 24/34, 24/40 and 24/48, 1 Ceiling bracket 5 and 1 Screw set 22S it is possible to make a vertical piece that can be installed at an angle of up to 20°.

Breaking load for rail 34:

1000 kg (10 kN).

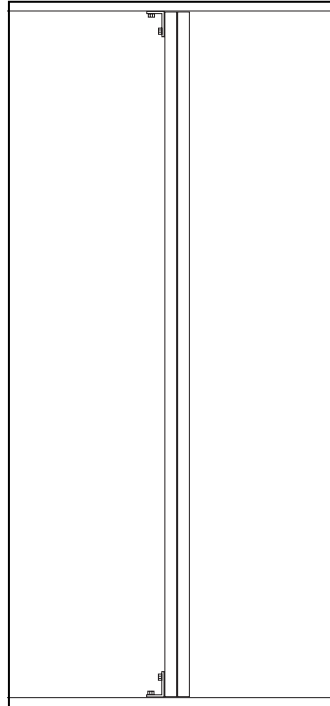
Breaking load for rails 40 and 48:

1200 kg (12 kN).

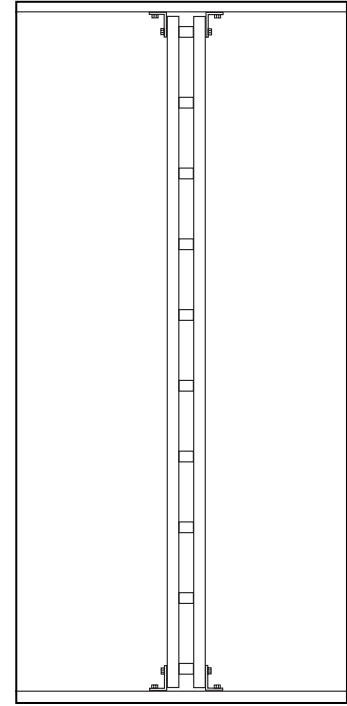


Mount Ceiling bracket 5 to the back of the pendant/fixing rail by turning the ceiling bracket 90° and inserting the tab into the hole in the rail. Then turn the ceiling bracket back and lock it in the required position using 1 Screw set 22S.

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 26, 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 26, be mounted between floor and ceiling (see also Angle bracket 5L).

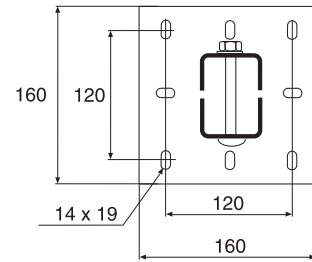
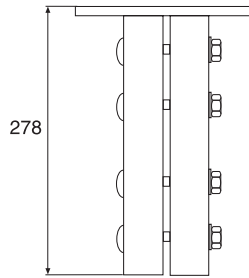
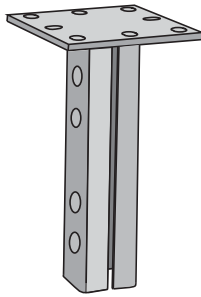
Pendant base plate 520



WIBE

Used as a ceiling or floor base plate for Pendant/Fixing rail 24/20 in any desired length.

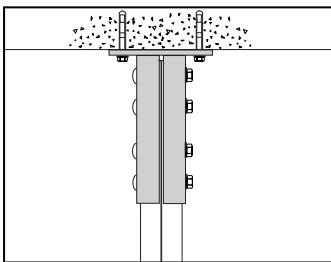
WEF-0001



	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Pendant base plate 520 (4 Screws MVBF 8x80 and nuts incl.)	718253 4	718488 0**	400

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Användning och montage



Vertical pieces of the required length can be mounted using Pendant base plate 520 and Pendant/Fixing rail 24/20. Screws and nuts are included.

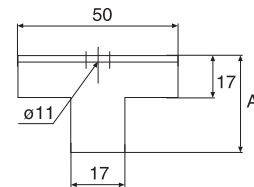
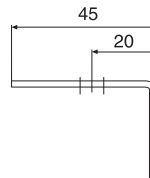
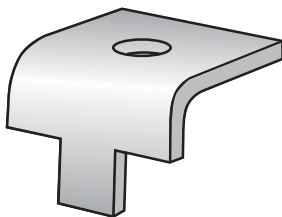
Beam clamp 5BK



WIBE

For installation of Vertical pieces 2, 2F or 20 on I-beams.

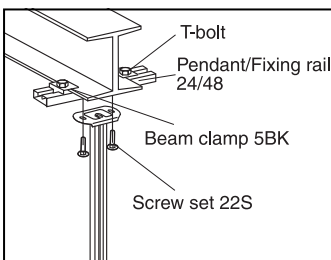
WEF-0001



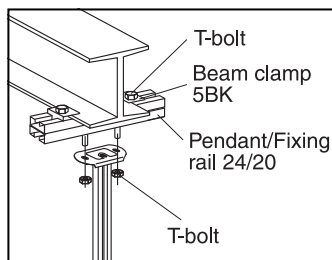
	A mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Beam clamp 5BK-10 (for flange thickness max 13 mm)	30	715675 7	716294 9	15
Beam clamp 5BK-30 (for flange thickness 14-30 mm)	50	718243 5	718487 3	18

*EAN-code=732167+Part.no+C (control figure)

Use and installation



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-bolts 26F/40. For Beam clamp 5BK-30, use T-bolts 26F/50.



Alternatively, a Pendant/Fixing rail 24/20 may be used. This will require 4 T-bolts.

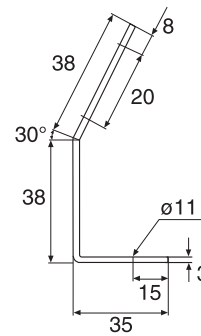
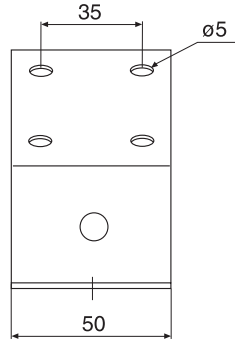
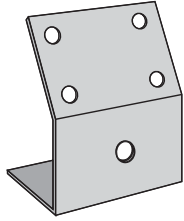
Ceiling bracket 5TP



WIBE

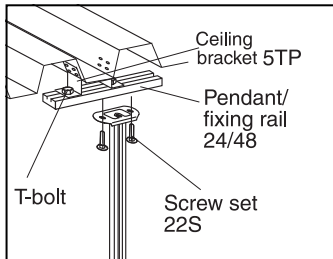
For installation of Vertical pieces 2, 2F and 20 in ceilings with a trapezoidal sheet profile.

WEF-0001

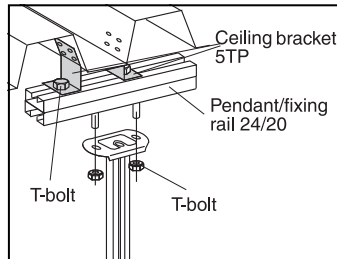


	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Ceiling bracket 5TP	725362 3	713153 2	716295 6	12
*EAN-code=732167+Part.no+C (control figure)				

Use and installation



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 26 and Screw set 22S.



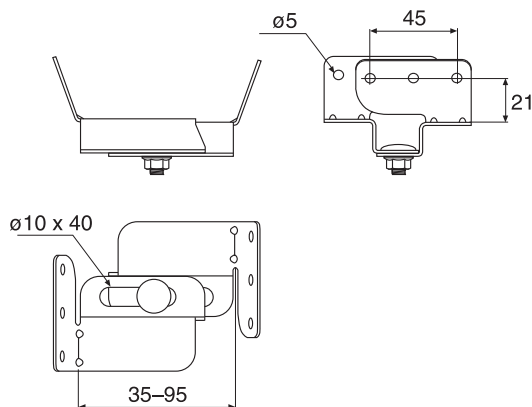
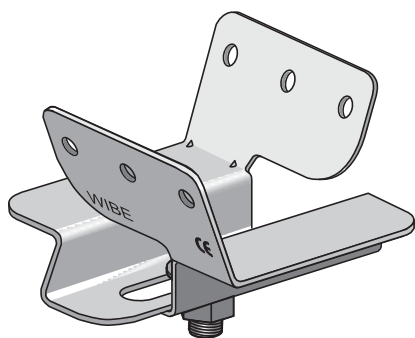
Alternatively Pendant/Fixing rail 24/20 may be used. This will require the use of 4 T-bolts 26.

Ceiling bracket 5TPA



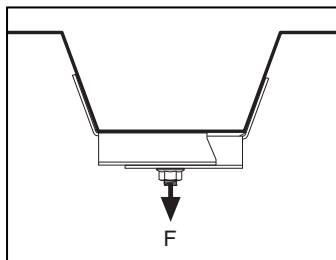
Used for mounting in trapezoid plate.

WEF-0001



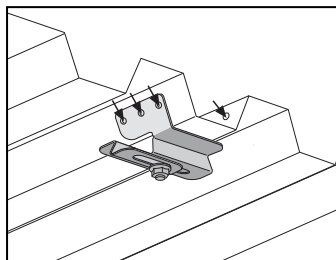
	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Pre-galv. White80 Part. No. C*	Weight kg 100 pcs
Ceiling bracket 5TPA (screw MVBF 8x16 + nut M6MF8 incl.)	732177 3	733487 2	733486 5	14
*EAN-code=732167+Part.no+C (control figure)				

Breaking load

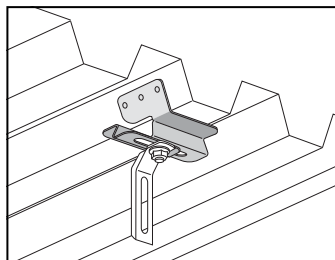


Ceiling bracket 5TPA can be loaded with $F=150$ kgs without deformation. As to loading figures for thin plate or fixing elements, please follow the supplier's recommendations.

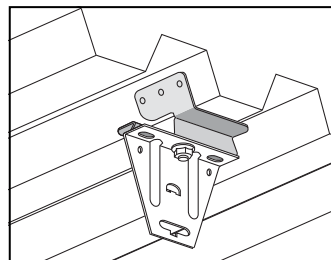
Use and installation



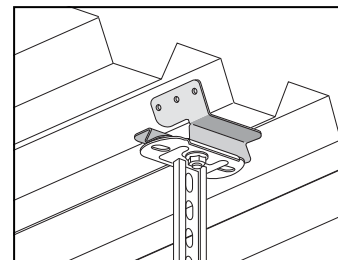
Ceiling bracket 5TPA can be mounted in trapezoid plate with blind rivets or suitable screws. The bracket is adjustable from 35 to 95 mm.



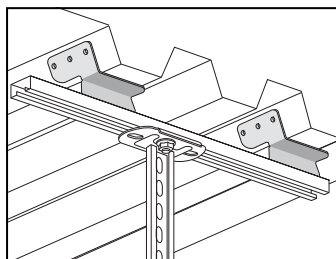
Pendant attachment W21 or Tube pendant attachment W73 can be mounted in Ceiling bracket 5TPA with the existing screw.



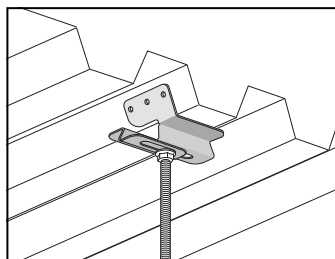
Ceiling bracket 5 or Ceiling attachment W31 can be mounted with the existing screw.



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 M8 or M10 W76 installed in Ceiling bracket 5TPA.

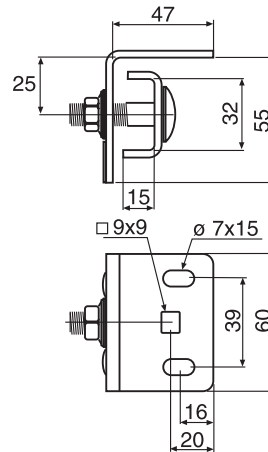
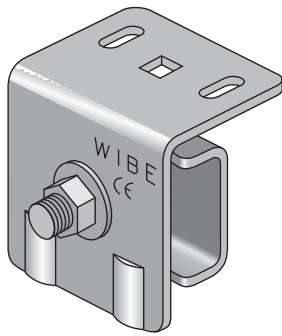
Combi bracket 53



WIBE

Used for mounting cable ladders and trays on seamed roofing sheet etc.

WEF-0001,-0031



	Hot dip galv. Part. No. C*	Plastic Part. No. C*	Weight kg 100 pcs
Combi bracket 53	782353 6		26
Insulating plate 54		787223 7	2

*EAN-code=732167+Part.no+C (control figure)

Breaking load*

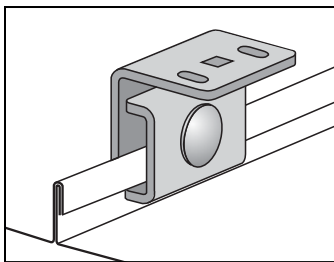
	Type of roofing sheet	Insulating plate	Permitted load
	Bandsheet Prelac	No	F1=100 kg
	Copper sheeting	Yes	F2=50 kg
	Bandsheet Prelac	No	F3=100 kg
	Copper sheeting	Yes	F4=50 kg

* Loading values and fixing of roof sheet - follow the supplier's recommendations

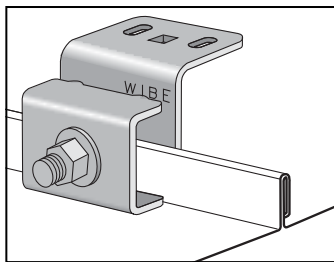
Test have been made of:

- Bandsheet Prelac BLX t=0.6 SSAB tunnplåt
- Copper sheeting annealed SS 5015-80 t=0.6
- Tightening torque at test=60Nm

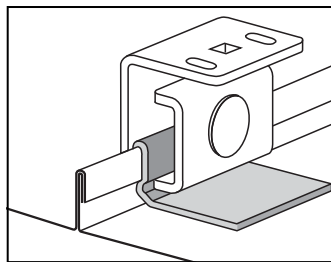
Use and installation



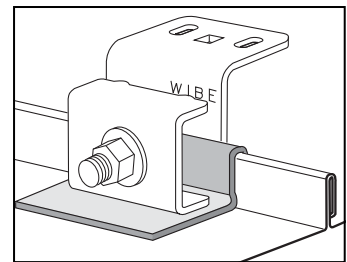
Combi bracket 53 mounted on seamed roofing sheet.



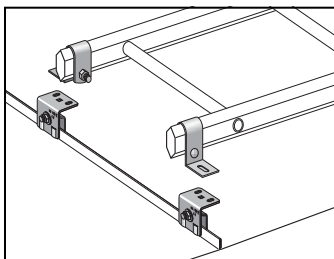
Alternative mounting of Combi bracket 53.



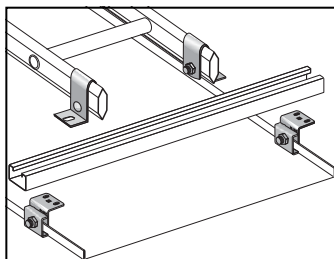
In order to avoid contact between Combi bracket 53 and copper sheeting, Insulating plate 54 must be used.



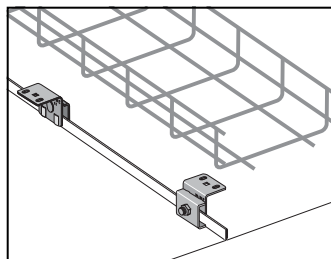
Alternative mounting of Combi bracket 53 and Insulating plate 54.



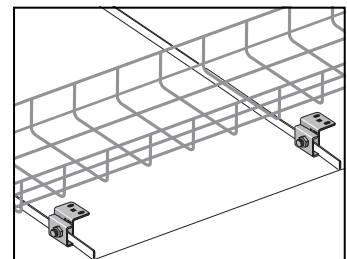
Cable ladder mounted across the seams of the roofing sheets with Combi bracket 53, Wall bracket 11/25 and Screw set 22S.



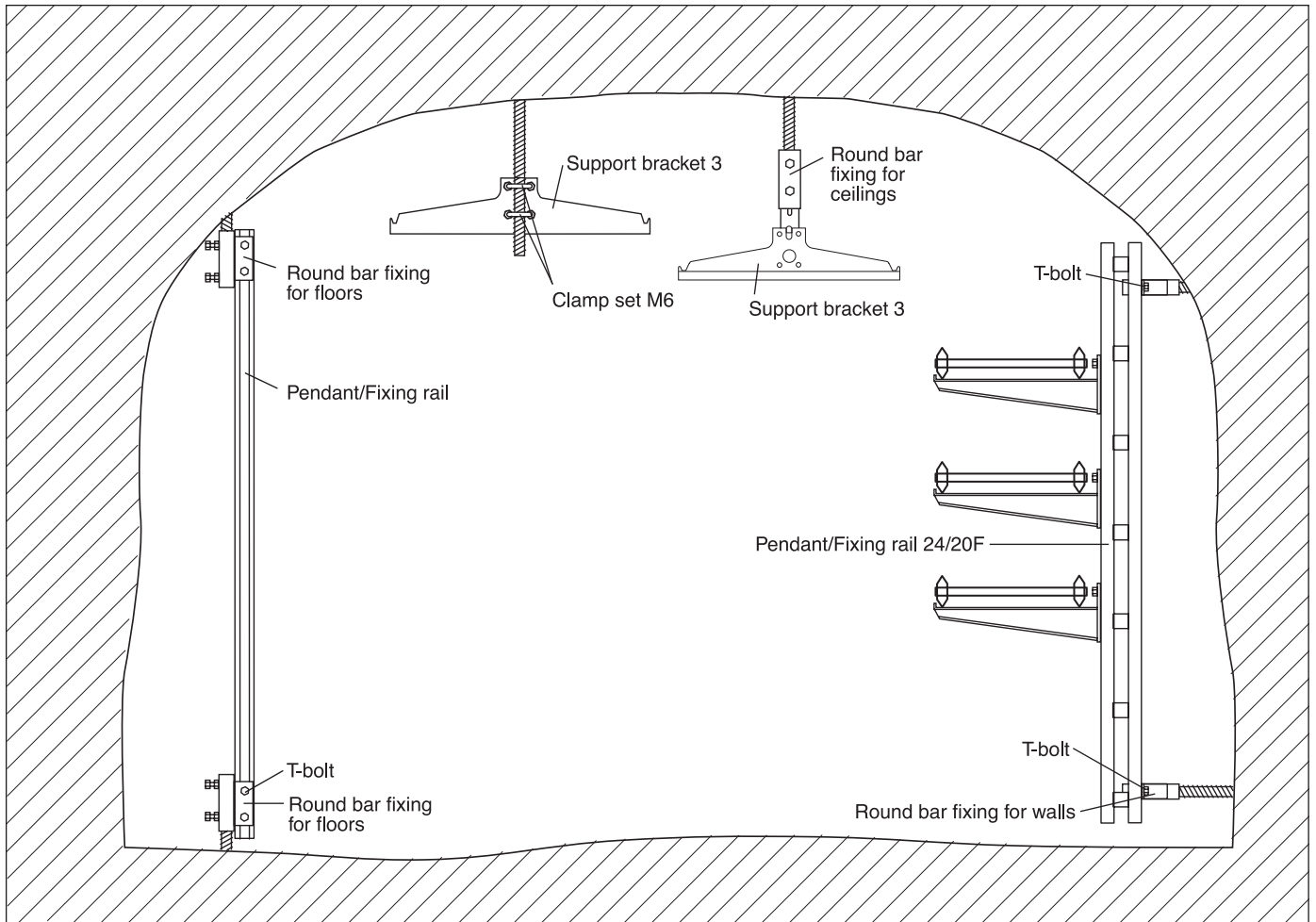
Cable ladder mounted along the seams of the roofing sheets with Combi bracket 53, Wall bracket 11/25, Screw set 22S, Pendant/Fixing rail 24/48 and T-bolt 26F.



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.

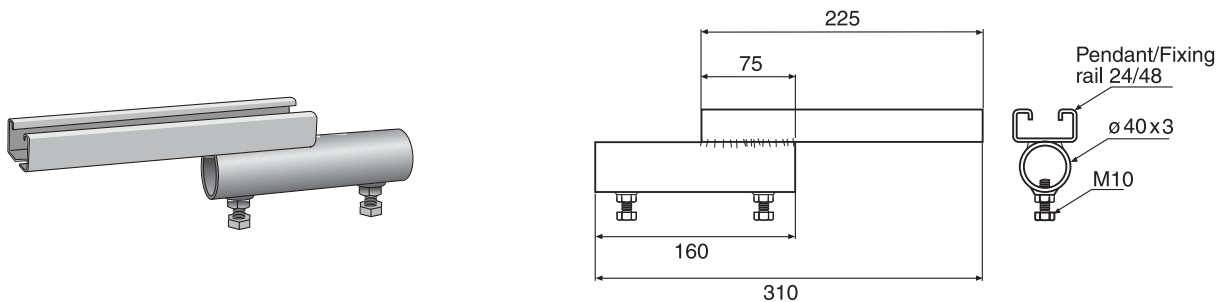


Round bar fixing for ceilings



Fixing suitable for ribbed bars \varnothing 15-25 mm.

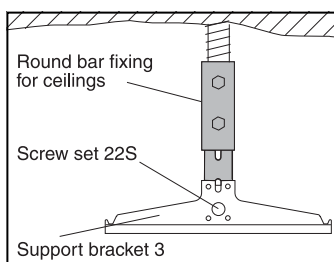
WEF-0001



	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Round bar fixing for ceilings	718311 1	718489 7**	120

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Round bar fixing for ceilings.
Suitable for ribbed bars \varnothing 15-25 mm. Mounted on Support bracket 3 with Screw set 22S.

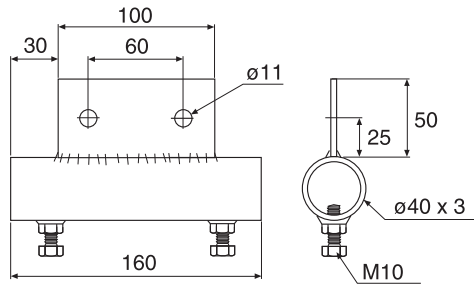
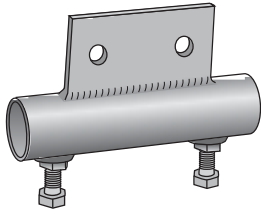
Round bar fixing for floors



WIBE

Fixing suitable for ribbed bars $\varnothing 15-25$ mm.

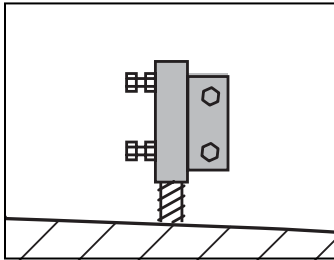
WEF-0001



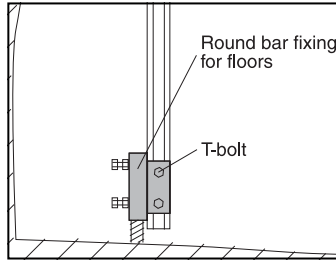
	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Round bar fixing for floors	718312 8	718490 3**	90

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Fixing suitable for ribbed bars $\varnothing 15-25$ mm.



Round bar fixing for floors.
Mounted on pendant/fixing rail
with T-bolts.

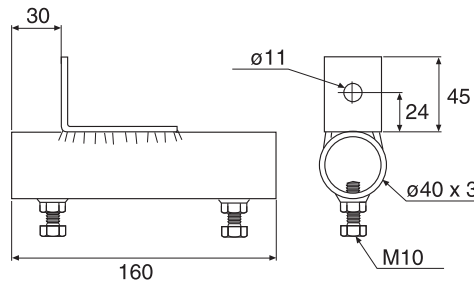
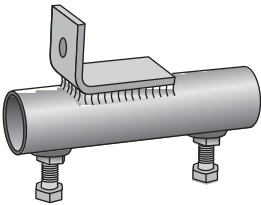
Round bar fixing for walls



WIBE

Fixing suitable for ribbed bars $\varnothing 15-25$ mm.

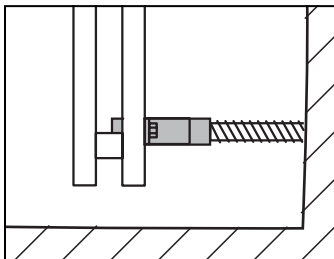
WEF-0001



	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Round bar fixing for walls	718313 5	718491 0	86

*EAN-code=732167+Part.no+C (control figure)

Use and installation

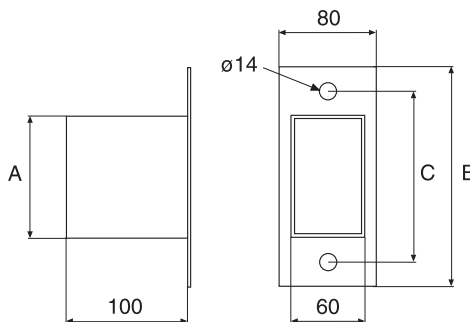
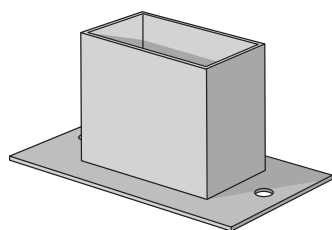


Round bar fixing for walls.
Mounted on pendant/fixing rail
with T-bolts.

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



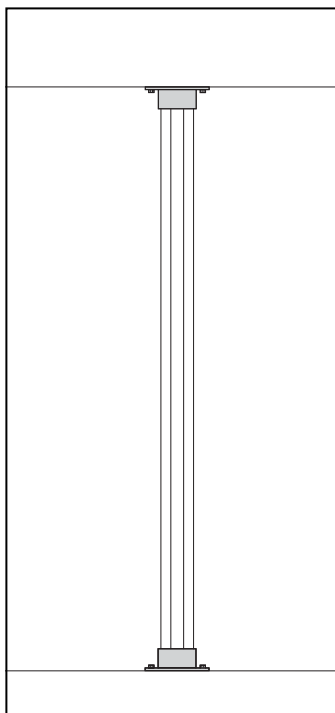
Used with Pendant/Fixing rails 24/20F and 24/20FS for mounting between floor and ceiling.



	A mm	B mm	C mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Rail fixing support 24/20F	100	165	135	718850 5	720527 1**	167
Rail fixing support 24/20FS	120	185	155	718851 2	720528 8**	190

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Simple mounting between floor and ceiling using 2 Rail fixing supports 20F or 20FS.

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.

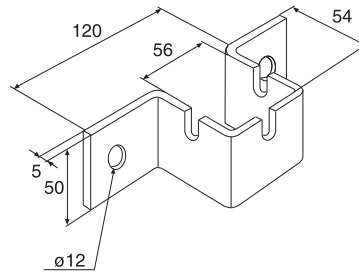
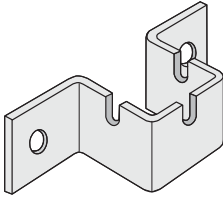
Wall bracket 20



WIBE

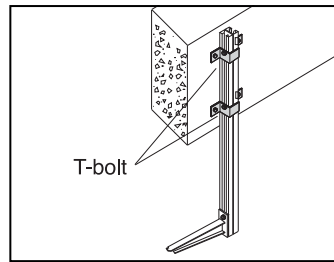
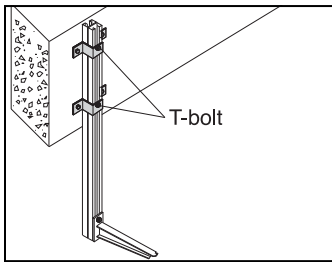
To be used at installation of Pendant/Fixing rail 24/20 to ceiling beam or wall.

WEF-0001



	Hot dip galv.	Weight kg
Wall bracket 20	Part. No. C*	100 pcs
*EAN-code=732167+Part.no+C (control figure)	723450 9	47

Use and installation



For cable ladder installations along a beam. Pendant/Fixing rail 24/20 must be mounted with 2 Wall brackets 20 and 2 T-bolts 26F-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 installations across a beam. Pendant/Fixing rail 24/20 shall be mounted with 2 Wall brackets 20 and 2 T-bolts 26F-30 in the side-outlets.

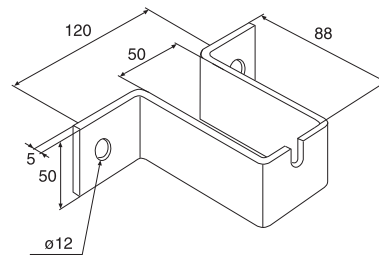
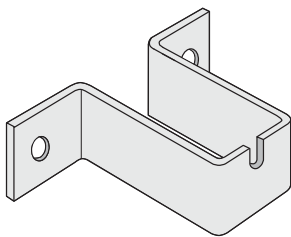
Wall bracket 20F



WIBE

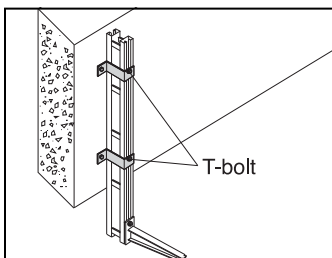
To be used at installation of Pendant/Fixing rail 20F to ceiling beam or wall.

WEF-0001



	Hot dip galv.	Weight kg
Wall bracket 20F	Part. No. C*	100 pcs
*EAN-code=732167+Part.no+C (control figure)	723451 6	69

Use and installation



Pendant rail 24/20 F must be mounted with 2 Wall brackets 20F and 2 T-bolts 26F-30 for cable ladders along beams. This installation is also used for fixing to wall.
Max. vertical load 700 kg (7 kN).

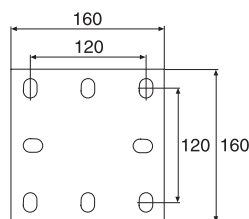
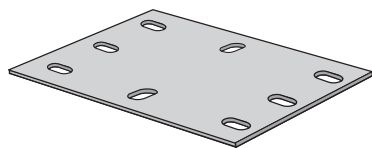
Ceiling plate 20F



WIBE

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.

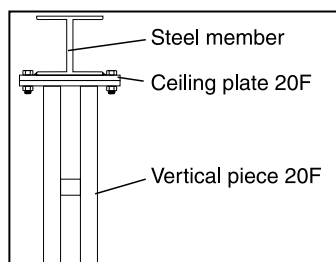
WEF-0001



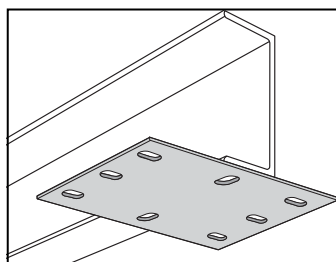
	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Ceiling plate 20F	718849 9	200

*EAN-code=732167+Part.no+C (control figure)

Use and installation



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 Galvafröid.



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 Galvafröid.

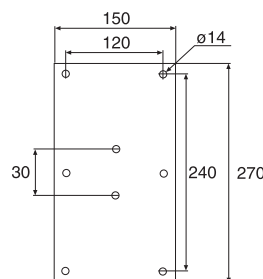
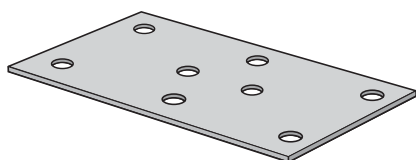
Ceiling plate 20FS



WIBE

Ceiling plate 20FS is used as a pre-drilled attachment for Vertical piece 20FS to a steel member.
The ceiling plate is welded in position.

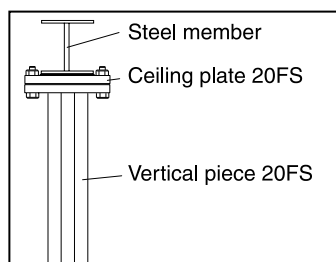
WEF-0001



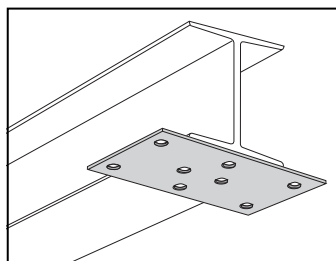
	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Ceiling plate 20FS	720536 3	310

*EAN-code=732167+Part.no+C (control figure)

Use and installation



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 Galvafröid.



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 Galvafröid.

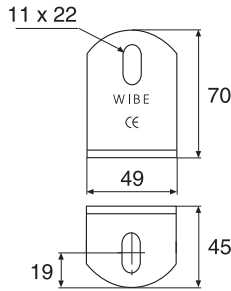
Angle bracket 5L and 5LS



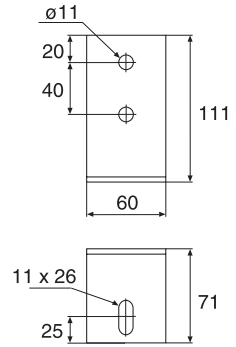
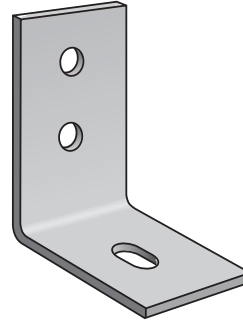
WIBE

Used when assembling pendant/fixing rails to frames for switching cabinets and electrical control centres. For fixing an upright between floor and ceiling. Assembled with a T-bolt.

WEF-0001



Angle bracket 5L



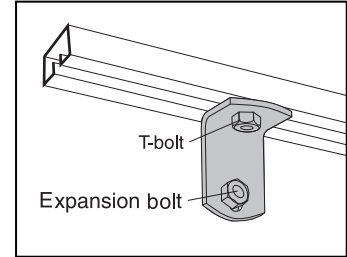
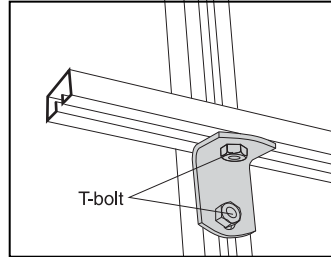
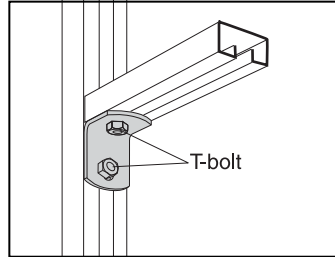
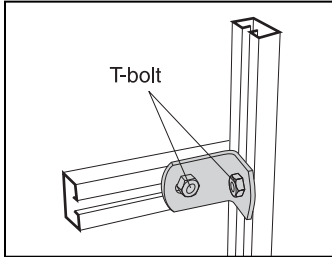
Angle bracket 5LS

	Plate thickness mm	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Angle bracket 5L	4.0	731791 2	731793 6	731792 9	15
Angle bracket 5LS	6.0**	709801 9	725636 5	720529 5	50

*EAN-code=732167+Part.no+C (control figure)

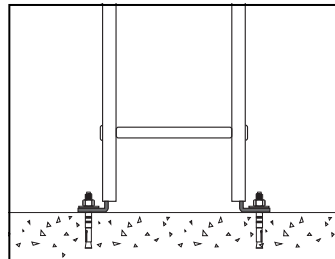
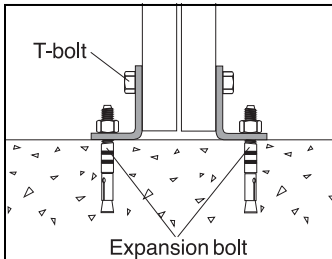
**Plate thickness for Stainl. steel (AISI316L) is 5 mm.

Use and installation



Installation examples for installation of pendant/fixing rails to different frameworks for installation of control panels, electric distribution boards, etc. Use Angle bracket 5L.

Mounting of a pendant/fixing rail on a wall. Use Angle bracket 5L or 5LS.



Mounting of a pendant/fixing rail against a floor with Angle bracket 5L or 5LS.

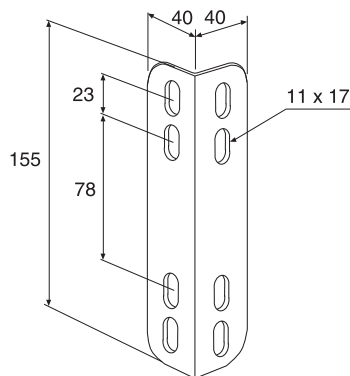
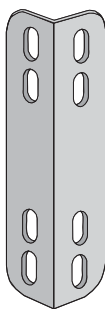
Angle bracket 5L can be mounted inside the ladder profile and thus be used as an end connection against wall or floor.

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.

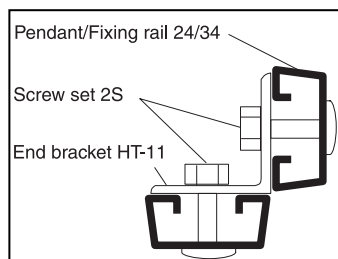
WEF-0001



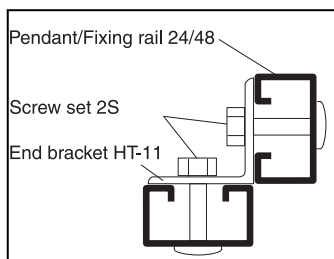
End bracket HT-11	Plate thickness mm	Hot dip galv. Part. No. C*	Weight kg 100 pcs
	4.0	717618 2	41

*EAN-code=732167+Part.no+C (control figure)

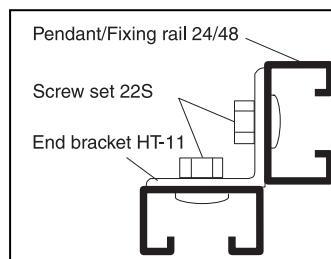
Use and installation



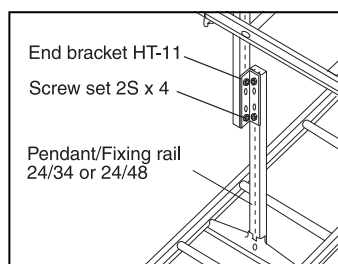
The HT-11 can be used when mounting together 2 Pendant/Fixing rails 24/34, for example when assembling a stand.



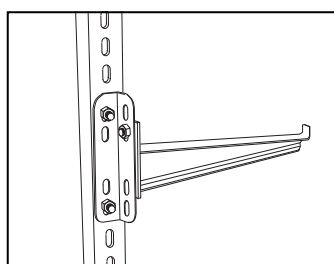
The HT-11 can be used when mounting together 2 Pendant/Fixing rails 24/48 with the opening towards the attachment, for example when assembling a stand.



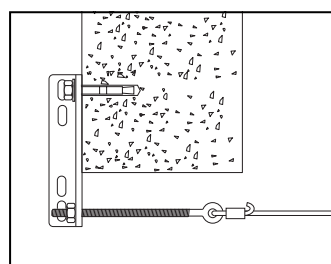
The HT-11 can be used when mounting together 2 Pendant/Fixing rails 24/48, with the rear towards the attachment.



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.



End bracket HT-11 must be installed on ceiling beams with Expansion bolts.

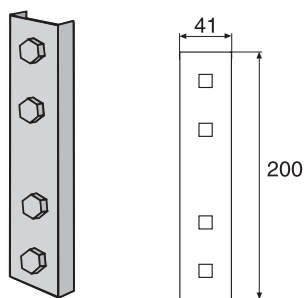
Pendant joint 2J, 2FJ and 20J



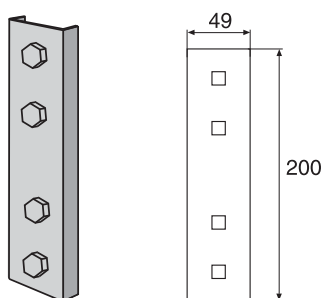
WIBE

Used for joining pendant/fixing rails and vertical pieces.

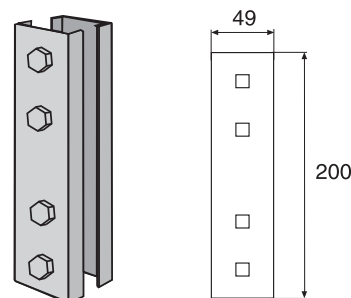
WEF-0001



Pendant joint 2J



Pendant joint 2FJ



Pendant joint 20J

	Pre-galv Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Pendant joint 2J	721119 7	713177 8	726484 1	716303 8	43
Pendant joint 2FJ		713178 5	726485 8	716304 5	46
Pendant joint 20J		713173 0		716302 1	94

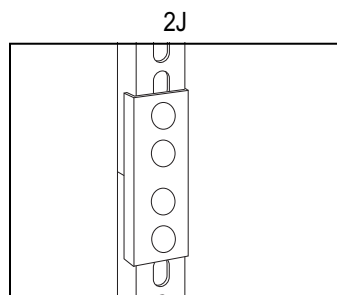
2J and 2FJ: 4 screw M8x16 + nuts incl,

20J: 4 screw M8x70 + nuts incl.

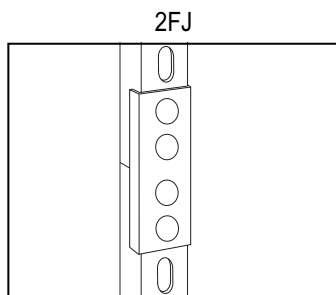
Powder coated joints have screws+nuts of stainless steel (AISI 316L)

*EAN-code=732167+Part.no+C (control figure)

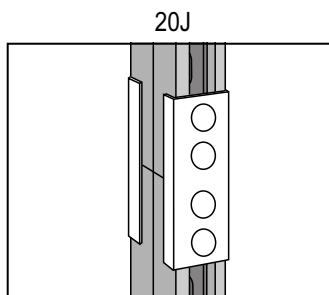
Use and installation



For joining of Vertical piece 2,
Pendant/Fixing rail 24/34 or
Pendant/Fixing rail 24/40.



For joining of Vertical piece 2F
and Pendant/Fixing rail 24/48.



For joining of Vertical piece 20
and Pendant/Fixing rail 24/20.
Only for symmetrical loading.

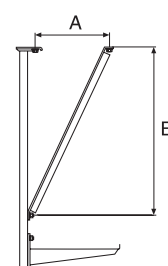
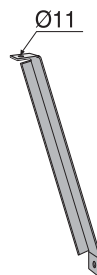
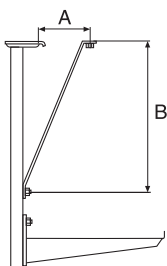
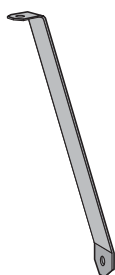
Pendant bar 1



WIBE

Installed in order to reduce the deflection of long Vertical pieces 2F, 20 and 20F.

WEF-0001



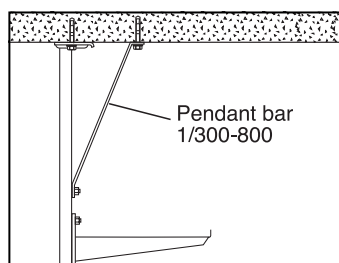
Pendant bar 1/300-800

Pendant bar 1-1500

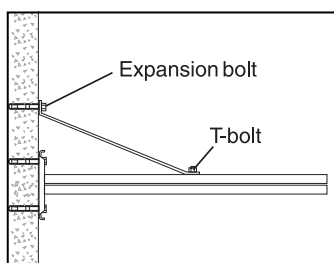
	A mm	B mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Pendant bar 1-300	80	300	717640 3	717643 4**	50
Pendant bar 1-500	130	500	717641 0	717644 1**	80
Pendant bar 1-800	215	800	717642 7	717645 8**	125
Pendant bar 1-1500	May vary		718903 8	720530 1**	560

*EAN-code=732167+Part.no+C (control figure) **Produced to order

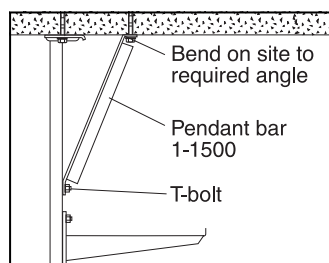
Use and installation



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 26 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.

Bracket 60/40



WIBE

To be used with Pendant/Fixing rails 24/40 or 24/48 to reduce deflection of long vertical pieces.

WEF-0001

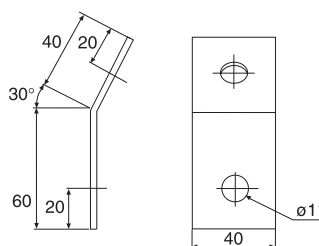
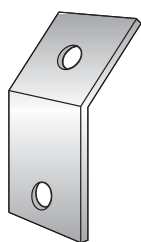
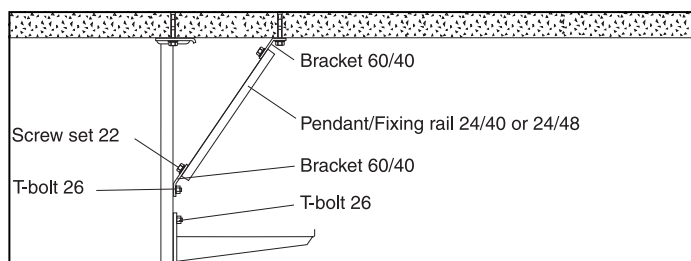


	Plate thickness mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Bracket 60/40	3.0	718904 5	720531 8**	10

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Use Bracket 60/40 together with Pendant/Fixing rail 24/40 or 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.

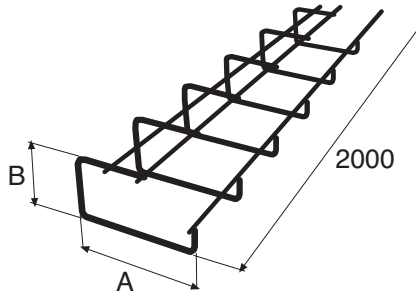
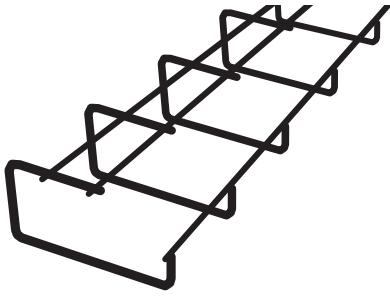
Ceiling mesh tray WN2



WIBE

For installation in ceilings. Wire Ø4.4 mm.

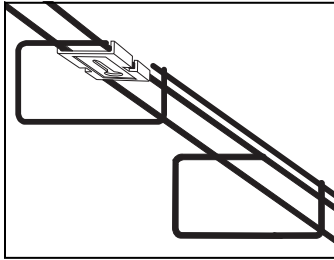
WEF-0001



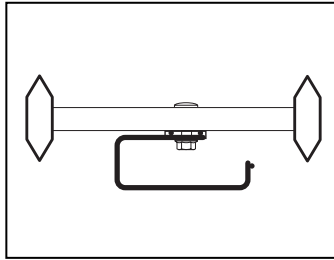
	A	B	Electro-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316) Part. No. C*	Electro-galv. White80 Part. No. C*	Weight kg 100 pcs
Ceiling mesh tray WN2	100	60	727991 3	727992 0**	727993 7**	727994 4**	100

*EAN-code=732167+Part.no+C (control figure) **Produced to order

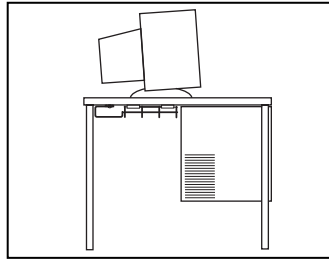
Use and installation



Mounted in ceilings with Ceiling bracket WN16.



Mounted under cable ladders with Ceiling bracket WN16 and Screw set W37 or Screw set 2S.



Mounted under desks with Ceiling bracket WN16.

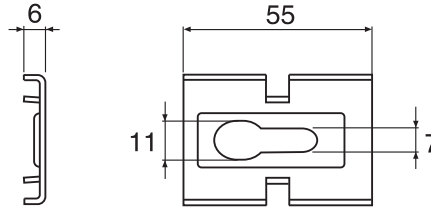
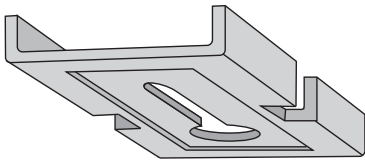
Ceiling bracket WN16



WIBE

For installation of Ceiling mesh tray WN2.

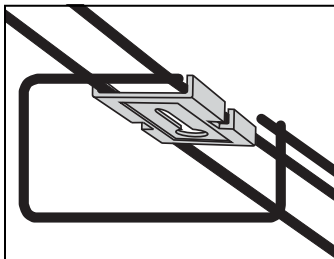
WEF-0001



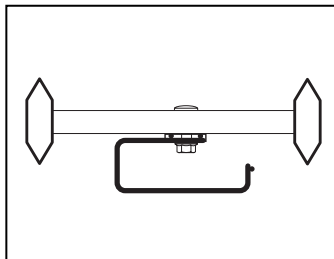
	Electro-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316) Part. No. C*	Electro-galv. White80 Part. No. C*	Weight kg 100 pcs
Ceiling bracket WN16	727995 1	727996 8**	727997 5**	727998 2**	5

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Ceiling mesh tray WN2 must be mounted with Ceiling bracket WN16.



Ceiling mesh tray WN2 mounted under cable ladders with Ceiling bracket WN16 and Screw set W37 or Screw set 2S.



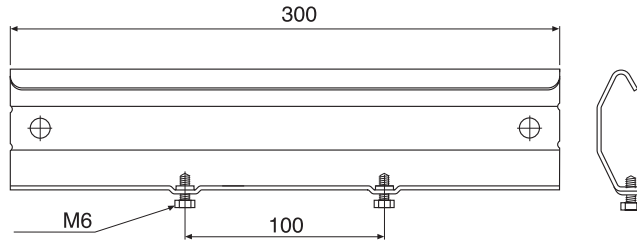
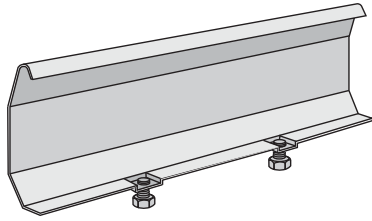
Joint 19

KHZ
SP

WIBE

For straight, rigid joining of KHZSP/KHZSPZ.
Values for potential balancing.

WEF-0001

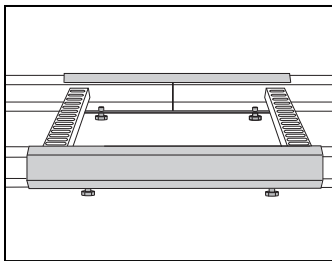


	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Pre-galv. White80 Part. No. C*	Weight kg 100 pcs
Joint 19	716048 8	734508 3	733912 9	717721 9**	40

(M6 screw included)

* EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Joint 19 is used for straight, robust joining of KHZSP/ KHZSPZ and when fitting 90° bends, T- and X-branches and vertical bends.

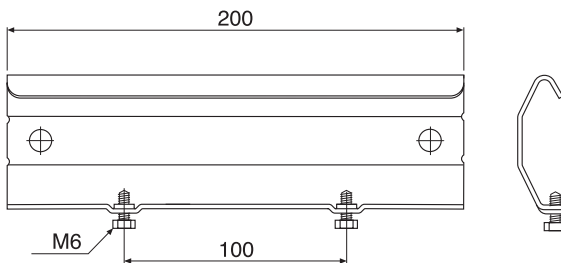
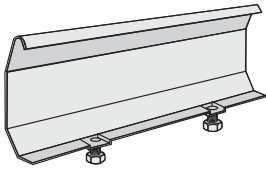
Joint 21

KHZ
PS KHZ
P

WIBE

For straight, rigid joining of KHZ, KHZP and KHZPS.
Values for potential balancing.

WEF-0001

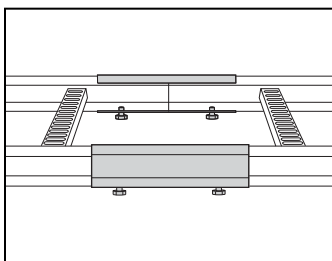


	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Joint 21	708740 2	725751 5	714174 6	35

(M6 screw included)

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Joint 21 is used for straight, robust joining of KHZ, KHZP and KHZPS and when fitting 90° bends, T- and X-branches, vertical bends and for vertical ladder mounting. It also reduces the transition resistance and prevents the ladders from slipping apart.

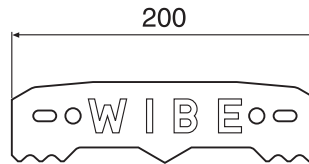
Joint 9



WIBE

For straight joining of KHZ, KHZP and KHZPS.

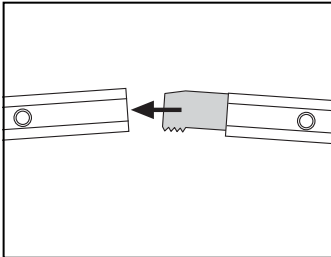
WEF-0001



	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Joint 9	721115 9	705304 9	714066 4	16

*EAN-code=732167+Part.no+C (control figure)

Use and installation



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 slipping apart. If the joint is above a bracket, the teeth should face upwards.

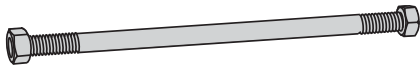
Intermediate connection bolt 29



WIBE

Used at the transition from a broad to a narrower KHZ.

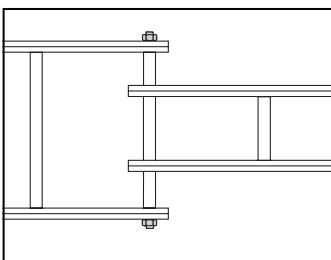
WEF-0001



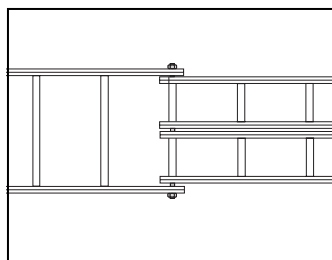
	Bolt diam x length mm	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Intermediate connection bolt 29-200	M10 x 235	705392 6	14
Intermediate connection bolt 29-300	M10 x 335	705394 0	19
Intermediate connection bolt 29-400	M10 x 435	705395 7	24
Intermediate connection bolt 29-500	M10 x 535	705396 4	29
Intermediate connection bolt 29-600	M10 x 635	705397 1	34

*EAN-code=732167+Part.no+C (control figure)

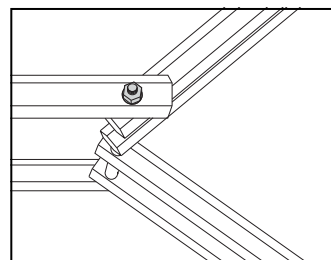
Use and installation



Intermediate connection bolts are used for changing from a broad to a narrower ladder. The broader ladder's last rung is cut to permit the narrower 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 formation of angles.

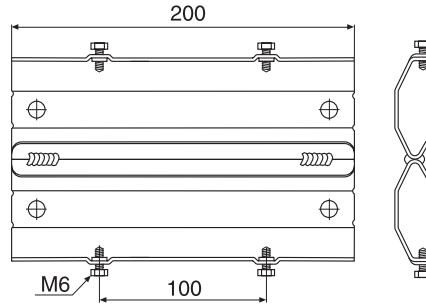
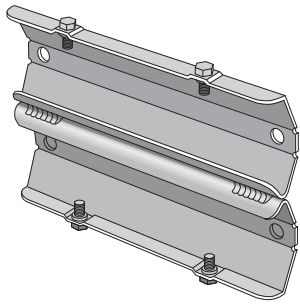
Dropper joint 32



WIBE

A dropper joint to form vertical branches in centre position under/on top of cable ladders.

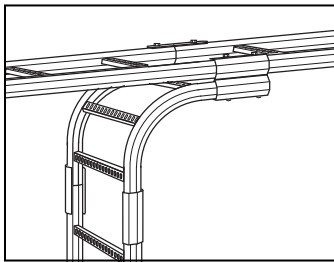
WEF-0001



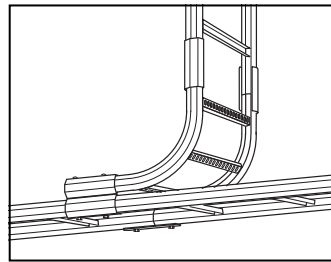
	Hot dip galv. Part No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Dropper joint 32 (screw M6 incl)	734713 1	780874 8**	75

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



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.

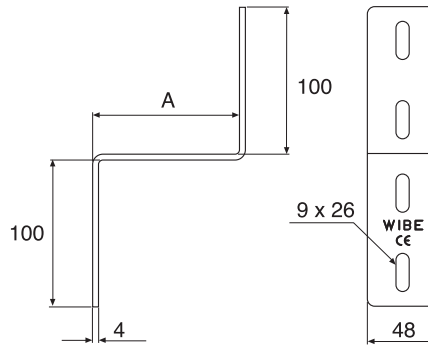
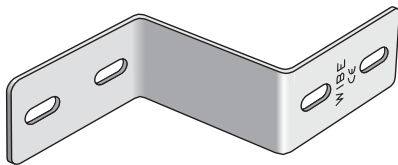
Reducer 31



WIBE

For transition joining from a wide to a narrower cable ladder.

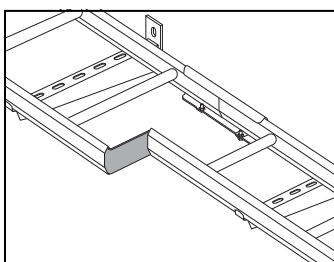
WEF-0001



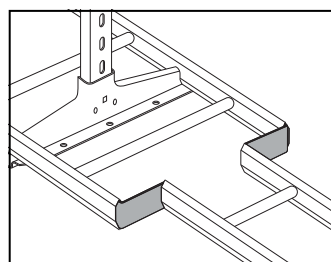
	A mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Reducer 31-100	100	734171 9	735433 7**	43
Reducer 31-200	200	734172 6	735434 4**	59
Reducer 31-300	300	734173 3	735435 1**	74
Reducer 31-400	400	734174 0	735436 8**	89

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



To be installed in the ladder profile and used together with Joint 19 or 21 at one-side transition joining of KHZ, KHZP, KHZSP, KHZSPZ and KHZPS.



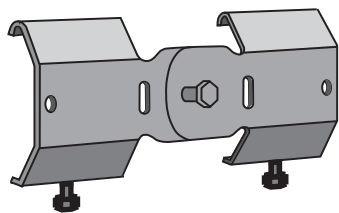
May also be used at centered transition joining.

Coupling 22/22E

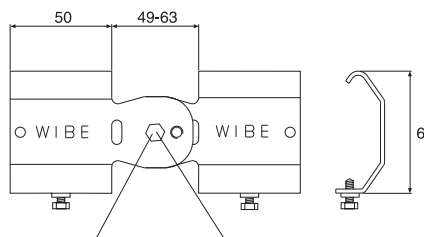


Used for horizontal or vertical branches at any desired angle.

WEF-0001



Coupling 22 with screw M6.



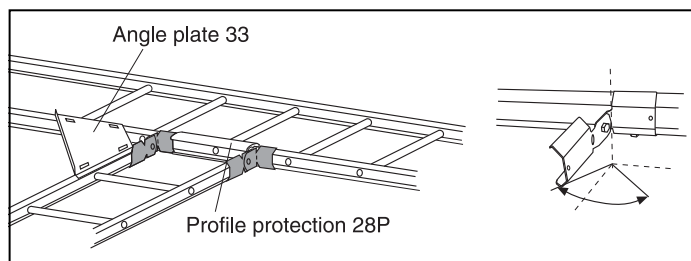
Coupling 22E with screw M8.

	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	ZINKPOX® White80** Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Weight kg 100 pcs
Coupling 22	721122 7	718409 5	718410 1	725760 7	21
Coupling 22E		720155 6	720535 6		21

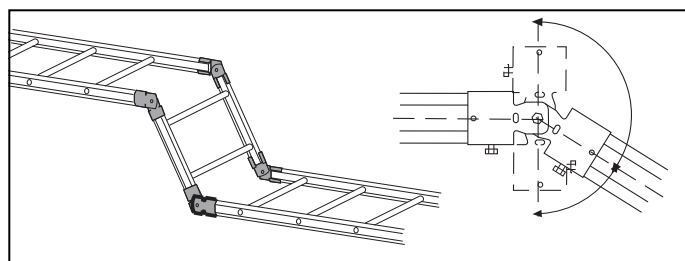
*EAN-code=732167+Part.no+C (control figure)

**Stainless steel screws and nuts are used

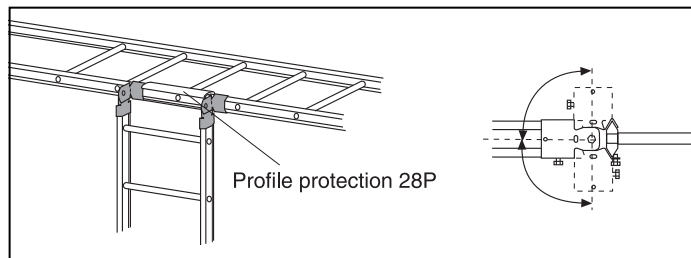
Use and installation



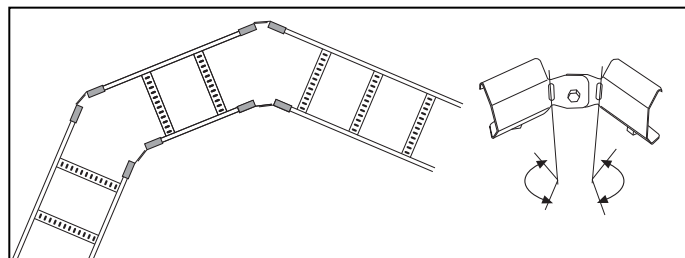
Coupling 22 is used for horizontal branching to the required angle. The cut length of the ladder ends determines the angle. Angle plate 33 is always recommended for horizontal branches. Mount Profile protection 28P. To be cut when required.



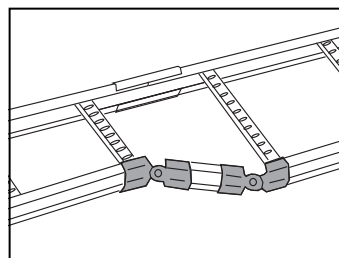
Coupling 22 is used to form vertical angles of the required size.



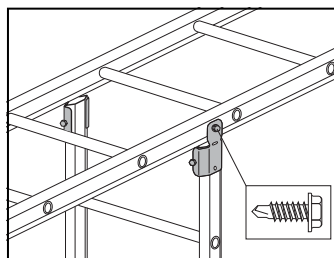
Coupling 22 is used to form vertical branches of the required angle. Mount Profile protection 28P. To be cut when required.



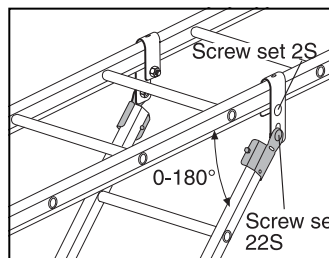
Use 4 Coupling 22 to form a horizontal bend in different angles. The cut lengths of the ladder ends determine the angle.



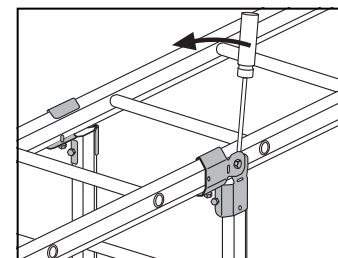
As an alternative at transition joining of KHZSP, KHZPS, KHZ and KHZP use 1 Joint 19 or 21 and 2 Couplings 22.



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 vertical 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 according to the above.

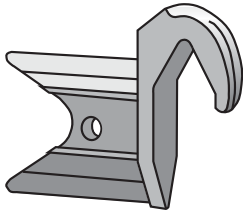
Fixed take-off hook 4



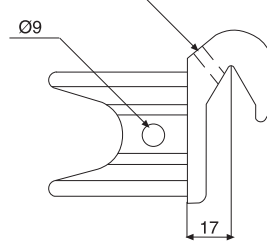
WIBE

Used for 90° horizontal branches.

WEF-0001



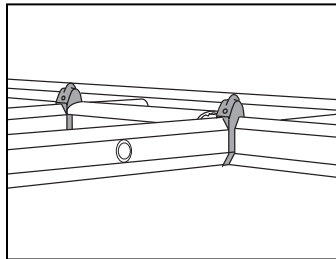
5 mm dia. hole for any locking against the ladder profile using sheet screws or blind rivets



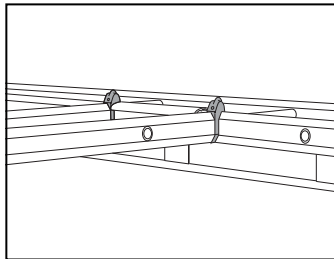
	Alum. Part. No. C*	Alum. White80 Part. No. C*	Weight kg 100 pcs
Fixed take-off hook 4	709017 4	714067 1	8

*EAN-code=732167+Part.no+C (control figure)

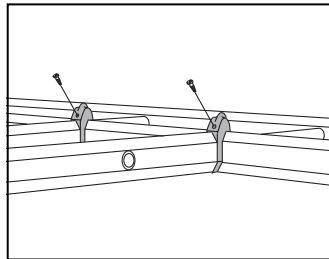
Use and installation



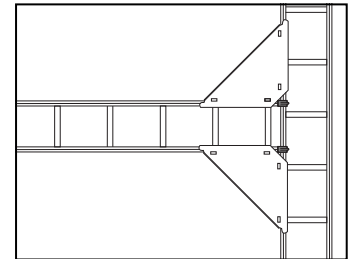
Fixed take-off hook 4 is used at 90° horizontal branches. Coupling 22 can also be used for straight angle formation.



KHZSP, KHZSPZ, KHZPS, KHZ and KHZP can 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.

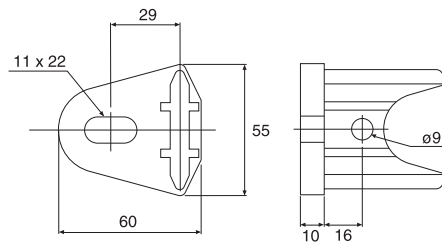
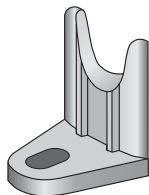
End connection 10



WIBE

Used for the connection of a ladder vertically to a floor, or horizontally to a wall.

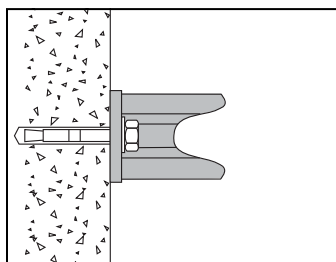
WEF-0001



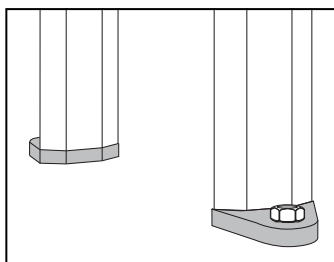
	Alum. Part. No. C*	Alum. White80 Part. No. C*	Weight kg 100 pcs
End connection 10	709018 1	714085 5	8

*EAN-code=732167+Part.no+C (control figure)

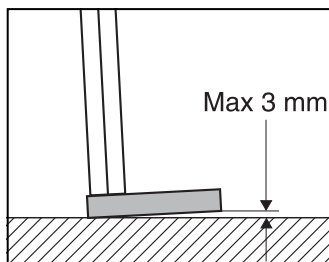
Use and installation



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.

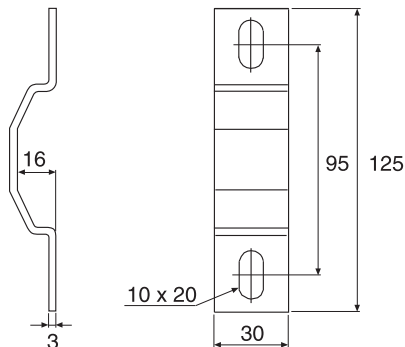
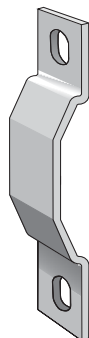


Max. tilt permitted = 3 mm before tightening the screw.

Profile clamp 41

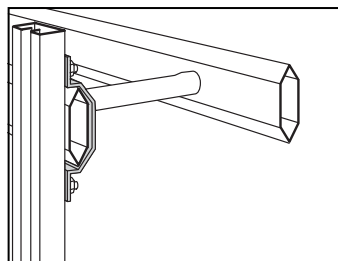


Profile clamp 41 is used to install a pendant/fixing rail or mounting plate etc. on the cable ladder profile.

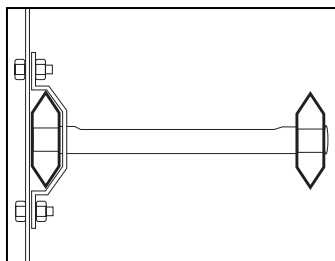


	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Profile clamp 41	725363 0	720824 1	721945 2	10
*EAN-code=732167+Part.no+C (control figure)				

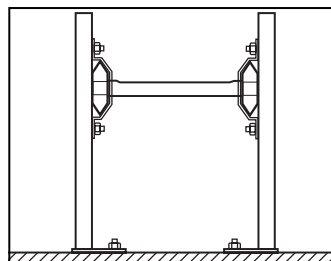
Use and installation



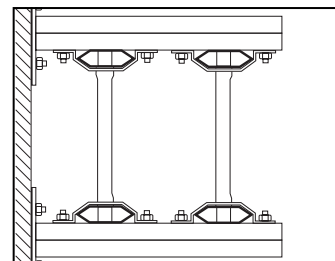
Mounting of pendant/fixing rail on cable ladder profile.
Use Screw set 22S.



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



Mounting 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 opening of the fixing rail.

Wall bracket 11/25 and 11/75

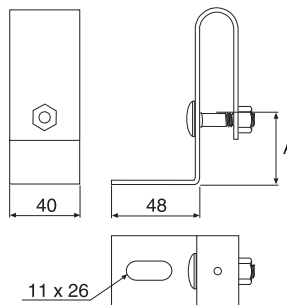
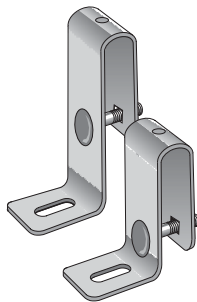


WIBE

For vertical or horizontal installation of cable ladders against a wall.

WEF-0001

11/75



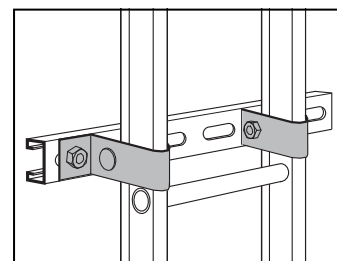
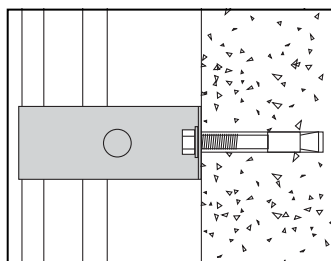
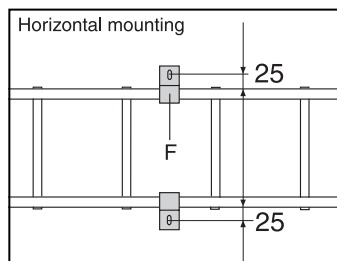
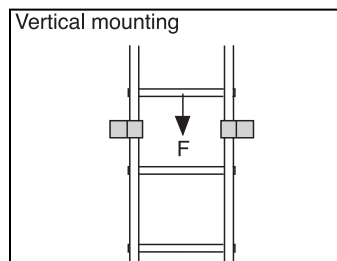
11/25

	A mm	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80** Part. No. C*	Weight kg 100 pcs
Wall bracket 11/25	25	721105 0	713204 1	725774 4	713208 9	24
Wall bracket 11/75	75	721106 7	713203 4	725775 1	713207 2	30

(Screw MVBF 8x40+nut incl) **Screw+nut in AISI316L

*EAN-code=732167+Part.no+C (control figure)

Use and installation



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.

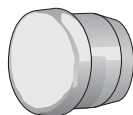
Cross member plug 27



WIBE

Cross member plugs are installed in the ends of the rungs of KHZ and KHZV in premises with a high corrosion risk.

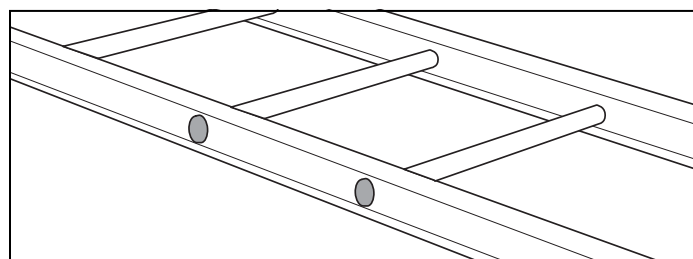
WEF-0018



	Grey plastic Part. No. C*	Weight kg 100 pcs
Cross member plug 27	726668 5	0.15

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Mount Cross member plug 27 in KHZ and KHZV rung tube ends in premises with high relative humidity where the risk of corrosion is great.

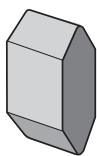
End plug 28/28i



WIBE

Mount in ladder ends for sealing or protection.

WEF-0003 and 0024



End plug 28

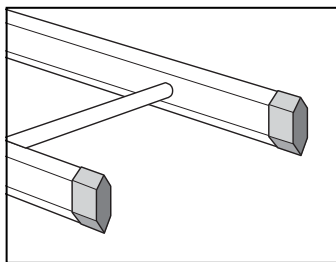


End plug 28i

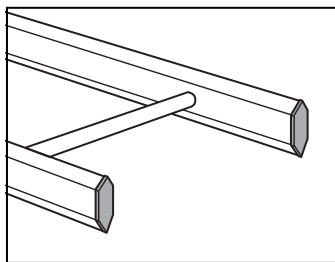
	White plastic Part. No. C*	Red plastic Part. No. C*	Weight kg 100 st
End plug 28		709019 8	0.8
End plug 28i	735446 7	731994 7	0.4

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Mount End plug 28 in ladder ends as protection.



Mount End plug 28i inside the ladder ends for sealing. Joining with Joint 19 or 21 can be made with End plug 28i left in the ladders ends.

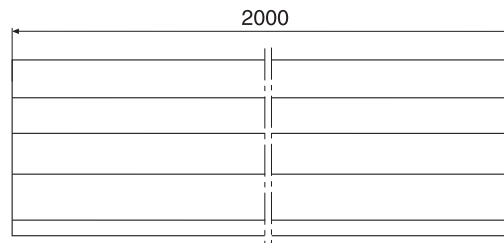
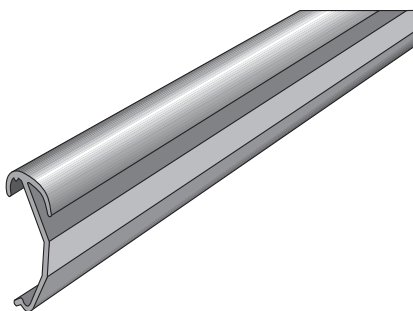
Profile protection 28P



WIBE

Increases the contact surface of the cables, when pulled over the side profile of the ladder.

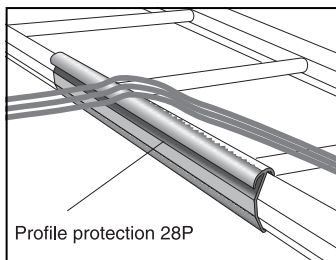
WEF-0012



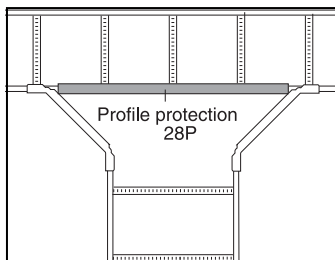
	Grey plastic Part. No. C*	Weight kg 100 pcs
Profile protection 28P	732151 3	80

*EAN-code=732167+Part.no+C (control figure)

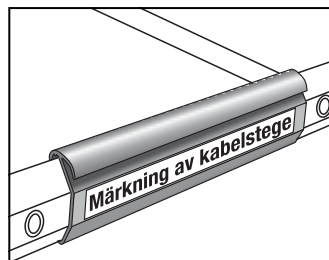
Use and installation



Profile protection 28P



Profile protection 28P



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.

Profile protection 28P can be cut in suitable lengths and equipped with an information label. Easy to mount on the ladder side profile.

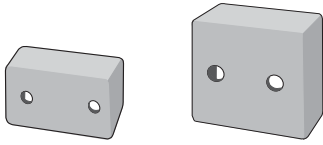
End plug 28C,D,E and F



WIBE

Used for mounting in pendant ends to provide protection against personal injury.

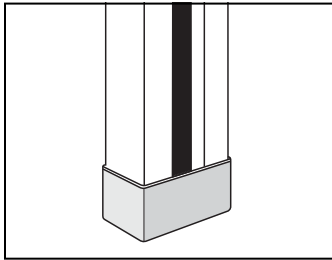
WEF-0003



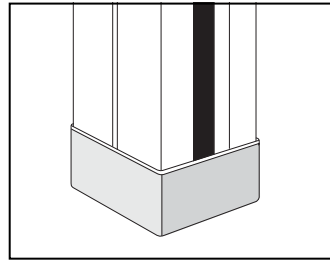
	Orange plastic Part. No. C*	Weight kg 100 pcs
End plug 28C	789875 6	0.5
End plug 28D	709020 4	1
End plug 28E	709021 1	0.5
End plug 28F	789876 3	4

*EAN-code=732167+Part.no+C (control figure)

Use and installation



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 28F fits Vertical piece 20FS and Pendant/Fixing rail 24/20FS.
End plug 28D fits Vertical piece 20 and Pendant/Fixing rail 24/20.

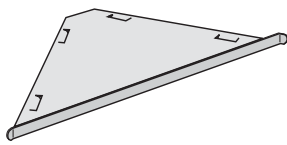
Angle plate 33



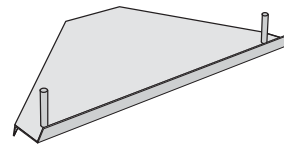
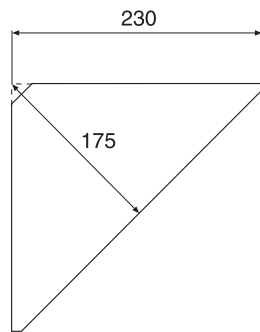
WIBE

Angle plates are always recommended with 90° horizontal T-junctions.
Suitable for all Wibe cable ladders.

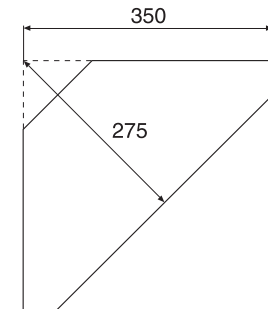
WEF-0001



Angle plate 33/1



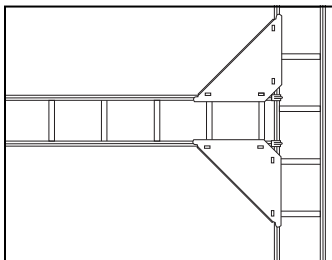
Angle plate 33/2



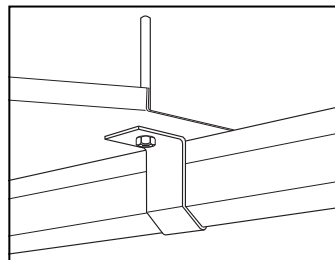
	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Pre-galv. White80 Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Angle plate 33/1	768733 6		727340 9	714030 5**		50
Angle plate 33/2	721114 2	707748 9	727197 9		714168 5**	90

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Angle plates are always recommended at 90° horizontal junctions.

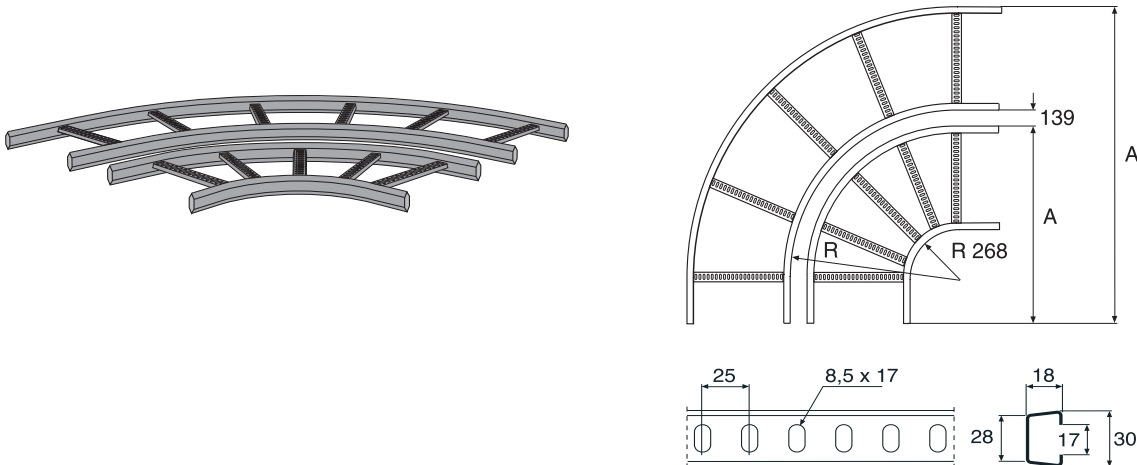


To lock Angle plate 33/2, fit Profile clamp 42.

90° bend 15



KHZSP and KHZSPZ are joined to the bend with Joint 19.
 KHZ, KHZP and KHZPS are joined to the bend with Joint 21.



Interior

	R mm	A mm	Pre-galv*** Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
90° bend 15-150	268	547		716066 2	727346 1	716074 7**	220
90° bend 15-200	268	597	723061 7	716067 9	727347 8	716075 4**	240
90° bend 15-300	268	697	723062 4	716069 3	727348 5	716077 8**	290
90° bend 15-400	268	797	723063 1	716070 9	727349 2	716078 5**	340
90° bend 15-500	268	897	723064 8	716071 6	727350 8	716079 2**	390
90° bend 15-600	268	997	723065 5	716072 3	727351 5	716080 8**	440
90° bend 15-800	268	1197		721961 2		728043 8**	640
90° bend 15-1000	268	1397		716073 0		716081 5**	760

Exterior

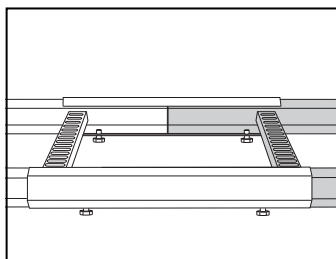
	R mm	A mm	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
90° bend 15-150	554	703		716179 9**	727352 2**	716186 7**	320
90° bend 15-200	604	933		716180 5	727353 9**	716187 4**	370
90° bend 15-300	704	1133		716182 9	727354 6**	716189 8**	460
90° bend 15-400	804	1333		716183 6	727355 3**	716190 4**	550
90° bend 15-500	904	1533		716184 3		716191 1**	640
90° bend 15-600	1004	1733		716185 0		716192 8**	760
90° bend 15-800	1204	2133		723057 0		728052 0**	1060
90° bend 15-1000	1404	2533		723260 4		728053 7**	1280

*EAN-code=732167+Part.no+C (control figure) **Produced to order

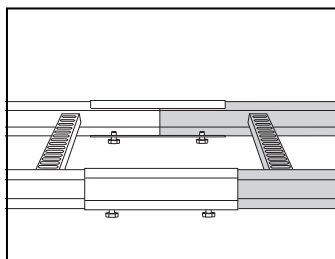
***Pre-galv. bends have open side profiles.

Note! R and A must be reduced with 5 mm for bends of stainless steel.

Use and installation



Join KHZSP and KHZSPZ to 90° bend using Joint 19.



Join KHZ, KHZP and KHZPS to 90° bend using Joint 21.

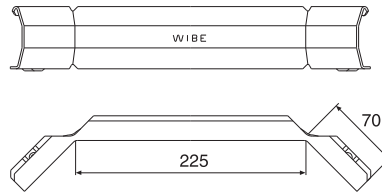
Junction coupling 14



WIBE

For T-and X-junctions. Suits cable ladder KHZ, KHZP, KHZSP, KHZSPZ and KHZPS all ladder widths.

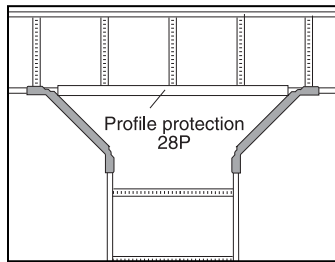
WEF-0001



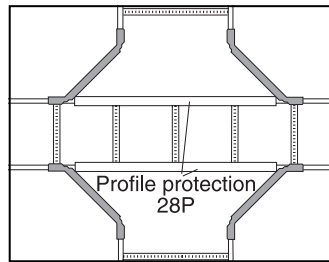
	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Pre-galv. White80 Part. No. C*	Weight kg 100 pcs
Junction coupling 14	723212 3	725096 7	727195 5	723213 0**	49

*EAN-code= 732167+Part.no+C (control figure) **Produced to order

Use and installation



For T-junctions, use 2 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.



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

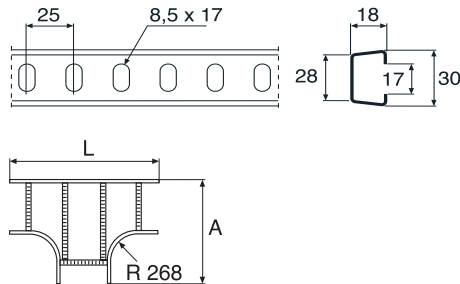
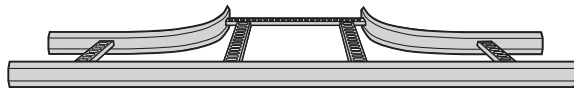
T-junction 16



WIBE

KHZSP and KHZSPZ are joined with Joint 19. KHZ, KHZP and KHZPS are joined with Joint 21.

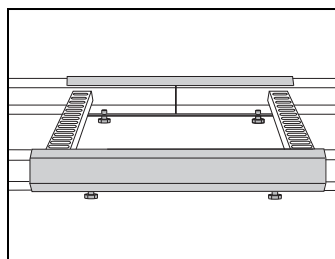
WEF-0001



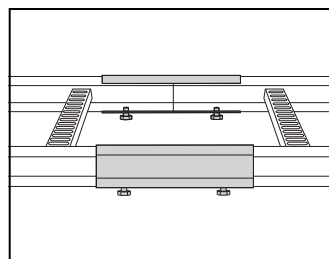
	A mm	L mm	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
T-junction 16-150	547	944	716193 5	727358 4**	716201 7**	300
T-junction 16-200	597	997	716194 2	727359 1	716202 4**	320
T-junction 16-300	697	1097	716196 6	727360 7	716204 8**	390
T-junction 16-400	797	1197	716197 3	727361 4	716205 5**	440
T-junction 16-500	897	1297	716198 0	727362 1	716206 2**	530
T-junction 16-600	997	1397	716199 7	727363 8	716207 9**	600
T-junction 16-800	1197	1597	721962 9**			750
T-junction 16-1000	1397	1797	716200 0		716208 6**	860

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Join KHZSP and KHZSPZ to T-junction using Joint 19.



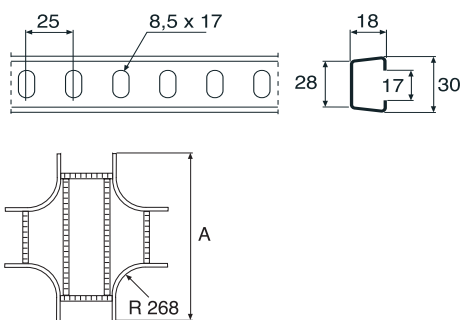
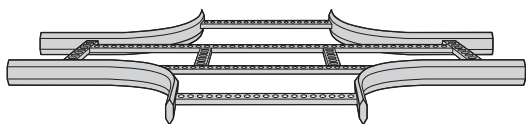
Join KHZ, KHZP and KHZPS to T-junction using Joint 21.

X-junction 17



KHZSP and KHZSPZ are joined with Joint 19. KHZ, KHZP and KHZPS are joined with Joint 21.

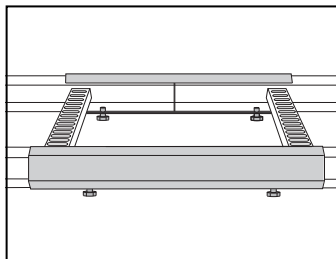
WEF-0001



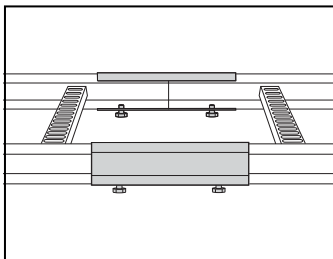
	A mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
X-junction 17-150	547	716209 3	716217 8**	380
X-junction 17-200	997	716210 9	716218 5**	400
X-junction 17-300	1097	716212 3	716220 8**	500
X-junction 17-400	1197	716213 0	716221 5**	550
X-junction 17-500	1297	716214 7	716222 2**	600
X-junction 17-600	1397	716215 4	716223 9**	860
X-junction 17-800	1597	721963 6**		1070
X-junction 17-1000	1797	716216 1	716224 6**	1220

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Join KHZSP and KHZSPZ to X-junction using Joint 19.



Join KHZ, KHZP and KHZPS to X-junction using Joint 21.

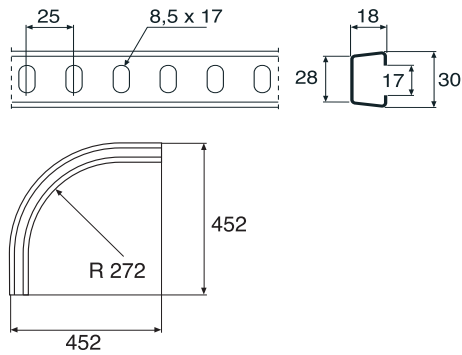
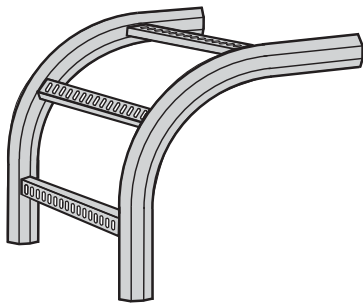
Riser 18



WIBE

KHZSP and KHZSPZ are joined with Joint 19. KHZ, KHZP and KHZPS are joined with Joint 21.

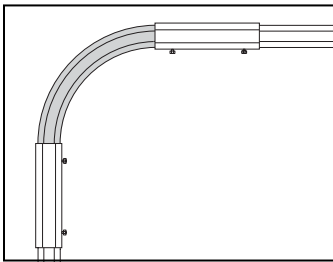
WEF-0001



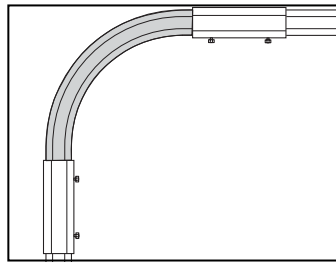
	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Riser 18-150	718176 6	727370 6	718184 1**	180
Riser 18-200	718177 3	727371 3	718185 8**	190
Riser 18-300	718179 7	727372 0	718187 2**	210
Riser 18-400	718180 3	727373 7	718188 9**	230
Riser 18-500	718181 0	727374 4**	718189 6**	250
Riser 18-600	718182 7	727375 1	718190 2**	270
Riser 18-800	721964 3		728034 6**	310
Riser 18-1000	718183 4		718191 9**	350

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Join KHZSP and KHZSPZ to Riser 18 using Joint 19.



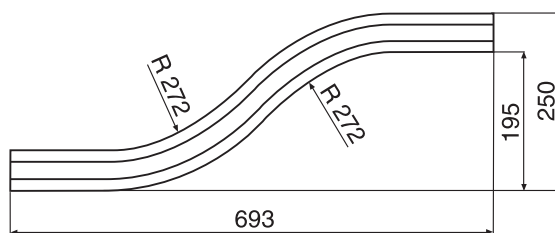
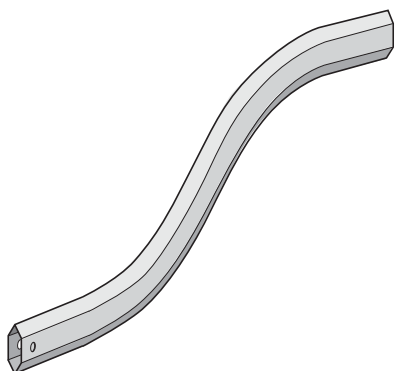
Join KHZ, KHZP and KHZPS to Riser 18 using Joint 21.

S-bend 67



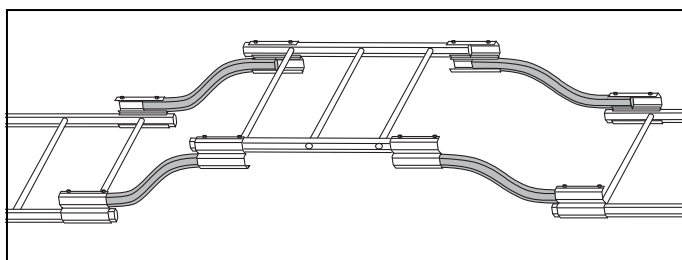
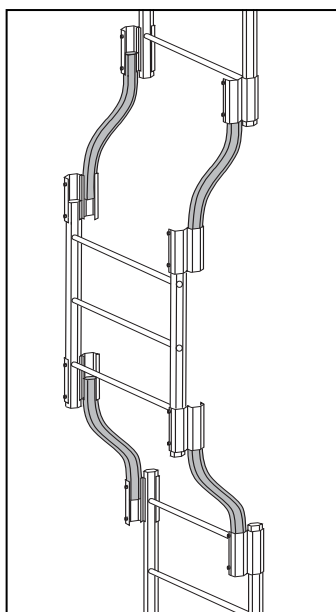
To be used as a transition between cable ladders mounted on different levels.

WEF-0001

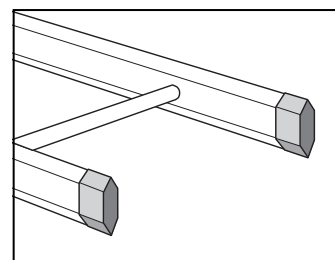


	Hot dip galv.	Weight kg
S-bend 67	Part. No. C*	100 pcs
*EAN-code=732167+Part.no+C (control figure) **Produced to order	788638 8**	70

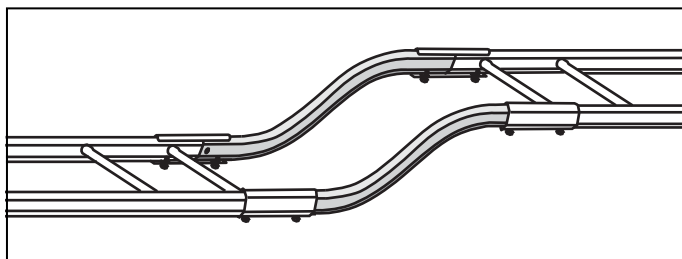
Use and installation



S-bend 67 can be mounted vertically or horizontally between cable ladders by using Dropper joint 32 or Joint 21.



If necessary, mount End plug 28 at the end of the ladder profiles.



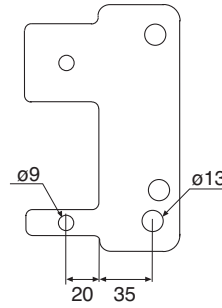
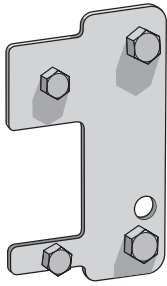
Joint 45



WIBE

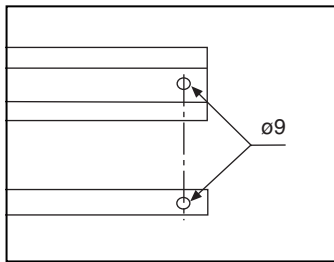
Fitted as a joining plate in a cut KHZV/KHZPV ladder.

WEF-0001

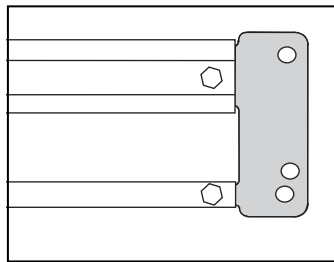


	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Joint 45 (screws M8 och M12 + nuts are supplied)	707609 3	714227 9	50
*EAN-code=732167+Part.no+C (control figure)			

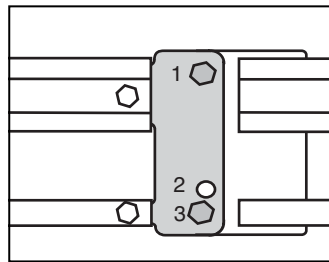
Use and installation



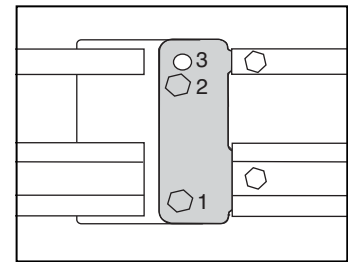
Cable ladders can be joined using separate joints:
Cut the ends clean.
Place the joints outside the ladders and mark where the holes shall be drilled.
Drill 9 mm dia. holes.



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 downwards, use holes 1 and 3.



The holes are laterally displaced to avoid play in joints.
If the ladders are mounted using arch pipes facing upwards, use holes 1 and 2.

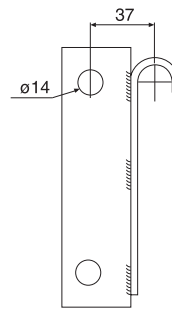
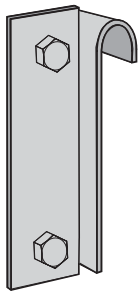
Take-off hook 47



WIBE

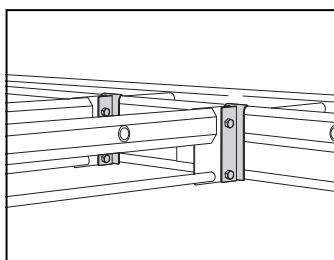
Used on KHZV/KHZPV ladders to make 90° branches.

WEF-0001



	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Take-off hook 47 (screw M12 + nuts are supplied)	714353 5	714084 8	50
*EAN-code=732167+Part.no+C (control figure)			

Use and installation



Use Take-off hook 47 to make 90° branches.

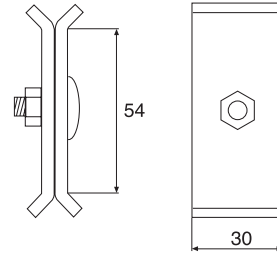
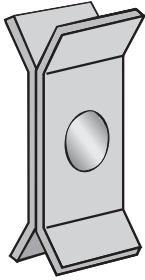
Profile support piece 46



WIBE

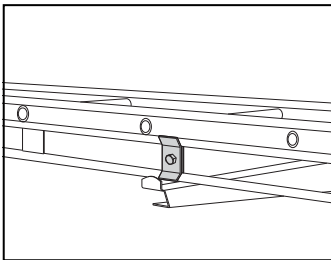
WEF-0001

Fitted between the ladder and the vault pipe when a support bracket is positioned between existing profile support pieces.

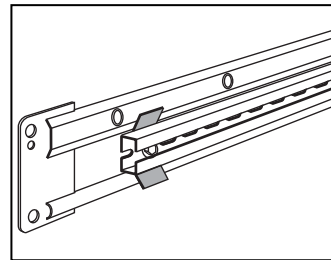


	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Profile support piece 46 (screw MVBF8x16+nut are supplied) *EAN-code=732167+Part.no+C (control figure)	708001 4	714179 1	15

Use and installation



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 amounts to half the permitted load, Profile support piece 46 may be excluded.



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

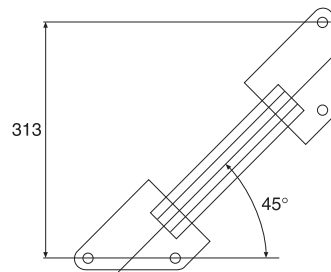
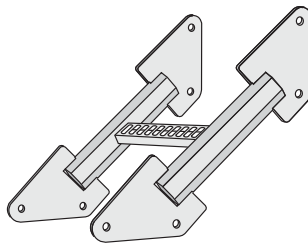
Riser coupling 49



WIBE

WEF-0001

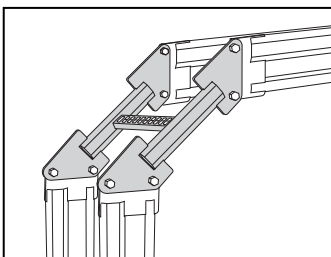
Fitted at a 90° vertical coupling.



	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Riser coupling 49-200	716389 2	716395 3**	220
Riser coupling 49-300	716390 8	716396 0**	230
Riser coupling 49-400	716391 5	716397 7**	240
Riser coupling 49-500	720517 2	720518 9**	245
Riser coupling 49-600	716392 2	716398 4**	250
Riser coupling 49-1000	716393 9**	716399 1**	280

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Mount Riser coupling 49 to form a 90° branch on KHZV/KHZPV. This provides a large radius for cables. Mount it using 2 Screw sets M12, Part. No. 706415.

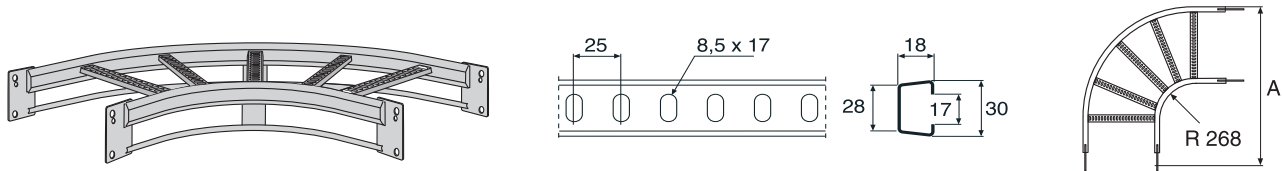
90° bend 55



WIBE

Fitted at a 90° horizontal coupling of KHZV and KHZPV.

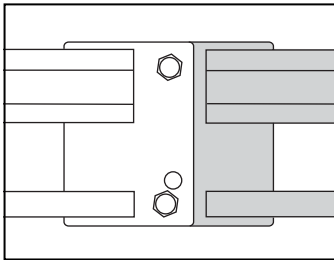
WEF-0001



	A mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
90° bend 55-200	625	716241 3	716248 2**	510
90° bend 55-300	725	716243 7	716250 5**	560
90° bend 55-400	825	716244 4	716251 2**	620
90° bend 55-500	925	716245 1	716252 9**	680
90° bend 55-600	1025	716246 8	716253 6**	750
90° bend 55-1000	1425	716247 5	716254 3**	1110

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



For joining to KHZV and KHZPV,
use Screw set M12,
Part. No. 706415.

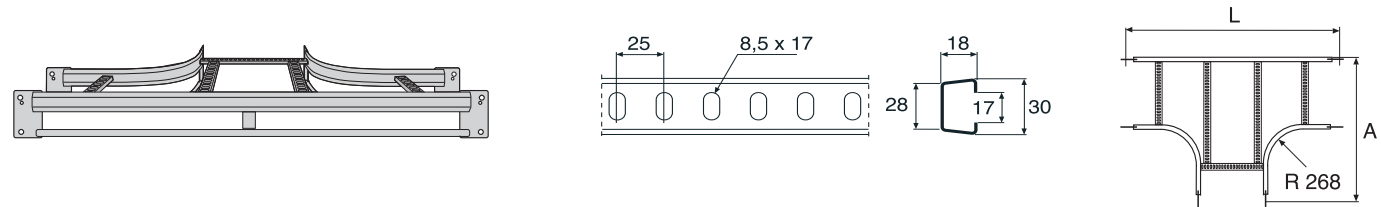
T-junction 56



WIBE

Fitted at a T-junction of KHZV and KHZPV.

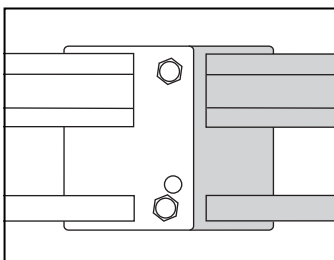
WEF-0001



	A mm	L mm	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
T-junction 56-200	625	1050	716255 0	716262 8**	710
T-junction 56-300	725	1150	716257 4	716264 2**	790
T-junction 56-400	825	1250	716258 1	716265 9**	840
T-junction 56-500	925	1350	716259 8	716266 6**	940
T-junction 56-600	1025	1450	716260 4	716267 3**	1010
T-junction 56-1000	1425	1850	716261 1	716268 0**	1300

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



For joining to KHZV and KHZPV,
use Screw set M12,
Part. No. 706415.

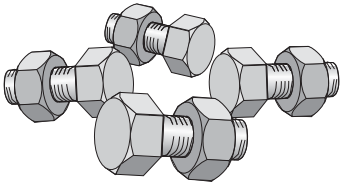
Screw set M12



WIBE

Used for all joints with KHZV and KHZPV.

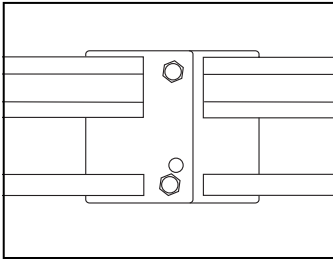
WEF-0001



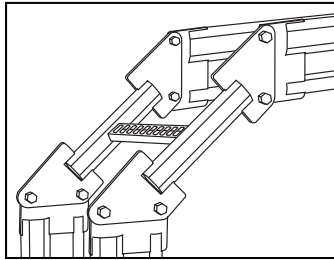
	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Weight kg 100 pcs
Screw set M12 (4 bolts M6S 12x25 and 4 nuts M6M 12)	706415 1	728767 3	20

*EAN-code=732167+Part.no+C (control figure)

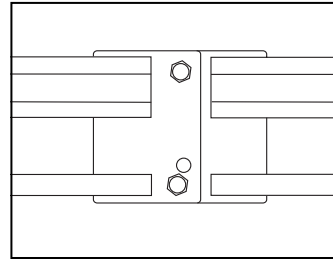
Use and installation



For joining ladders.



For joints with Riser coupling 49.



For joints with 90° bend 55 and T-junctions 56.

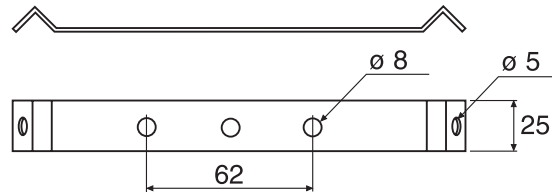
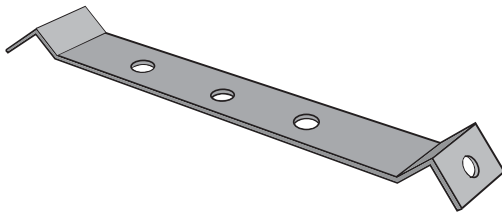
Lighting bracket 200



WIBE

Used for the installation of lighting fittings beneath KHZV/KHZPV 200.

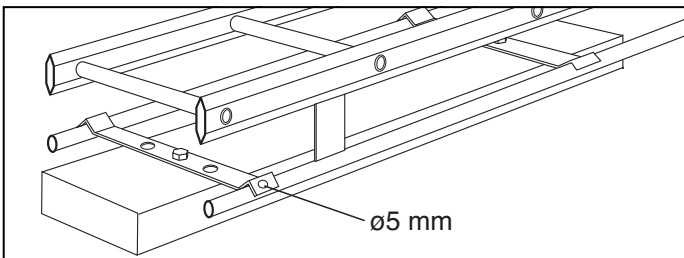
WEF-0001



	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Lighting bracket 200	718643 3	718644 0**	16

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



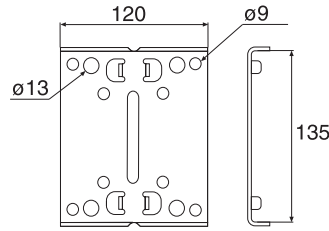
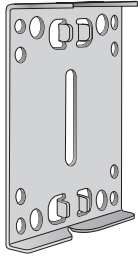
Mount Lighting bracket 200 for KHZV/KHZPV between the two lower tubes. If necessary, 5 mm dia. holes can be used for locking against the arch tube by means of blind rivets or sheet screws.

Coupling 44



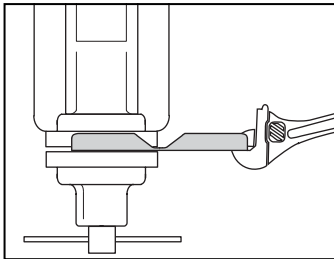
For horizontal coupling of KHZV/KHZPV. Also used for branches and as an end connection against a wall.

WEF-0001

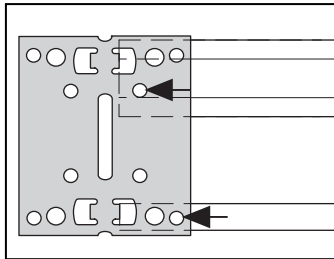


	Hot dip galv. Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Coupling 44 (4 screws M8x30+nuts incl)	720815 9	720816 6**	50
*EAN-code=732167+Part.no+C (control figure) **Produced to order			

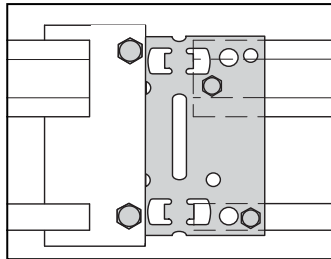
Use and installation



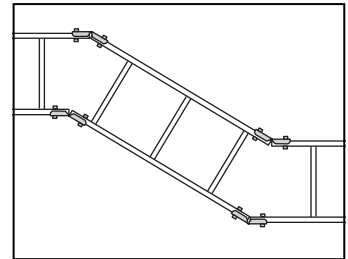
Coupling 44 may be bent to the required angle in a vice, using an adjustable spanner or suchlike.



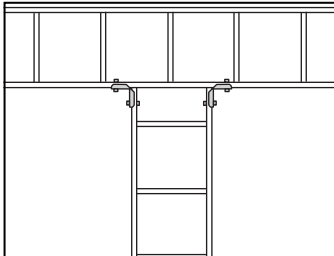
Use Coupling 44 as a drilling pattern on the cut ladder. Drill 9 mm dia. holes.



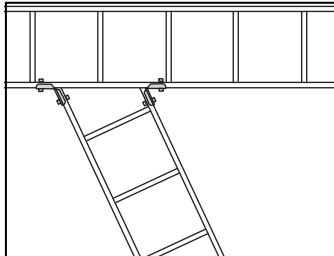
Assemble the cut and drilled ladders using M8x30 mm bolts. If the angle unit is mounted against a fixed joint plate use Screw set M12.



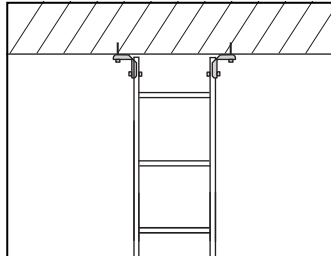
Horizontal angle formation. Angled cutting of the ladder ends determines the angle.



Straight branch.



Angled branch.



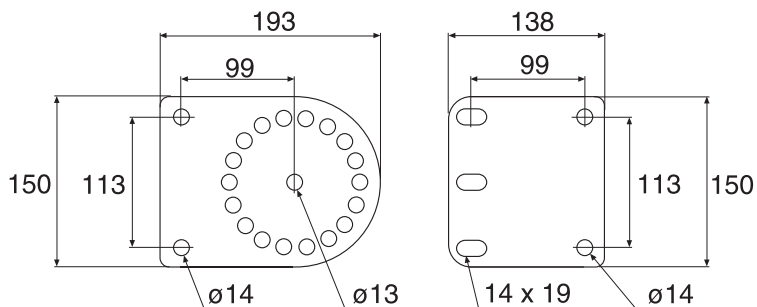
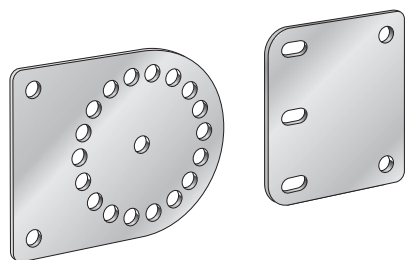
Use Coupling 44 as an end attachment for mounting ladders against walls or floors.

Coupling 51



Used as self-supporting vertical coupling of KHZV/KHZPV.

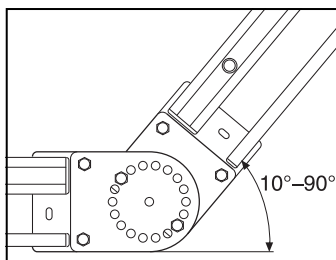
WEF-0001



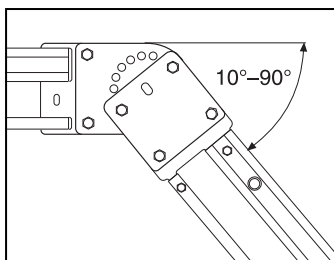
Screw set M12 for installation on the cable ladder is to be ordered separately.

	Hot dip galv. Part. No. C*	ZINKPOX® White80*** Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Weight kg 100 st
Coupling 51	731837 7	731911 4	731914 5**	150
2 screws M12+nuts incl. ***Screws+nuts of stainless steel AISI 316L				
*EAN-code=732167+Part.no+C (control figure) **Produced to order				

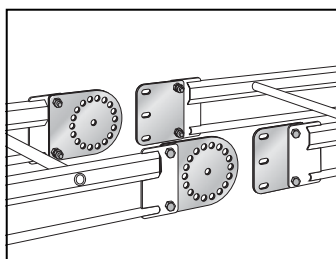
Use and installation



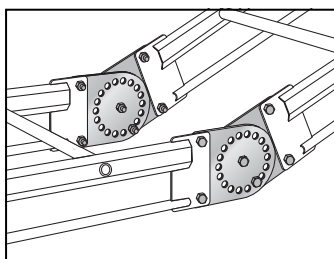
Coupling 51. Used as self-supporting vertical coupling of KHZV/KHZPV. Rising. Adjustable from 10° to 90° gradually in steps of 20°.



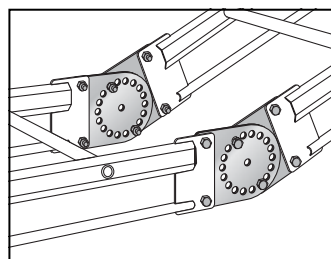
Coupling 51. Used as self-supporting vertical coupling of KHZV/KHZPV. Sloping. Adjustable from 10° to 90° gradually in steps of 20°.



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 installation in one of the outer holes with screw/nut.



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

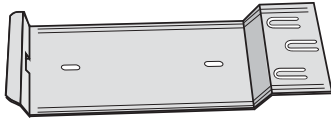
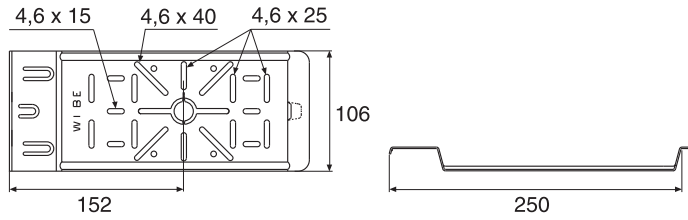
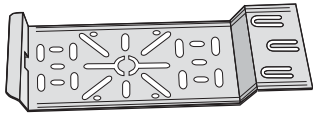
Junction box plate 35P



WIBE

Installed between rungs. Locked with appropriate locking tabs for each ladder.

WEF-0001

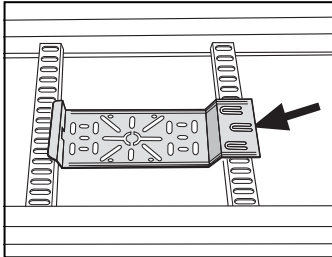


Unholed

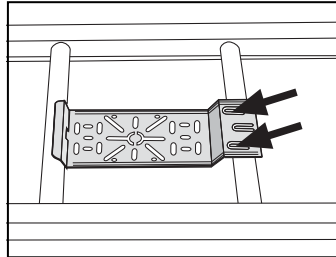
Junction box plate	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Pre-galv. White80 Part. No. C*	Weight kg 100 pcs
35P	718618 1	731745 5		714510 2	28
35P unholed			725777 5		24

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Mount junction box plates between the ladder rungs. On KHZSP, KHZSPZ, KHZP and KHZPS 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.

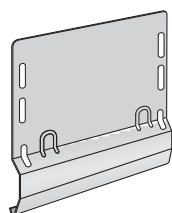
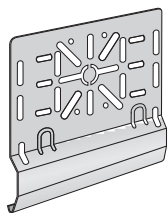
Junction box plate 35S



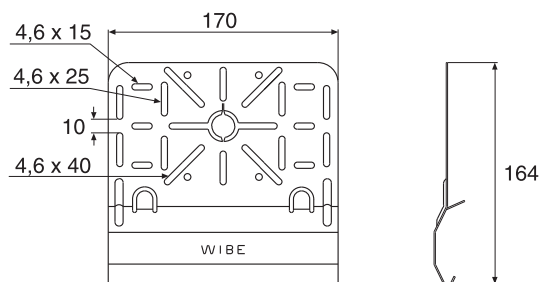
WIBE

Installed upright or hanging from the profile. Locked with locking tabs.

WEF-0001



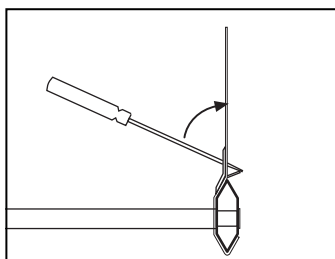
Unholed



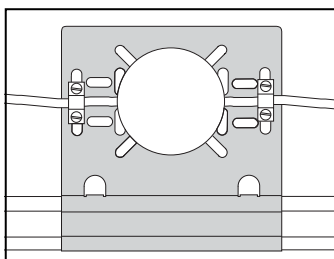
Junction box plate	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Pre-galv. White80 Part. No. C*	Weight kg 100 pcs
35S	711205 0	731746 2	725776 8	716318 2	22
35S unholed	730245 1			730246 8	23

*EAN-code=732167+Part.no+C (control figure)

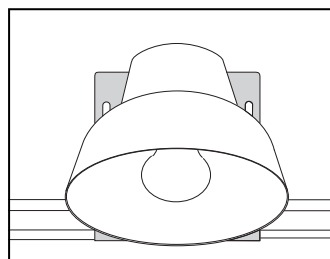
Use and installation



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.

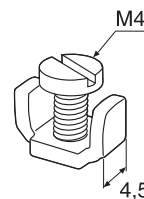
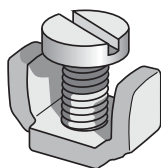
Earth clamp W79



WIBE

The earth clamp is used when protective earthing of the junction box plate is required.

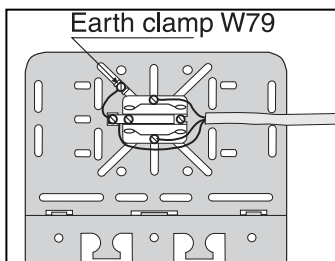
WEF-0001



Earth clamp W79	Electro-galv. Part. No. C*	Weight kg 100 pcs
	716640 4	0.2

*EAN-code=732167+Part.no+C (control figure)

Use and installation



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.). Wibe junction box plates and earth clamps have been approved by the National Electrical Inspectorate 85 05 13 as per designation S24-138/85.

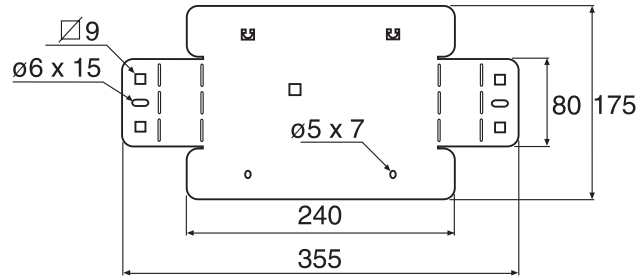
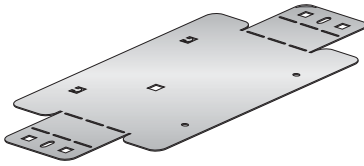
Mounting plate 63



WIBE

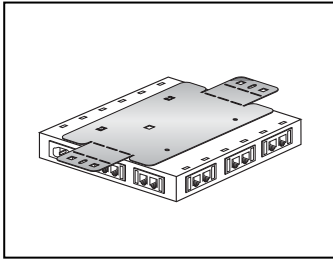
Suitable for cable ladders and cable trays.

WEF-0001

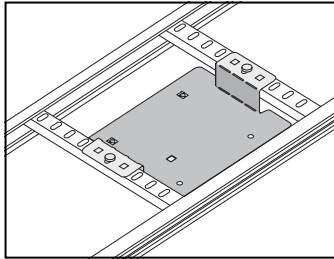


	Pre-galv. Part. No. C*	Weight kg 100 pcs
Mounting plate 63	783103 6	40
*Ean-code=732167+Part.no+C (control figure)		

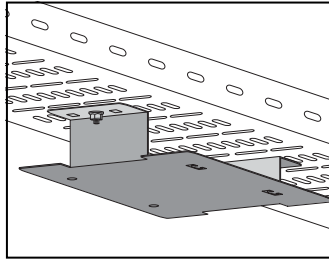
Use and installation



Servicegate installed on mounting plate.



Mounting plate mounted on cable ladder with perforated rung using Screw set W34. For cable ladder with round rung, stripes are used.

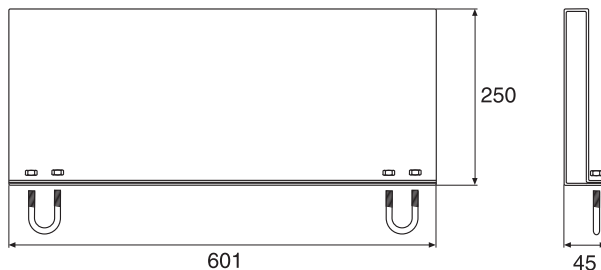
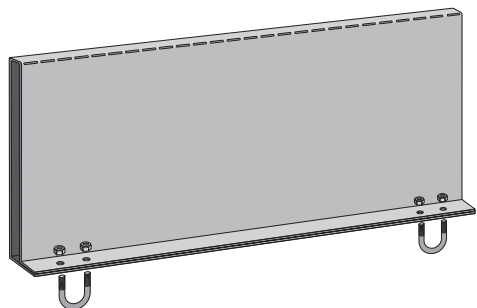


Mounting plate mounted under or on the side of Cable tray W3 with Screw set W34.

Installation plate 60



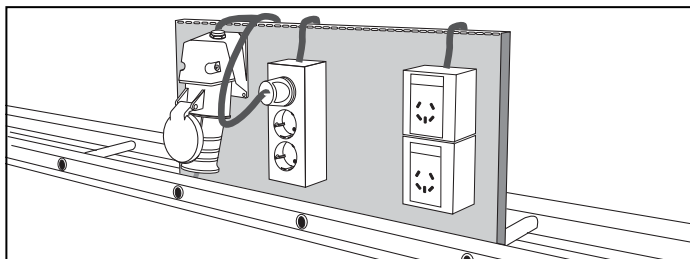
Large installation plate which can be mounted standing or hanging between the ladder rungs.
Clamp set not included.



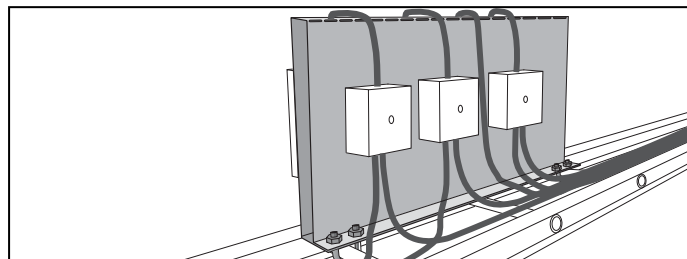
	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Pre-galv. White80 Part. No. C*	Weight kg 100 pcs
Installation plate 60	730387 8	730388 5	730389 2**	270
Clamp set M6-20SF (only in stainless steel (AISI 316L) Part. No. 725 587 0)				4

*EAN-code=732167+Part.no+C (control figure) **Produced to order

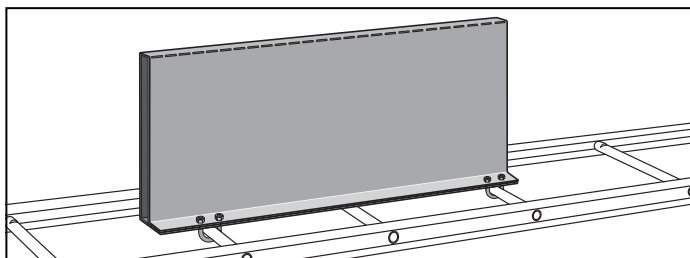
Use and installation



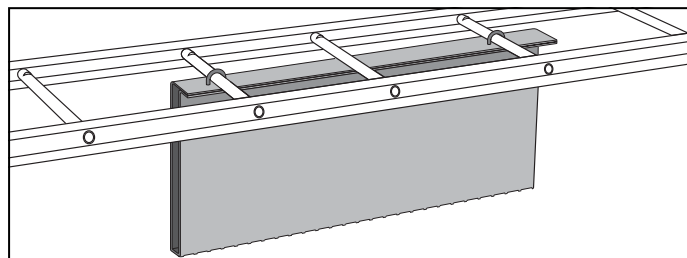
To be used when several outlets and junction boxes must be mounted on the same junction box plate.



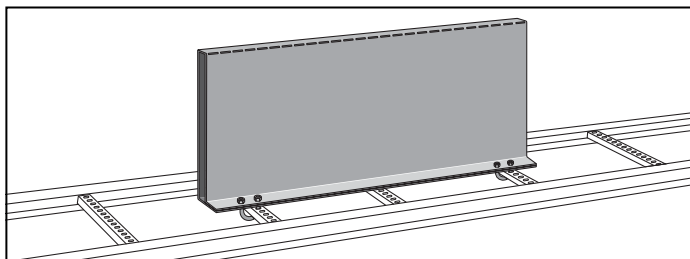
Outlets and junction boxes can easily be pre-mounted and connected. When the plate is mounted on the cable ladder only connecting of incoming/outgoing conduits remains.



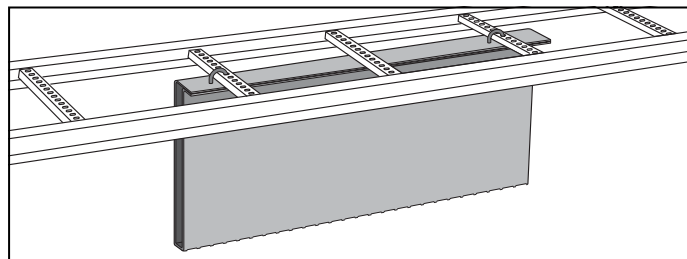
Installation on cable ladder KHZ and KHZV. Mounted on the upper side of the rungs with Clamp M6-20SF. Infinitely adjustable across the ladder.



The Installation plate 60 can also be mounted hanging under cable ladder KHZ and KHZV.



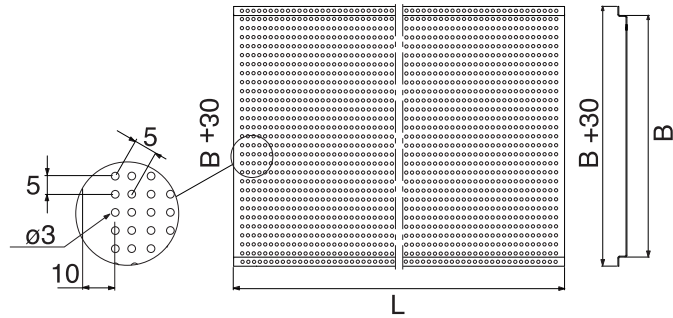
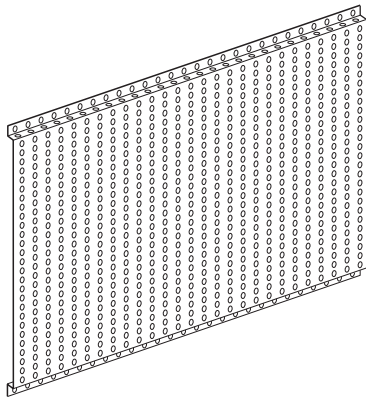
Installation on cable ladder KHZP, KHZSP, KHZSPZ and KHZPS. Mounted on the upper side of the rungs, through the perforation, with Clamp set M6-20SF.



The Installation plate 60 can also be mounted hanging under cable ladder KHZP, KHZSP, KHZSPZ and KHZPS.

Installation plate 62

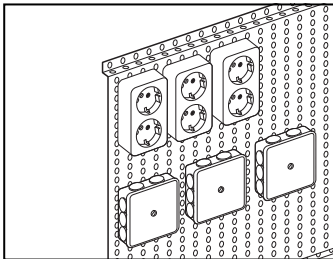
For installation on wall or floor. Used for mounting of outlets and junction boxes.



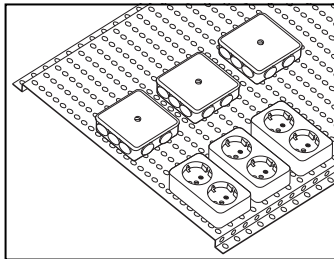
	B mm	L mm	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Pre-galv. White80 Part. No. C*	Weight kg 100 pcs
Installation plate 62/230-500	200	500	781319 3	781329 2	781324 7**	94
Installation plate 62/230-1000	200	1000	781320 9	781330 8	781325 4**	185
Installation plate 62/430-500	400	500	781321 6	781331 5	781326 1**	168
Installation plate 62/430-1000	400	1000	781322 3	781332 2	781327 8**	333
Installation plate 62/530-500	500	500	781323 0			205

* EAN-code=732167+Part.no+C (control figure) **Produced to order

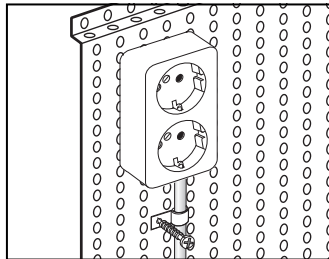
Use and installation



Installation plate 62 mounted on wall.



Installation plate 62 mounted on floor.

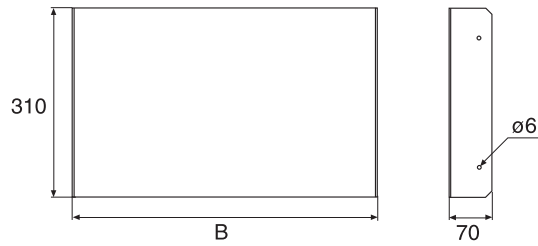
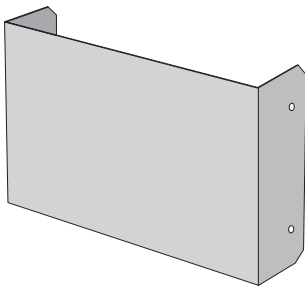


When mounting on Installation plate 62 drilling screw Ø 4.2 is used, e.g. Thorsman
TSE 4.2 x 13 E15 452 10
TSG 4.2 x 13 E15 460 00
TGE 4.2 x 16 E15 453 02

Installation plate 61



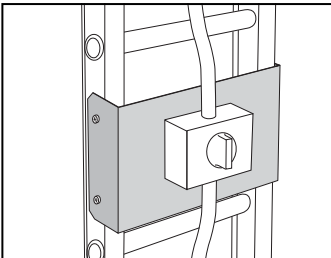
Used on vertical cable ladder installations for mounting of terminal boxes, contact breakers etc.



	B mm	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Pre-galv. White80 Part. No. C*	Weight kg 100 pcs
Installation plate 61-200	200	732486 6	732491 0	732801 7**	732496 5**	100
Installation plate 61-300	300	732487 3	732492 7	732802 4**	732497 2**	140
Installation plate 61-400	400	732488 0	732493 4	732803 1**	732498 9**	170
Installation plate 61-500	500	732489 7**	732494 1**	732804 8**	732499 6**	240
Installation plate 61-600	600	732490 3**	732495 8**	732805 5**	732500 9**	270

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Used on vertical cable ladder installations for mounting of terminal boxes, contact breakers etc. Mount with selftapping screw ST4.2 in the side profile.

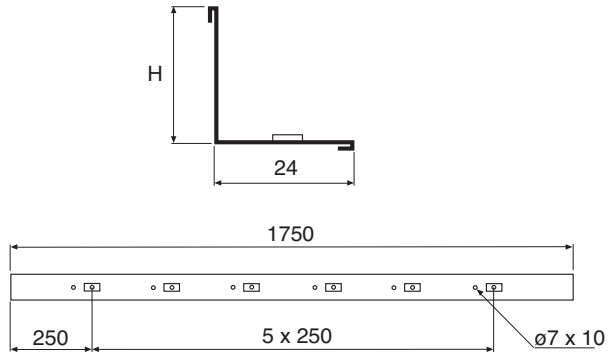
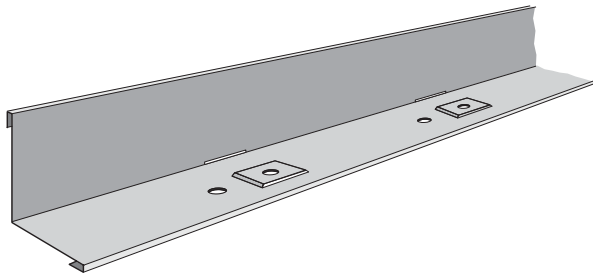
Dividing strip 39



WIBE

WEF-0001

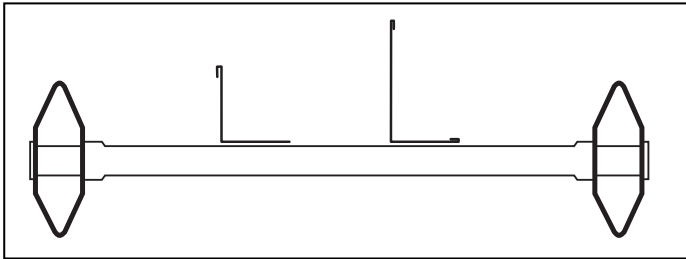
Used to separate low-tension and high-tension cables.
Thickness of plate 0.6 mm



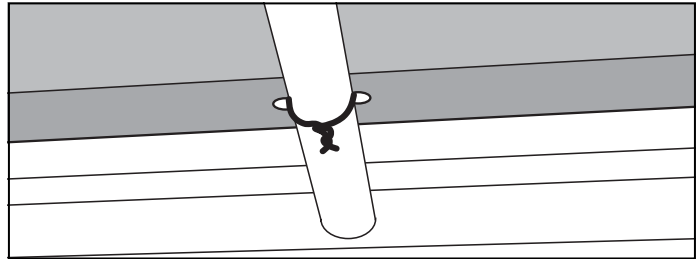
	H mm	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Pre-galv. White80 Part. No. C*	Weight kg 100 pcs
Dividing strip 39/24	24	718835 2	731747 9	725593 1	717950 3	46
Dividing strip 39/55	55	725785 0	732983 0	725594 8	725786 7**	73

*EAN-code=732167+Part.no+C (control figure) **Produced to order

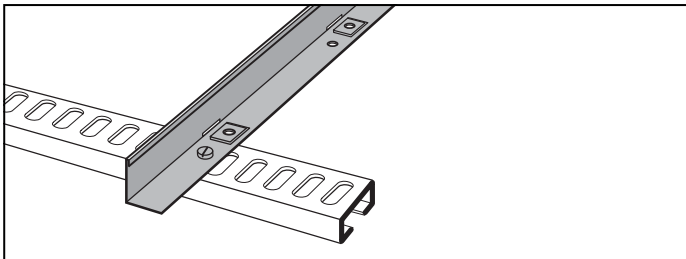
Use and installation



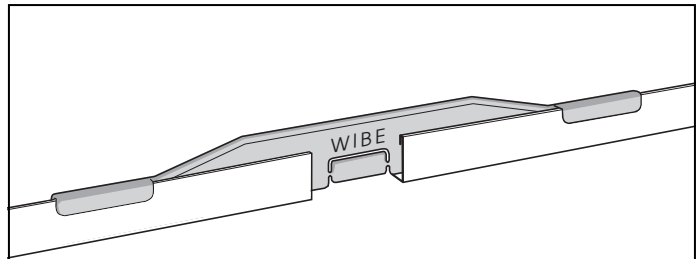
Mount one or more Dividing strips 39 to separate low and high tension cables.



Attach Dividing strip 39 to KHZ and KHZV by lashing around the rungs.



Attach Dividing strip 39 to KHZSP, KHZSPZ, KHZPS and KHZP using Screw set W34 through the rung perforations.



It is advisable to join dividing strips using Distance piece W39.

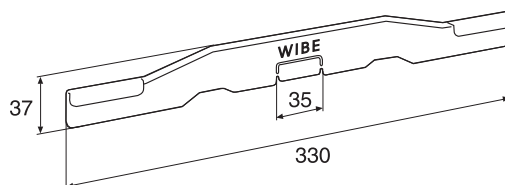
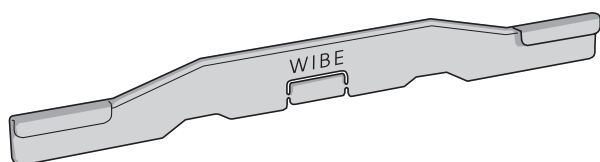
Distance piece W39



WIBE

Distance piece W39 is used for joining Dividing strips 39.

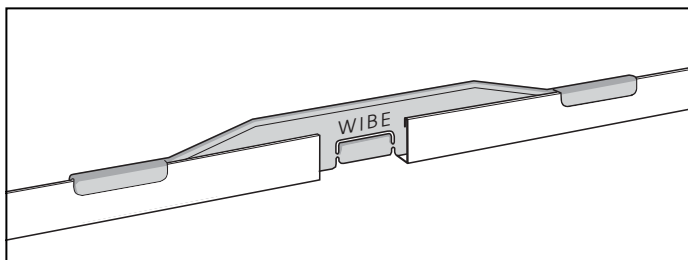
WEF-0021



	Natural coloured plastic	Weight kg
Distance piece W39	Part. No. C* 716824 8	100 pcs 3

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Mount one or more Dividing strips 39 to separate low and high tension cables.

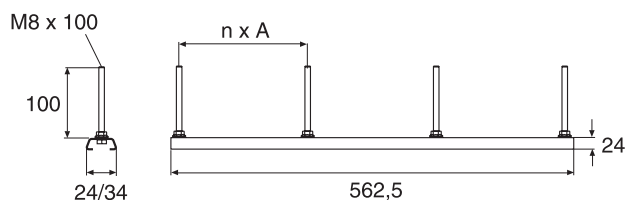
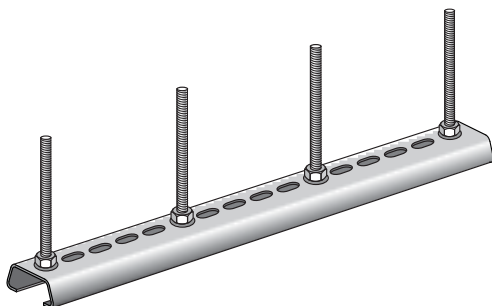
Cable divider 52



WIBE

A cable divider for raised access floors.

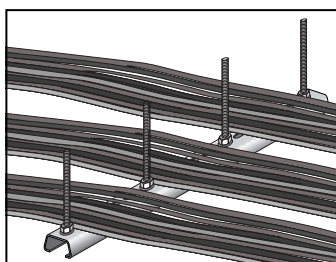
WEF-0001



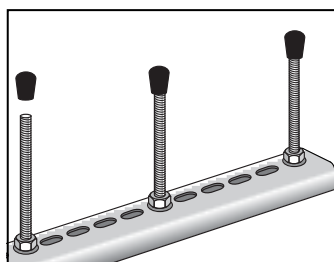
	n x A mm	Pre-galv. Part. No. C*	Weight kg 100 pcs
Cable divider 52-3	3x180	737533 2**	67
Cable divider 52-4	4x135	737534 9**	72
Cable divider 52-5	5x111	737535 6**	77

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Used in order to separate different types of cables in raised access floors.



Note! When Cable divider 52 is used uncovered, the rods should be supplied with rubber hats.

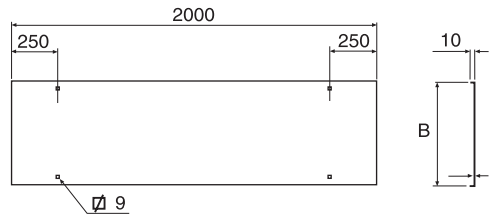
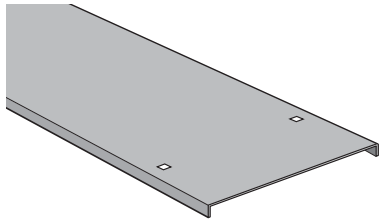
Cover 64



WIBE

Used for vertically mounted cable ladders.

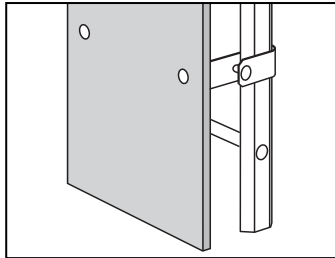
WEF-0001



	B mm	t mm	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Cover 64-150	151	1.0	782561 5**	782585 1**	782569 1**	290
Cover 64-200	201	1.0	782562 2**	782586 8**	782570 7**	370
Cover 64-300	301	1.0	782563 9**	782587 5**	782571 4**	540
Cover 64-400	401	1.0	782564 6**	782588 2**	782572 1**	710
Cover 64-500	501	1.25	782565 3**	782589 9**	782573 8**	1020
Cover 64-600	601	1.25	782566 0**	782590 5**	782574 5**	1210
Cover 64-800	801	1.25	782567 7**	782591 2**	782575 2**	1660
Cover 64-1000	1001	1.25	782568 4**	782592 9**	782576 9**	2000

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



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.

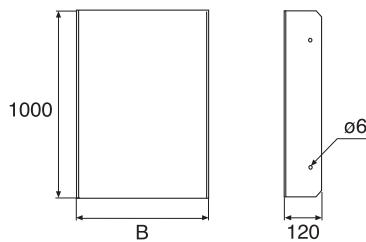
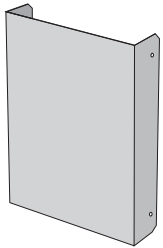
Cover plate 65



WIBE

Used on vertical cable ladder installations as protection of cables near the floor.

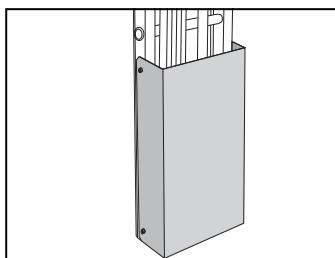
WEF-0001



	B mm	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Pre-galv. White80 Part. No. C*	Weight kg 100 pcs
Cover plate 65-200	200	732475 0	730192 8	732481 1**	718909 0**	930
Cover plate 65-300	300	732476 7	730193 5	732482 8**	718910 6**	1140
Cover plate 65-400	400	732477 4	730194 2	732483 5**	718911 3**	1350
Cover plate 65-500	500	732478 1	730195 9**	732484 2**	718912 0**	1560
Cover plate 65-600	600	732479 8	730196 6	732485 9**	718913 7**	1780

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Used on vertical cable ladder installations as protection of cables near the floor. Mounted in the side profile with selftapping screw ST4.2.

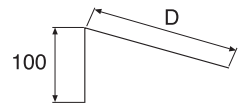
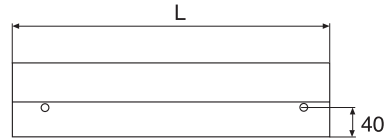
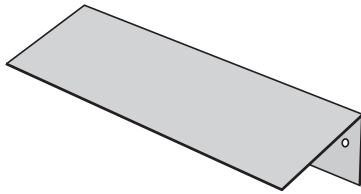
Junction box cover



WIBE

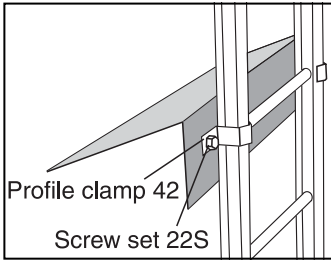
WEF-0001

For mounting on cable ladder, hot dip galvanized.
Not in stock, only on request.



Hot dip galvanized
When ordering, specify:
Ladder width and the dimensions D and L

Use and installation



When installing Junction box cover on cable ladder use Profile clamp 42.

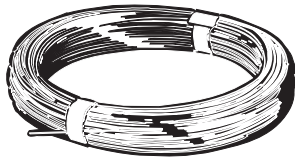
Lashing wire



WIBE

WEF-0011

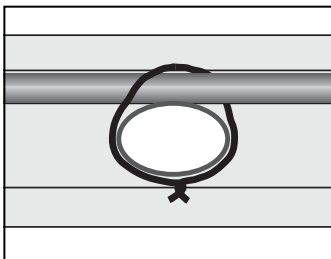
For lashing of wires on cable ladders.



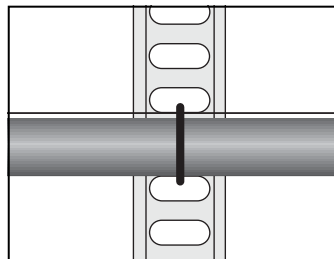
	Diam mm	Breaking load kg	Part. No. C*	Weight kg 100 m
HTR-2303 Lashing wire, stainless steel, white PVC	1.25	92	713686 5	1.3
HTR-2313 Lashing wire, stainless steel, black PVC	1.25	92	713687 2	1.3
HT-2304 Lashing wire, white PVC	1.5	25	713684 1	1.8
HT-2314 Lashing wire, black PVC	1.5	25	713685 8	1.8

*EAN-code=732167+Part.no+C (control figure)

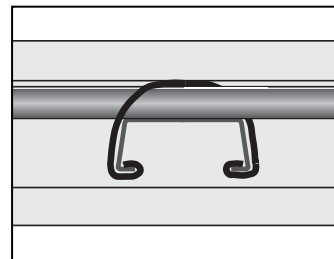
Use and installation



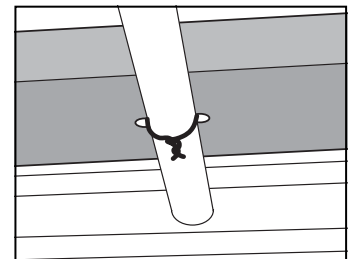
Cables are easily installed by lashing around the rungs of KHZ and KHZV.



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.

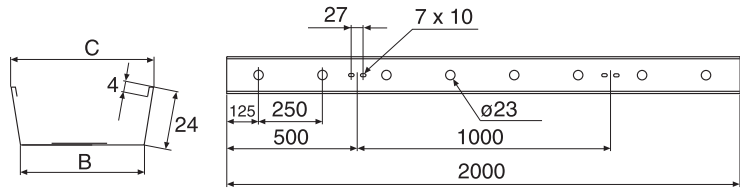
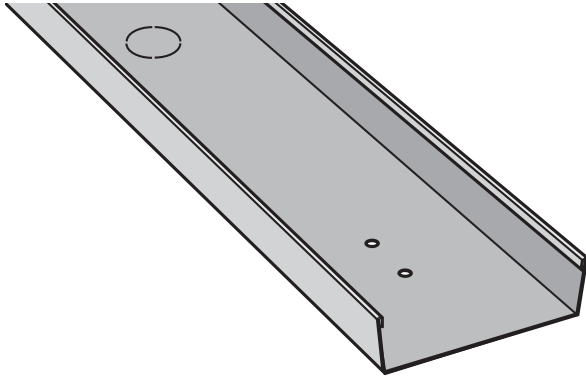


Dividing strips and tele-conduits are attached to the ladder by lashing around the rungs of KHZ and KHZV.

Tele-conduit 36 with knock-out holes



Tele-conduit is installed where a separate tray is required for low-tension cables. Knock-out holes in the bottom of the channel permit the cable to pass through.

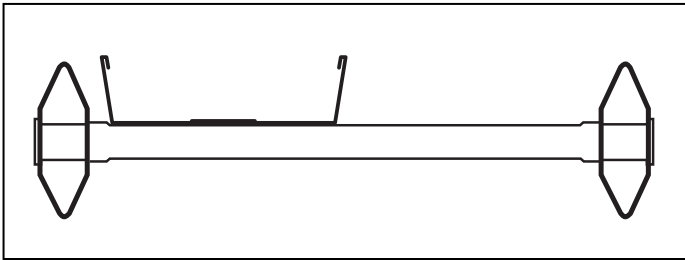


	B mm	C mm	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel*** (AISI316L) Part. No. C*	Pre-galv. White80 Part. No. C*	Weight kg 100 pcs
Teleconduit 36-50	42	50	725065 3	731748 6	725590 0	725068 4	94
Teleconduit 36-100	92	100	725066 0	731749 3	725591 7**	725069 1	142
Teleconduit 36-200	192	200	725067 7	731750 9	725592 4**	725070 7**	238

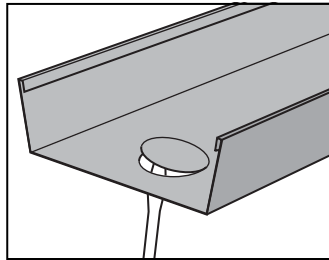
***Without knock-out holes

*EAN-code=732167+Part.no+C (control figure) **Produced to order

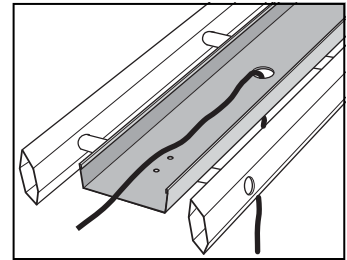
Use and installation



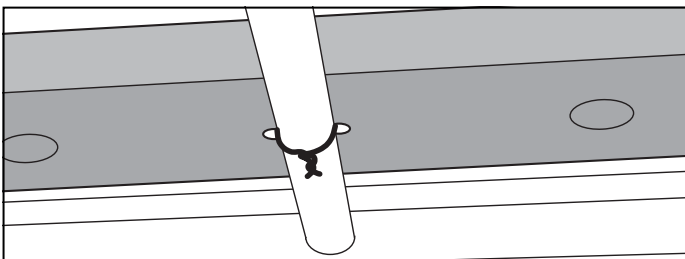
Mount Tele-conduit 36 whenever a special channel is required for low tension lines.



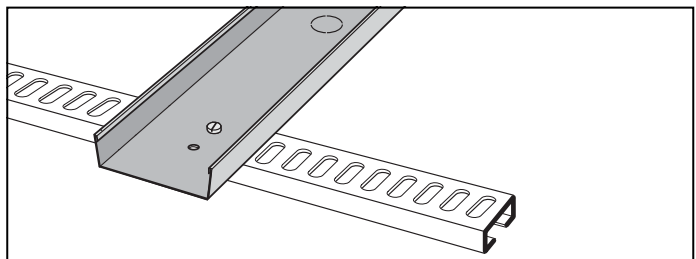
Whenever you wish to make a hole to let a cable through, press the knock-out piece from below using a screwdriver or suchlike.



In the event of special needs, Thorsman's sealing sleeve TET 10-14 gland 22.5 or corresponding may be mounted in the hole.



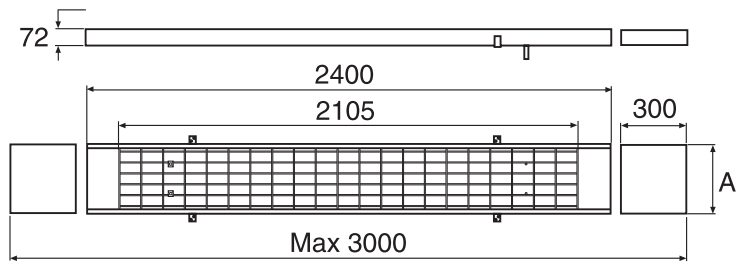
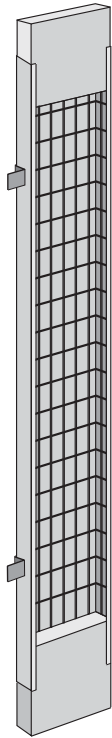
Attach Tele-conduit 36 onto KHZ and KHZV by tying with wire round rungs.



Attach Tele-conduit 36 to KHZSP, KHZSPZ, KHZPS and KHZP using Screw set W34 through the rung perforations.

A tray for casting-in with a mesh tray mounted on the inside of the tray for quick and easy lashing of cables.

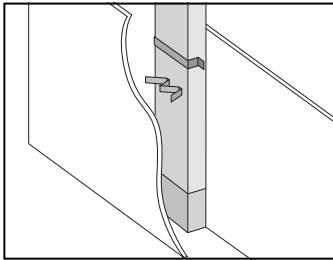
Pieces of Polystyrene at both ends makes it possible to adjust the height of the tray. 2 fixing brackets and sealing strips are included.



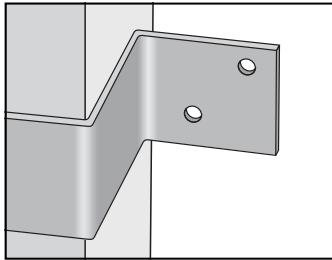
	A mm	Pre-galv. Part. No. C*	Weight kg 100 pcs
Fixing tray N-300 for casting-in	330	782695 7**	1800
Fixing tray N-400 for casting-in	430	782696 4**	2200

*EAN-code=732167+Part.no+C (control figure) **Produced to order

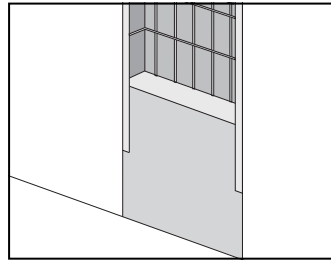
Use and installation



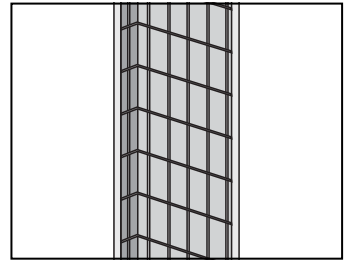
Fixing tray N for casting-in mounted in the mould.



Fixing tray N adjusted onto the mould (from out- or inside) with fixing brackets.



The length is adjustable to ceiling and floor by moving the pieces of Polystyrene, total height min 2400-max 3000 mm.



The mesh tray mounted into the Fixing tray N is used for lashing of cables.

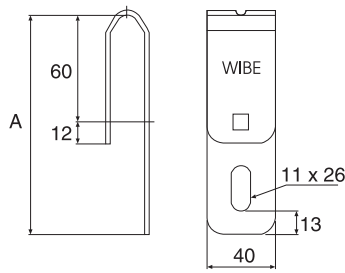
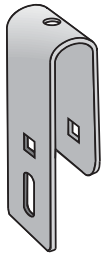
Clamp 12



WIBE

Used on the Cable ladder side profile for installation of accessories.

WEF-0001

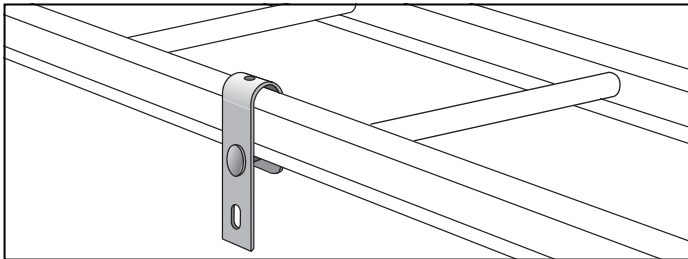


	A mm	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Clamp 12/70	125	728653 9	728651 5	732977 9**	19
Clamp 12/120	175	728654 6	728652 2	732978 6**	24

(screw not included)

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



When mounted over the cable ladder side profile, Clamp 12 can be used for installation of antenna brackets, junction boxes and so on. Use Screw set 2S (for hot dip clamp) or Screw set W37 (for stainless steel clamp).

Hook 8

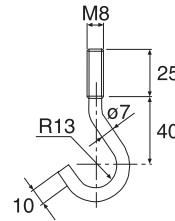
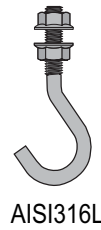
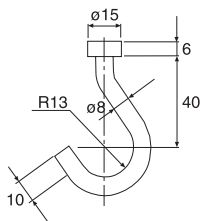


WIBE

For installation of cables beneath Support bracket 3.

WEF-0001

Hooks can also be installed in perforated rungs.

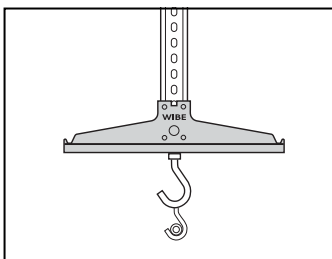


	Hot dip galv. Part. No. C*	Stainl. steel** (AISI316L) Part. No. C*	Weight kg 100 pcs
Hook 8	728642 3	728643 0	5

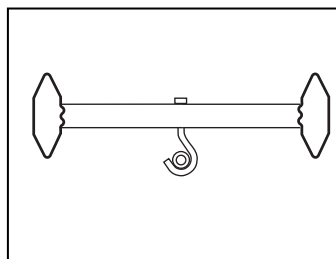
**2 nut M6MF8 included

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Hook 8 mounted beneath Support bracket 3 for installation of cables.

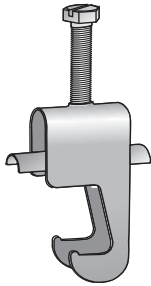


Hook 8 installed in a perforated rung.

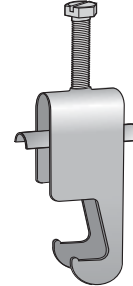
Cable clamp type A



For fastening of cables on Pendant/Fixing rails 24/40 and 24/48,
Cable ladders KHZSP, KHZSPZ, KHZPS, KHZP and KHZPV.



Cabel clamp for 1 cable



Cable clamp for 2 cables

Cable clamp A for 1 cable

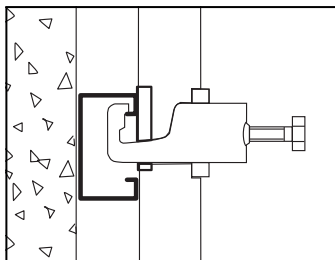
	For cable mm	Pre-galv. Part. No. C*	Weight kg 100 pcs
Cable clamp A1-12	-12	718507 8	3.4
Cable clamp A1-16	13-16	718508 5	3.7
Cable clamp A1-22	17-22	718509 2	4.6
Cable clamp A1-28	23-28	718510 8	5.3
Cable clamp A1-36	29-36	718511 5	8.8
Cable clamp A1-44	37-44	718512 2	9.9
Cable clamp A1-52	45-52	718513 9	11.0
Cable clamp A1-60	53-60	718514 6	12.5
Cable clamp A1-70	61-70	718515 3	15.4

Cable clamp A for 2 cables

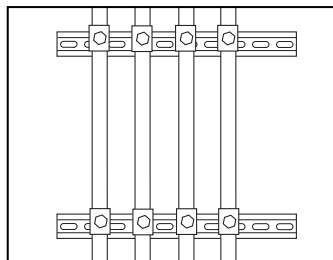
	For cabel mm	Pre-galv. Part. No. C*	Weight kg 100 pcs
Cable clamp A2-12	-12	718516 0	4.0
Cable clamp A2-16	13-16	718517 7	4.6
Cable clamp A2-22	17-22	718518 4	5.9
Cable clamp A2-28	23-28	718519 1	7.0
Cable clamp A2-36	29-36	718520 7	11.2
Cable clamp A2-44	37-44	718521 4	13.3

*EAN-code = 732167 + Part.no + C (control figure)

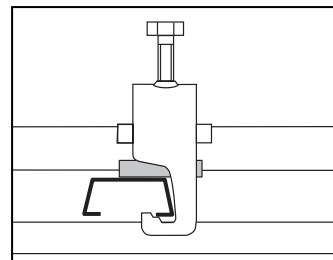
Use and installation



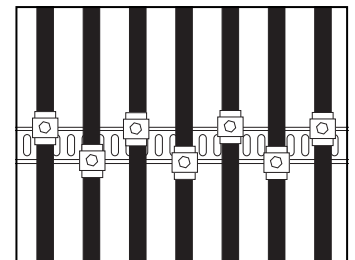
Use Cable clamp type A to attach cables to Pendant/Fixing rails 24/40 and 24/48. Use Insert piece EM.



Mounting rail 40 with Cable clamp type A.



Use Cable clamp type A 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.

Tightening moment

When mounting, Insert piece EM is to be used.
It is important that the clamp is not tightened too hard.
The installer must watch out for deformations when tightening.
Suitable tightening moment for clamps with M6-screw is 0.5-1.0 Nm, and for clamps with M8-screw 1.0-1.5 Nm.

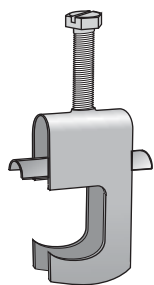
Cable clamp type R



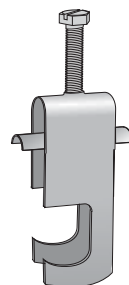
WIBE

For fastening of cables on Cable ladders KHZ and KHZV.

WEF-0001



Cable clamp for 1 cable



Cable clamp for 2 cables

Cable clamp R for 1 cable

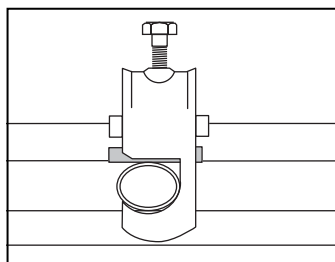
	For cable mm	Pre-galv. Part. No. C*	Weight kg 100 pcs
Cable clamp R1-12	-12	769000 8	5.5
Cable clamp R1-16	13-16	769001 5	6.3
Cable clamp R1-22	17-22	769002 2	7.4
Cable clamp R1-28	23-28	769003 9	8.5
Cable clamp R1-36	29-36	769004 6	11.1
Cable clamp R1-44	37-44	769005 3	12.7
Cable clamp R1-52	45-52	769006 0	14.2
Cable clamp R1-60	53-60	769007 7	15.5
Cable clamp R1-70	61-70	769008 4	18.4

Cable clamp R for 2 cables

	For cable mm	Pre-galv. Part. No. C*	Weight kg 100 pcs
Cable clamp R2-12	-12	769009 1	6.8
Cable clamp R2-16	13-16	769010 7	7.9
Cable clamp R2-22	17-22	769011 4	9.6
Cable clamp R2-28	23-28	769012 1	11.3
Cable clamp R2-36	29-36	769013 8	14.5
Cable clamp R2-44	37-44	769014 5	17.0
Cable clamp R2-52	45-52	769015 2	19.2
Cable clamp R2-60	53-60	769016 9	21.4

*EAN-code = 732167 + Part.no + C (control figure)

Use and installation



Cable clamp Type R is used for fastening cables on the cable ladders KHZ and KHZV. Insert piece EM must be installed.

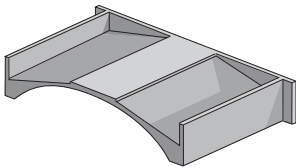
Tightening moment

When mounting, Insert piece EM is to be used. It is important that the clamp is not tightened too hard. The installer must watch out for deformations when tightening. Suitable tightening moment for clamps with M6-screw is 0.5-1.0 Nm, and for clamps with M8-screw 1.0-1.5 Nm.

Insert piece EM



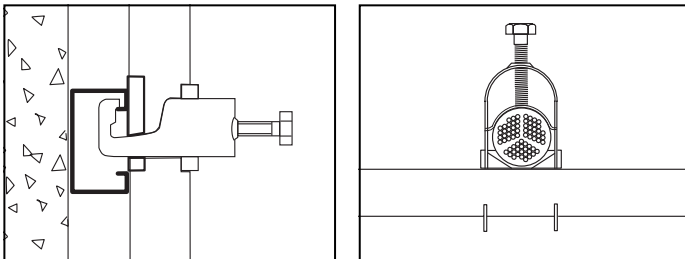
Insert pieces are to be used in order to prevent pressure on the cable.
The insert piece is placed between the cable and the rung from the same side whereas the clamp has been fastened to the rung.



	For cable mm	Plastic, grey Part. No. C*	Weight kg 100 pcs
Insert piece EM-12	-12	709050 1	0.2
Insert piece EM-16	13-16	709051 8	0.2
Insert piece EM-22	17-22	709052 5	0.3
Insert piece EM-28	23-28	709053 2	0.3
Insert piece EM-36	29-36	709054 9	0.5
Insert piece EM-44	37-44	709055 6	0.7
Insert piece EM-52	45-52	709056 3	0.8
Insert piece EM-60	53-60	709057 0	0.9
Insert piece EM-70	61-70	709058 7	1.0

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Insert pieces EM increase the contact area of the cables.

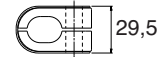
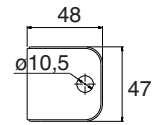
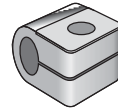
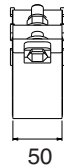
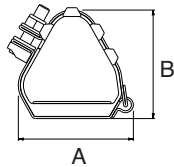
Cable clamp ER



WIBE

For installation of cables on cable ladders with round or perforated rungs.

WEF-0001



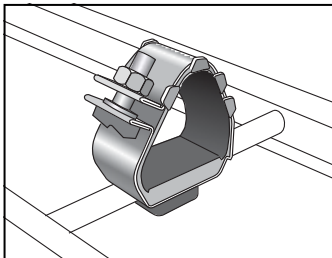
Cable clamp ER

Oval rung adapter

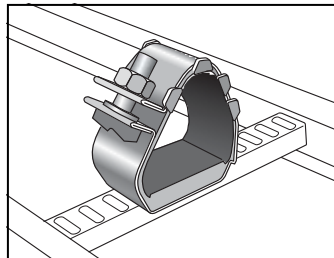
	For cable mm	A mm	B mm	Stainl. steel (AISI316) Part. No. C*	Weight kg 100 pcs
Cable clamp ER	23-28	80	74	736440 4	44
Cable clamp ER	27-32	82	81	736441 1	45
Cable clamp ER	30-35	82	88	736442 8	46
Cable clamp ER	33-38	85	94	736443 5	47
Cable clamp ER	36-42	113	101	736444 2	60
Cable clamp ER	40-46	115	108	736445 9	62
Cable clamp ER	44-50	117	115	736446 6	63
Cable clamp ER	48-55	120	129	736447 3	64
Cable clamp ER	51-58	121	130	736448 0	66
Cable clamp ER	55-62	156	138	736449 7	78
Cable clamp ER	59-66	158	146	736450 3	79
Cable clamp ER	63-70	160	150	736451 0	80
Cable clamp ER	67-74	163	161	736452 7	81
Cable clamp ER	71-78	165	168	736453 4	85
Cable clamp ER	74-82	167	176	736454 1	86
Cable clamp ER	77-85	169	181	736455 8	87
Oval rung adapter (screw set incl.)				736456 5	12
Screw set 74S (2 pcs are required for installation on perforated rungs)				737198 5	2

*EAN-code=732167+Part.no+C (control figure)

Use and installation



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.

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 distortion of the ladder rungs
- The cables were splayed out between the clamps but otherwise in good order

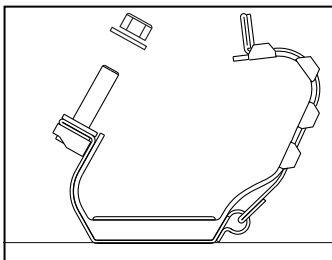
Test report no. BS/F 1268

- Wibe cable ladder KHZ-600 and KHZP-600
Cable clamp ER mounted on every other rung

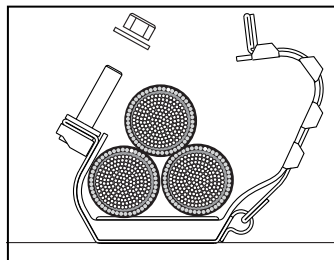
Condition after test

352 volt 64 kA symmetrical current (Peak 140 kA) during 0.1 second:

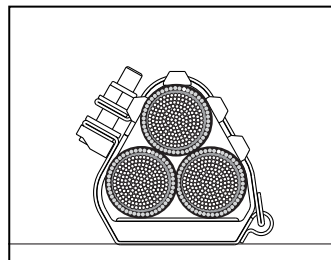
- All clamps remained secure
- There was distortion of a number of the ladder rungs
- The cables were splayed out between the clamps but otherwise in good order.



Remove the locking nut. Open the clamp.



Mount the cables.

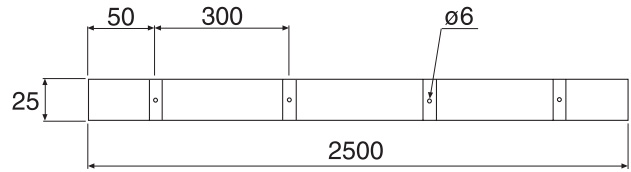
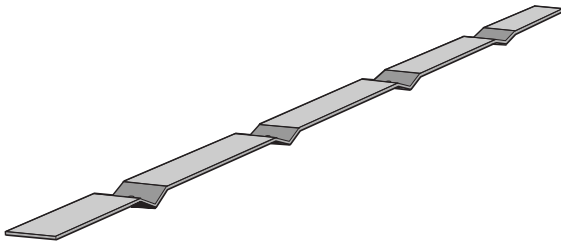


Lock the clamp with the locking nut. Turn the nut to max. 4-5 Nm. The rubber lining must touch the cables but not so tight that the cables will be deformed.

Mounting rail WMS25

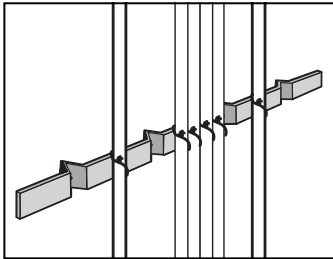
For installation directly on wall for lashing of cables.

WEF-0001

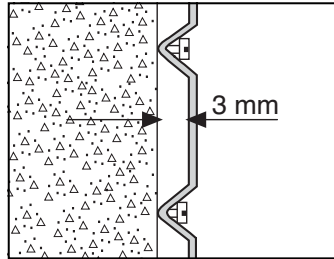


	Hot dip galv.	Weight kg
Mounting rail WMS25	Part. No. C*	100 pcs
*EAN-code=732167+Part.no+C (control figure)	790061 9	98

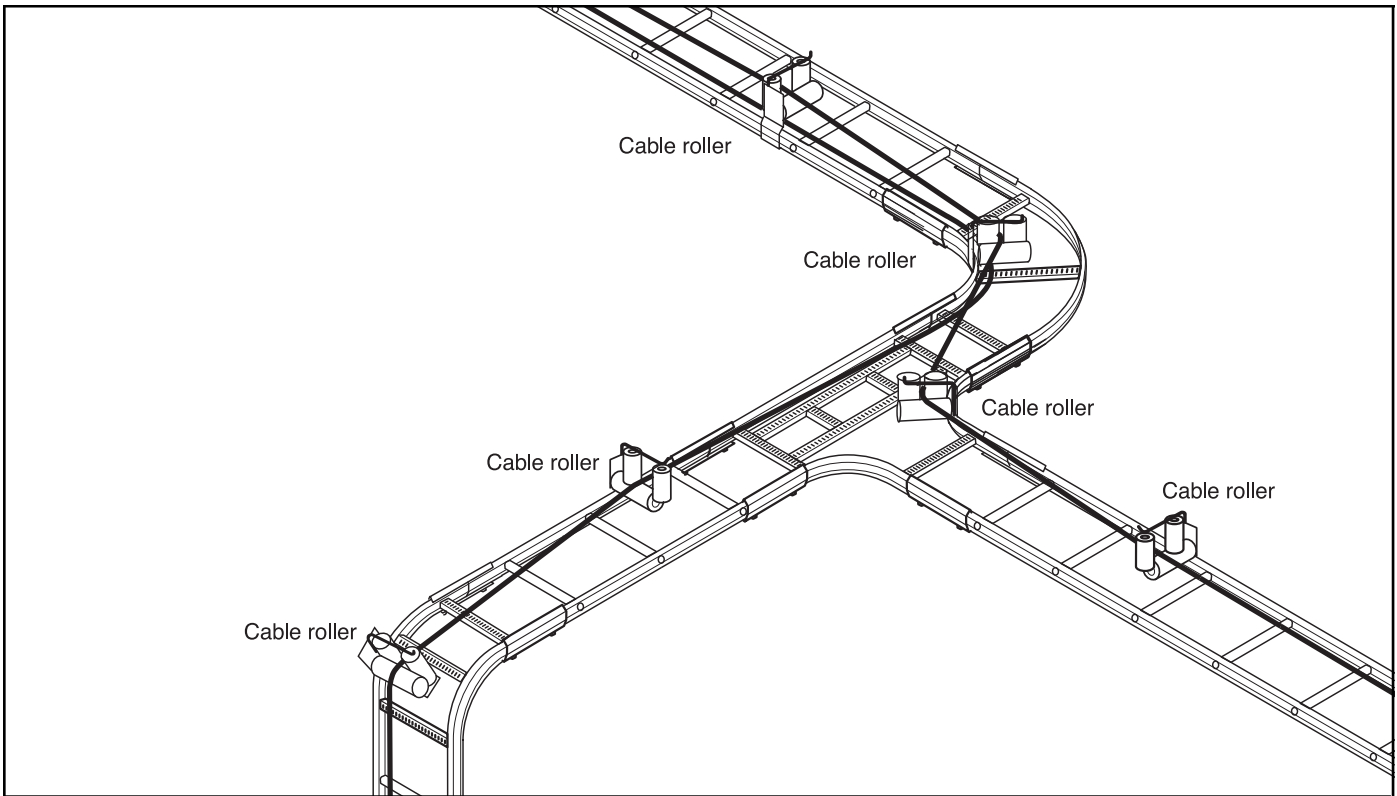
Use and installation



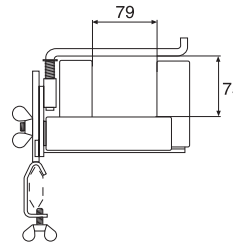
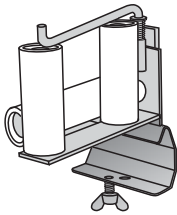
Mounting of cables with lashing wire, strips etc.



The mounting rail is installed directly onto wall.



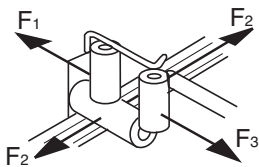
Wibe cable rollers facilitate the pulling of cables and lines. Cable rollers are easily installed on all Wibe cable ladders except the WHS-ladders (high sided). Also fits the external/internal profile of all 90° bends, T-junctions, X-junctions and risers. The cable roller has a height adjustment of 45 mm to leave room for cables to pass under the roller.



	Electro-galv. Part. No. C*	Weight kg 100 pcs
Cable roller S	718660 0	230

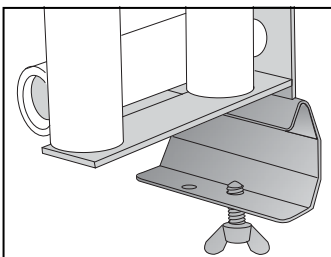
*EAN-code=732167+Part.no+C (control figure)

Loadings

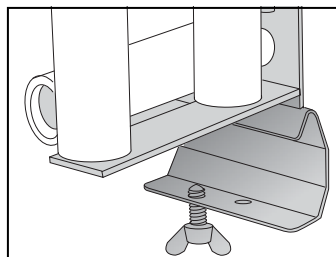


Permitted loading $F_1=100$ kg (KHZ, KHZP, KHZV) 35 kg (KHZSP)
 Permitted loading $F_2=125$ kg (KHZ, KHZP, KHZV) 35 kg (KHZSP)
 Permitted loading $F_3=100$ kg (KHZ, KHZP, KHZV) 35 kg (KHZSP)

Use and installation



For fitting on 90°, T- and X-junctions, use the inner mounting hole.



For mounting on ladders, use the outer mounting hole.

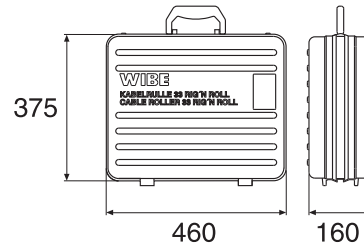
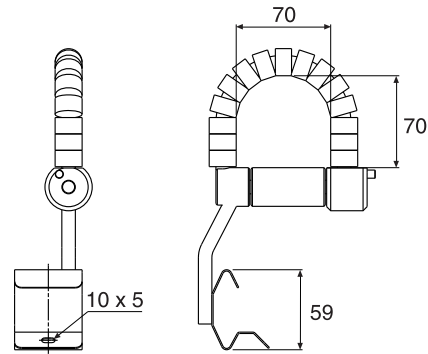
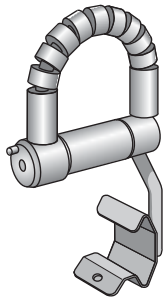
Cable roller 38 Rig'n roll



WIBE

Used for mounting on Wibe cable ladders with belonging junctions and branches.

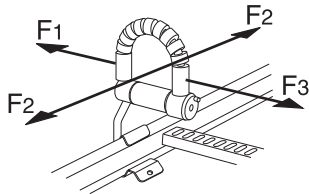
WEF-0001



	Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Weight kg 100 pcs
Cable roller 38 Rig'n roll		735998 1	48
Bag	780186 2		230
Cable roller set 66 (1 bag+10 pcs Cable roller 38 Rig'n roll)	780187 9		710

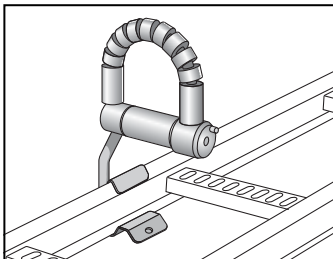
*EAN-code=732167+Part.no+C (control figure)

Loadings

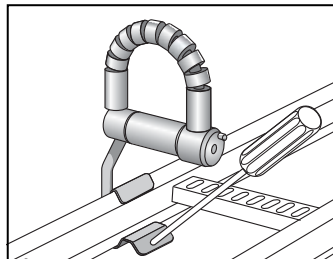


Permitted loading $F_1=20$ kg (KHZ, KHZP, KHZV, KHZSP)
 Permitted loading $F_2=50$ kg (KHZ, KHZP, KHZV, KHZSP)
 Permitted loading $F_3=50$ kg (KHZ, KHZP, KHZV) 25 kg (KHZSP)

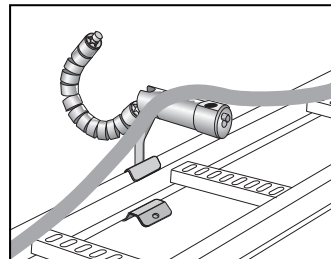
Use and installation



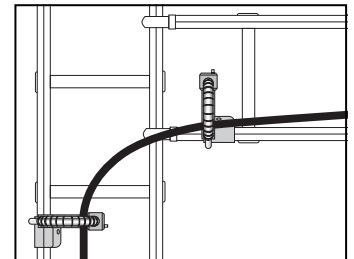
Cable roller 38 is to be mounted on the cable ladder profile.



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.

Marking plate 93



WIBE

WEF-0001

A colour marking system that is easy to use when you want to mark out which type of cable that is placed on the cable ladder. 5 different colours are available.

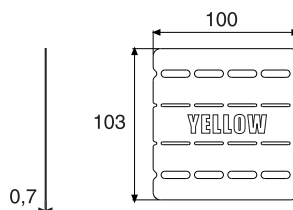
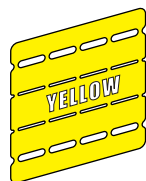
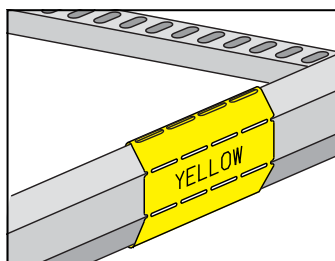


	Plate Part. No. C*	Weight kg 100 pcs
Marking plate 93, Yellow	737704 6	5
Marking plate 93, Orange	737705 3	5
Marking plate 93, Blue	737706 0	5
Marking plate 93, Green	737707 7	5
Marking plate 93, Black	737708 4	5

*EAN-code=732167+Part.no+C (control figure)

Use and installation



The Marking plate can be bent around the side profile on all Wibe cable ladders.

Repair paint



WIBE

WEF-0013, 0016

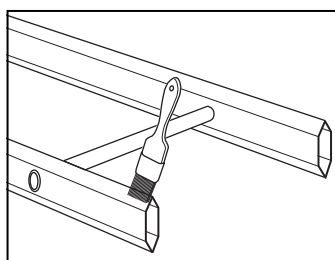
Galvafrid for repair of damaged places on pre-galvanized or hot dip galvanized ladders and accessories. Repair paint for minor damages of powder coated products.



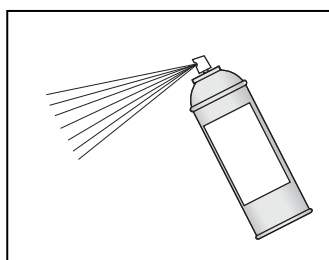
	Volume l	Part. No. C*	Weight kg 100 pcs
Anti-corrosive paint "Galvafrid", tin	0.3	717637 3	86
Repair paint White RAL 9003 Gloss 30, spray bottle	0.4	739713 6	60
Repair paint White RAL 9010 Gloss 80, spray bottle	0.4	728027 8	60

* EAN-code=732167+Part.no+C (control figure)

Use and installation

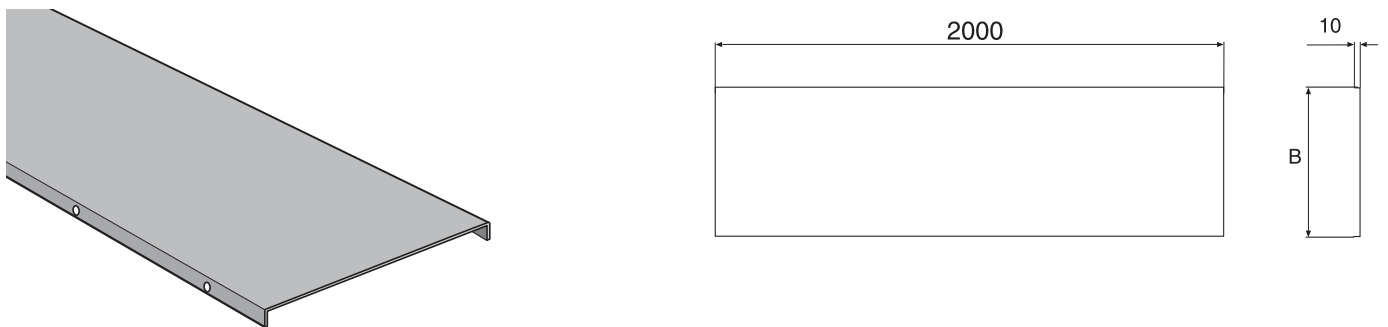
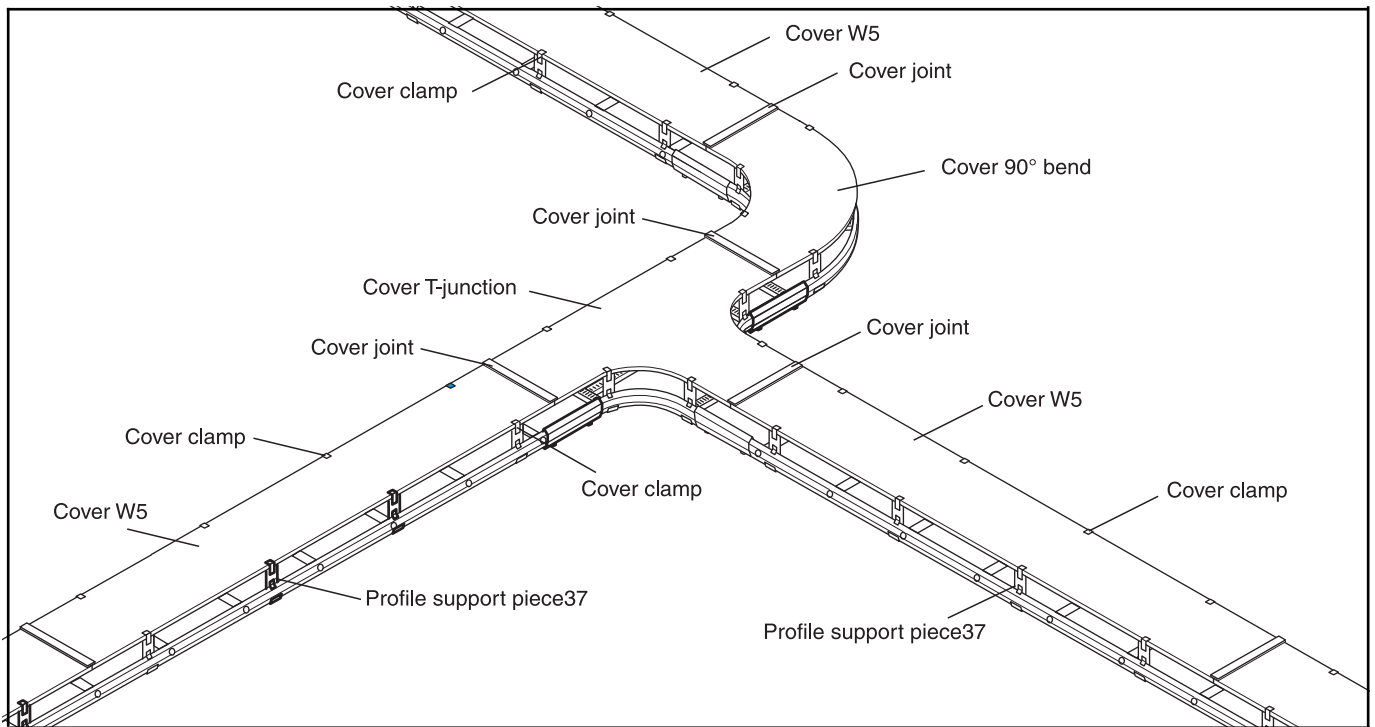


Galvafrid used to increase the protection of cut or damaged places. Applied with a colour brush.



Repair paint in spray bottle for repainting of minor paint damages.

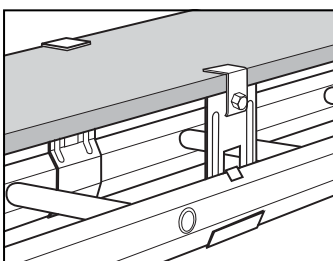
Covers are installed to protect the cable runs from dust, dirt and liquids etc. Outdoors, the covers protect against rain and sun. All Wibe cable ladders and cable trays can be fitted with covers. Hot dip galvanized covers are painted on all sides.



	For ladder width	B	Pre-galv.	Hot dip galv.	Stainl. steel (AISI316L)	Pre-galv. White80	ZINKPOX® White80
	mm	mm	Part. No. C*	Part. No. C*	Part. No. C*	Part. No. C*	Part. No. C*
Cover W5-150	150	151	732216 9	732264 0	732291 6**	732274 9**	782365 9**
Cover W5-200	200	201	732217 6	732265 7	732292 3	732275 6**	782366 6**
Cover W5-300	300	301	732218 3	732266 4	732293 0	732276 3**	782367 3**
Cover W5-400	400	401	732219 0	732267 1	732294 7	732277 0**	782368 0**
Cover W5-500	500	501	732220 6	732268 8	732295 4	732278 7**	782369 7**
Cover W5-600	600	601	732221 3	732269 5	732296 1	732279 4**	782370 3**
Cover W5-800	800	801		782213 3**			782214 0**
Cover W5-1000	1000	1001	732222 0	732270 1	732297 8**	732280 0**	782371 0**

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



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.

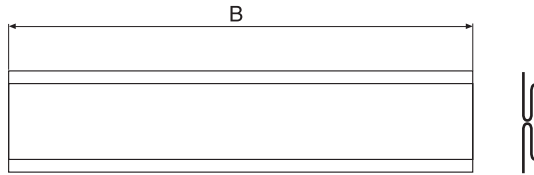
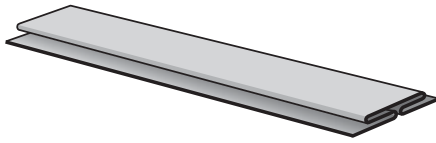
Cover joint



WIBE

Inserted between the covers.

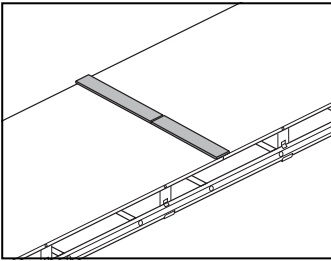
WEF-0001



	For ladder width	B	Pre-galv.	Hot dip galv.	Pre-galv. White80	Weight kg
	mm	mm	Part. No. C*	Part. No. C*	Part. No. C*	100 pcs
Cover joint-150	150	125	712639 2	780452 8	714710 6**	10
Cover joint-200	200	175	712640 8	780453 5	714711 3**	20
Cover joint-300	300	275	712642 2	780454 2	714713 7**	30
Cover joint-400	400	375	712643 9	780455 9	714714 4**	40
Cover joint-500	500	475	712644 6	780456 6	714715 1**	50
Cover joint-600	600	575	712645 3	780457 3	714716 8**	60

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



For width 800 or 1000 mm, use a combination of two smaller joints (e.g. 400+600 mm). Insert joints between covers.

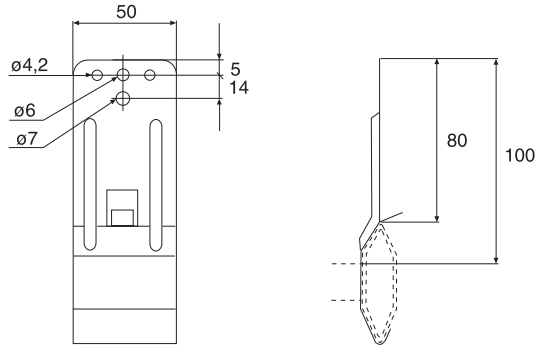
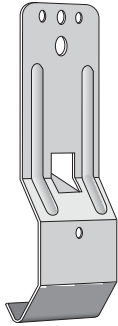
Profile support piece 37



WIBE

WEF-0001

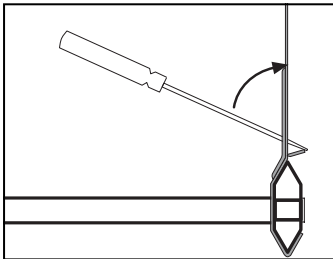
When installing covers, the profile support pieces are mounted approx. every 0.5 m along both sides of the ladder.



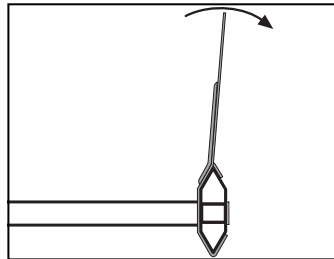
	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Pre-galv. White80 Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Profile support piece 37	729217 2	730188 1	730190 4	730189 8	782382 6**	6

*EAN-code=732167+Part.no+C (control figure) **Produced to order

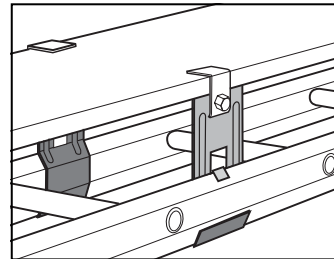
Use and installation



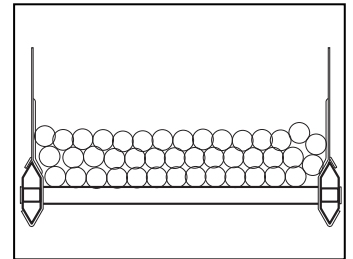
Mount the Profile support piece 37 on the inside of the hexagonal section. Bend the tab towards the ladder section using a screwdriver as a lever.



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.

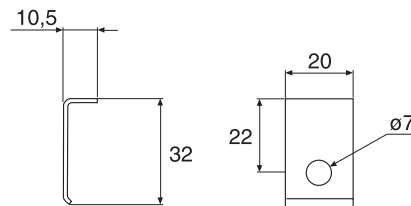
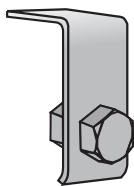
Cover clamp



WIBE

WEF-0001

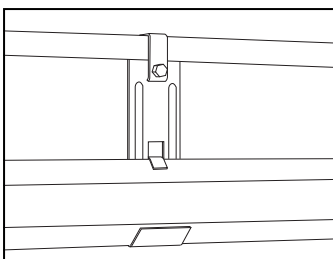
Cover clamps are required when installing a cover on a Profile support piece 37.



	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Pre-galv. White80 Part. No. C*	Zinkpox® White80 Part. No. C*	Weight kg 100 pcs
Cover clamp	712668 2	728584 6	728586 0	714709 0	782384 0**	1.5

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Cover clamps are required for mounting covers on Profile support piece 37.

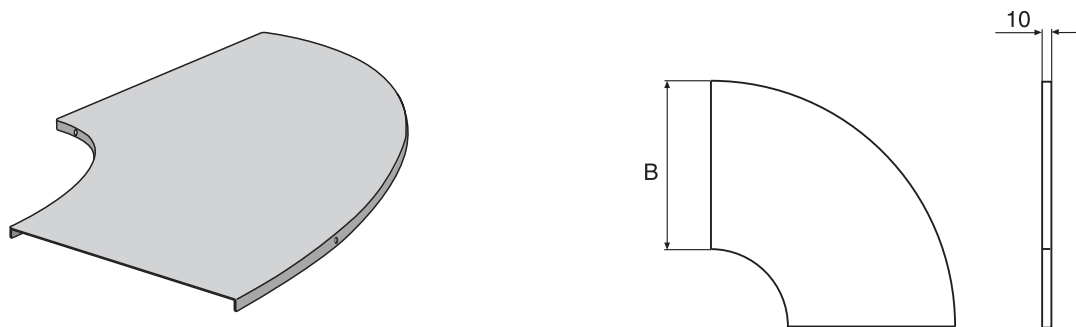
Cover 90° bend



WIBE

Fits 90° interior bends. Installed with a Profile support piece 37, Cover clamp and Cover joint.

WEF-0001



	For ladder width mm	B mm	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Pre-galv. White80 Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Cover 90° bend-150	150	151	732322 7	781433 6	781804 4**	781751 1**	65
Cover 90° bend-200	200	201	732323 4	781434 3	781805 1**	781752 8**	91
Cover 90° bend-300	300	301	732324 1	781435 0	781806 8**	781753 5**	143
Cover 90° bend-400	400	401	732325 8	781436 7	781807 5**	781754 2**	221
Cover 90° bend-500	500	501	732326 5	781437 4	781808 2**	781755 9**	299
Cover 90° bend-600	600	601	732327 2	781438 1	781809 9**	781756 6**	390
Cover 90° bend-800	800	801	781802 0**	781793 1**	781810 5**	781794 8**	460
Cover 90° bend-1000	1000	1001	732328 9**	781439 8**	781811 2**	781757 3**	871

*EAN-code=732167+Part.no+C (control figure) **Produced to order

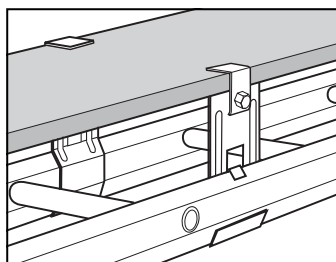


Stainless steel (AISI316L)

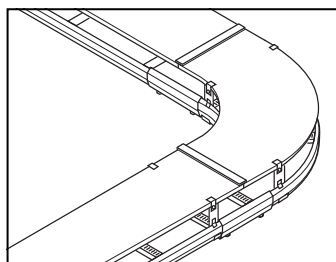
	For ladder width mm	B mm	Stainl. steel (AISI316L) Part. No. C*	Weight kg 100 st
Cover 90° bend-150	150	147	788639 5**	44
Cover 90° bend-200	200	197	788640 1**	62
Cover 90° bend-300	300	297	788641 8**	105
Cover 90° bend-400	400	397	788642 5**	223
Cover 90° bend-500	500	497	788643 2**	310
Cover 90° bend-600	600	597	788644 9**	408
Cover 90° bend-800	800	797	788645 6**	643
Cover 90° bend-1000	1000	997	788646 3**	926

*EAN-code=732167+Part.no+C (control figure) **Produced to order

Use and installation



Fasten cover to Profile support piece 37 using Cover clamp.



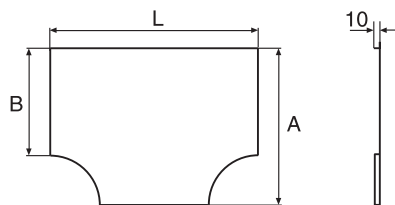
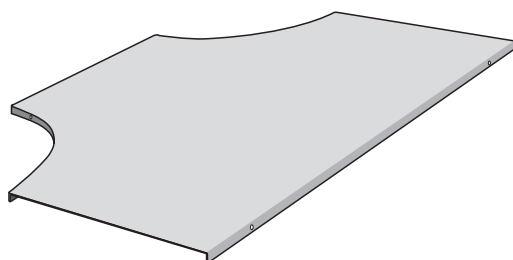
Mount with Profile support pieces 37, Cover clamps and Cover joints.

Cover T-junction



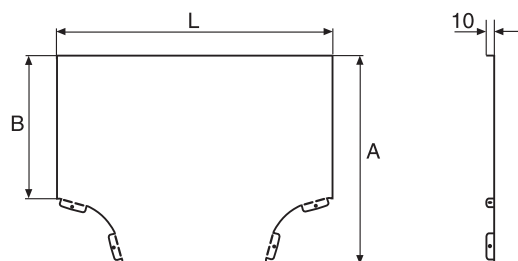
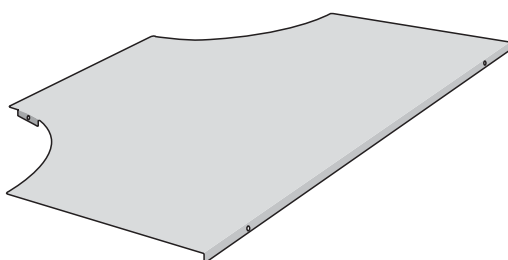
Fits T-junctions. Installed with a Profile support piece 37, Cover clamp and Cover joint.

WEF-0001



Cover	For ladder width mm	A mm	B mm	L mm	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Pre-galv. White80 Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
T-junction-150	150	400	151	651	732345 9**	781440 4**	781812 9**	781765 8**	182
T-junction-200	200	450	201	701	732346 3**	781441 1**	781813 6**	781766 5**	221
T-junction-300	300	550	301	801	732347 0**	781442 8**	781814 3**	781767 2**	312
T-junction-400	400	650	401	901	732348 7**	781443 5**	781815 0**	781768 9**	416
T-junction-500	500	750	501	1001	732349 4**	781444 2**	781816 7**	781769 6**	533
T-junction-600	600	850	601	1101	732350 0**	781445 9**	781817 4**	781770 2**	676
T-junction-800	800	1050	801	1301	781803 7**	781796 2**	781818 1**	781797 9**	710
T-junction-1000	1000	1240	1001	1501	732351 7**	781446 6**	781819 8**	781771 9**	1352

*EAN-code=732167+Part.no+C (control figure) **Produced to order

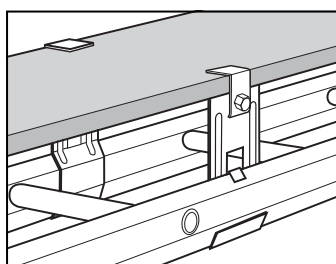


Stainless steel (AISI316L)

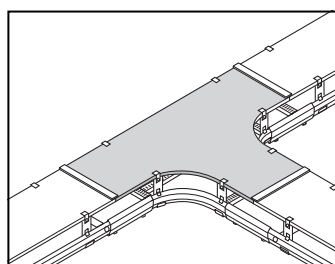
	For ladder width mm	A mm	B mm	L mm	Stainl. steel (AISI316L) Part. No. C*	Weight kg 100 pcs
Cover T-junction-150	150	402	147	657	788647 0**	95
Cover T-junction-200	200	452	197	707	788648 7**	126
Cover T-junction-300	300	552	297	807	788649 4**	196
Cover T-junction-400	400	652	397	907	788650 0**	394
Cover T-junction-500	500	752	497	1007	788651 7**	525
Cover T-junction-600	600	852	597	1107	788652 4**	672
Cover T-junction-800	800	1052	797	1307	788653 1**	1011
Cover T-junction-1000	1000	1242	997	1507	788654 8**	1414

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Fasten cover to Profile support piece 37 using Cover clamp.

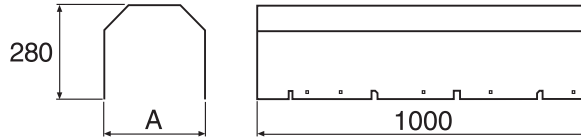
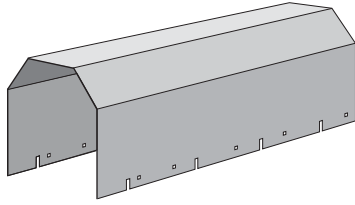


Mount with Profile support pieces 37, Cover clamps and Cover joints.

Protecting cover



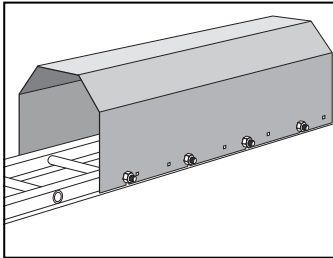
To be used as protection against ice and snow.
Meant for cable ladders width 300-400.



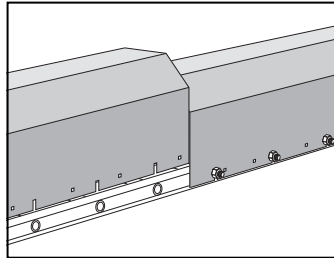
	A mm	Plate thickness mm	Pre-galv. Part. No. C*	Hot dip galv. Part. No. C*	Weight kg 100 st
Protecting cover 300	300	1.5	786738 7	786746 2	880
Protecting cover 400	400	1.5	786739 4	786747 9	990

*EAN-code=732167+Part.no+C (control figure)

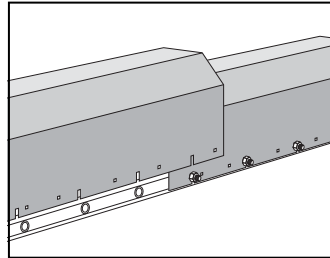
Use and installation



To be mounted on ladder KHZ with Intermediate connection bolt 29. When mounted on other ladders or when needed, drilling screw Ø4.2 is used.



The covers can be mounted edge to edge.



The covers can be mounted with overlap. The asymmetric hole pattern can be used to achieve a good fit.

The steel wire is available in several qualities. To be installed as carrier of one or more cables.

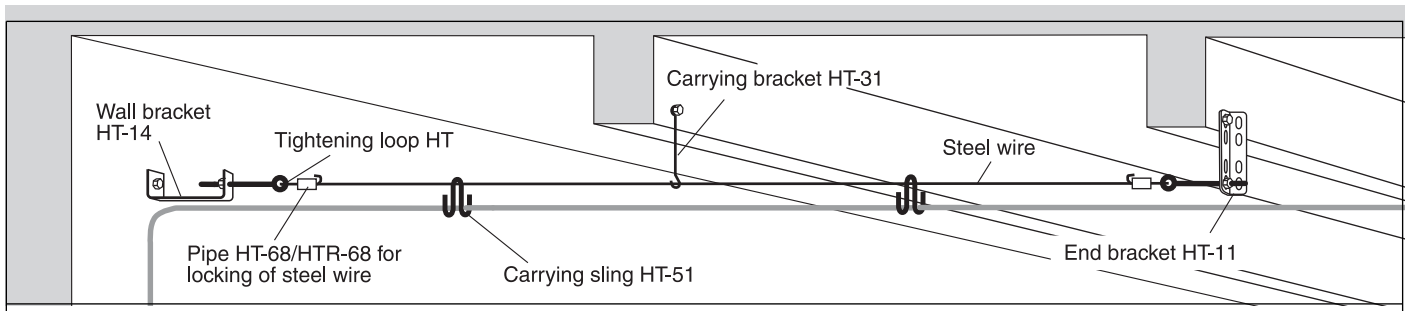
WEF-0001,0011



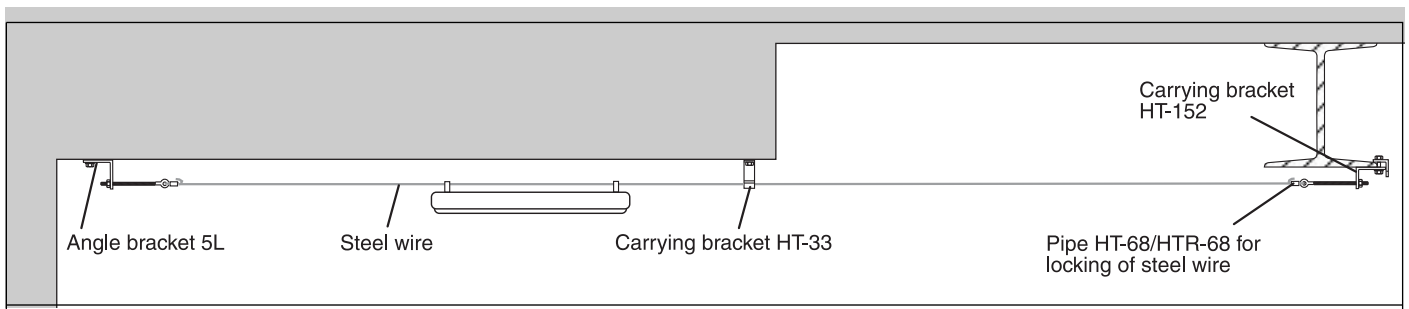
	Dim mm	Breaking load kg	Part. No. C*	Weight kg 100 m
HT-2309 Steel wire galvanized, soft	5.0	700	713679 7	15.5
HT-2311 Steel wire 7 x diam 1.71=16 mm Σ coated, grey	6.15	970	713688 9	13.5
HTR-2322 Steel wire stainless, hard	2.5	450	713681 0	3.9
HTR-2323 Steel wire stainless, hard	3.0	700	713682 7	5.6
HTR-2324 Steel wire stainless, hard	4.0	1200	713683 4	10.0

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Steel wire installed in ceiling with beams.



Steel wire installed in ceiling.

End bracket HT-11

End bracket for ceiling beam installation.

WEF-0001

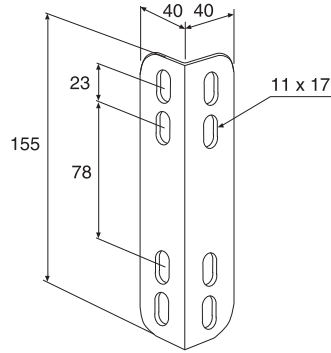
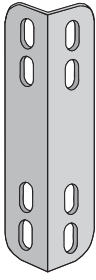
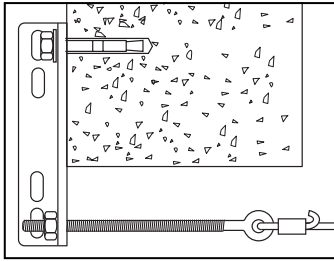


	Plate thickness mm	Hot dip galv. Part. No. C*	Weight kg 100 pcs
End bracket HT-11	4.0	717618 2	41
*EAN-code=732167+Part.no+C (control figure)			

Use and installation



End bracket HT-11 is installed on ceiling beam with Expansion bolt or concrete screw.

Angle bracket 5L

For steel wire installation in ceilings.

WEF-0001

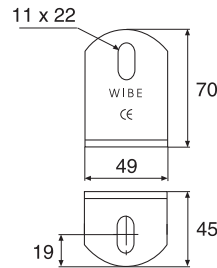
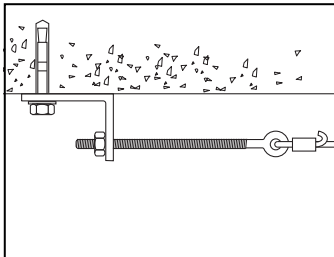


	Plate thickness mm	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	ZINKPOX® White80 Part. No. C*	Weight kg 100 pcs
Angle bracket 5L	4.0	731791 2	731793 6	731792 9	15
*EAN-code=732167+Part.no+C (control figure)					

Use and installation



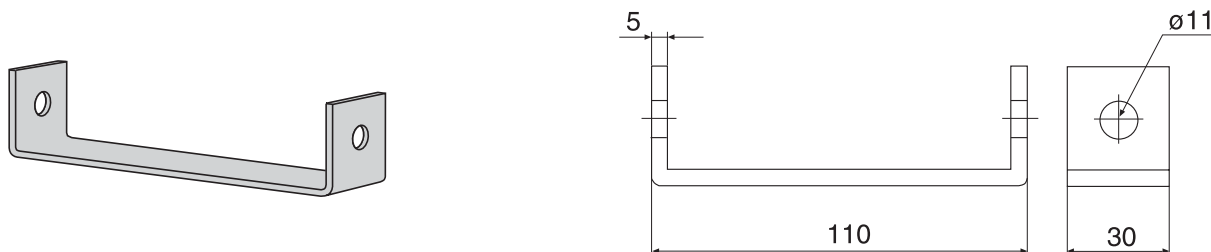
Angle bracket 5L is installed in ceiling with Expansion bolt or concrete screw.
Max. permitted loading 600 kg (6 kN).

Wall bracket HT-14

WIBE

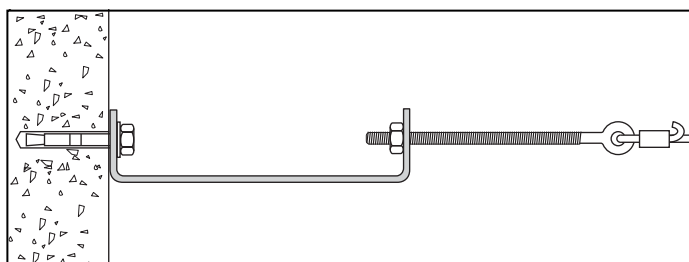
Bracket for wall installation.

WEF-0001



	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Wall bracket HT-14	713671 1	18
*EAN-code=732167+Part.no+C (control figure)		

Use and installation



Wall bracket HT-14 is installed on wall with Expansion bolt or concrete screw.

Carrying bracket HT-31

WIBE

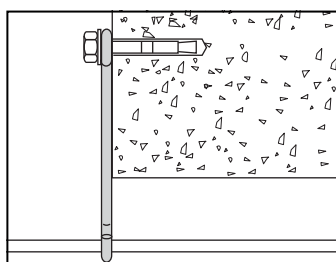
Carrying bracket for ceiling installation.

WEF-0001



	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Carrying bracket HT-31	713672 8	2
*EAN-code=732167+Part.no+C (control figure)		

Use and installation

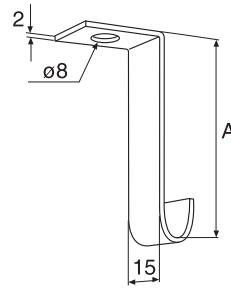
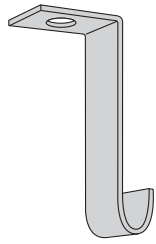


Carrying bracket HT-31 is installed on ceiling beam with Expansion bolt or concrete screw .

Carrying bracket HT-33/34

Carrying bracket for ceiling installation

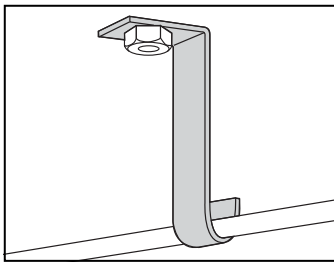
WEF-0001



	A mm	Pre-galv. Part. No. C*	Weight kg 100 pcs
Carrying bracket HT-33	14	713674 2	1
Carrying bracket HT-34	38	713675 9	2

*EAN-code=732167+Part.no+C (control figure)

Use and installation

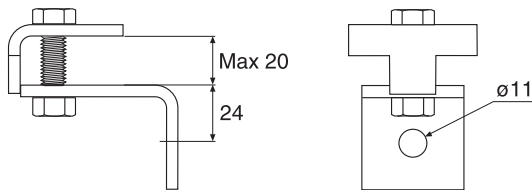
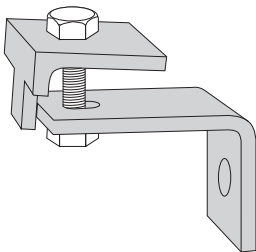


Carrying bracket is installed in ceiling with Expansion bolt or concrete screw.

Carrying bracket HT-152

Carrying bracket for I-beam installation.

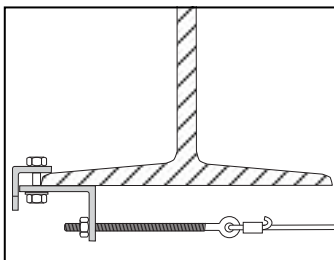
WEF-0001



	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Carrying bracket HT-152	717636 6	38

*EAN-code=732167+Part.no+C (control figure)

Use and installation



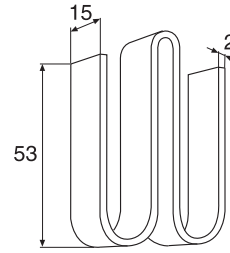
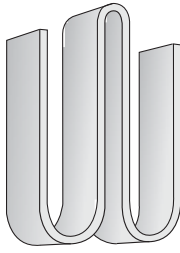
Carrying bracket is easily installed on I-beam.

Carrying sling HT-51

WIBE

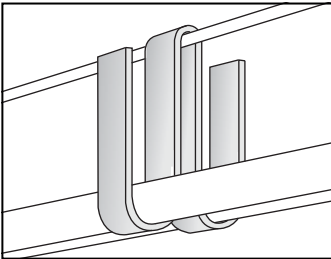
Carrying slings for cables.

WEF-0001



	Pre-galv. Part. No. C*	Weight kg 100 pcs
Carrying sling HT-51	713676 6	6
*EAN-code=732167+Part.no+C (control figure)		

Use and installation



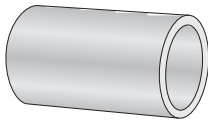
Carrying sling with space for 6 cables max. diam. 16 mm.

Pipe HT-68, HTR-68

WIBE

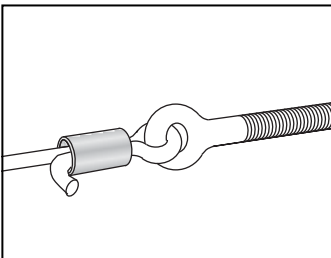
Pipe for locking of wire.

WEF-0001



	Hot dip galv. Part. No. C*	Stainl. steel (AISI316L) Part. No. C*	Weight kg 100 pcs
Lock HT-68	713677 3		1
Lock HTR-68		713678 0	1
*EAN-code=732167+Part.no+C (control figure)			

Use and installation

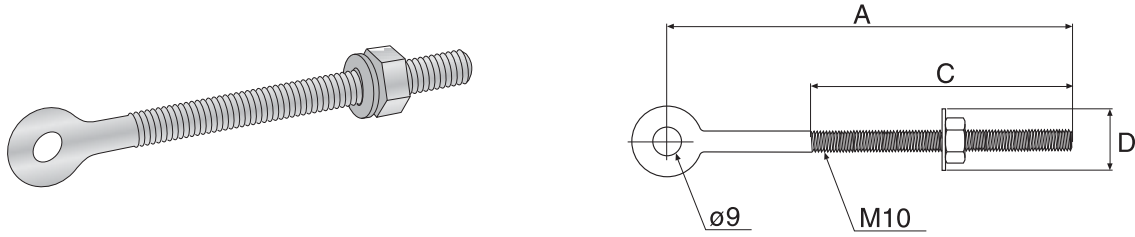


The steel cable is easily locked with the pipe.

Tightening loop HT

To be installed at the ends of steel wires.

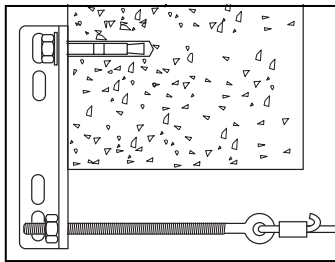
WEF-0001



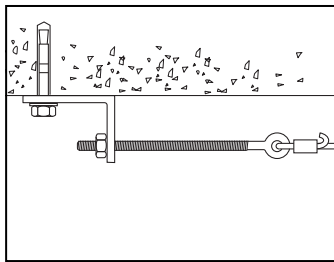
	A	C	D	Hot dip galv. Part. No. C*	Weight kg 100 pcs
	mm	mm	mm		
Tightening loop HT-611	125	100	22	713689 6	10
Tightening loop HT-621	270	100	50	713690 2	18
Tightening loop HT-631	400	150	50	713691 9	29

*EAN-code=732167+Part.no+C (control figure)

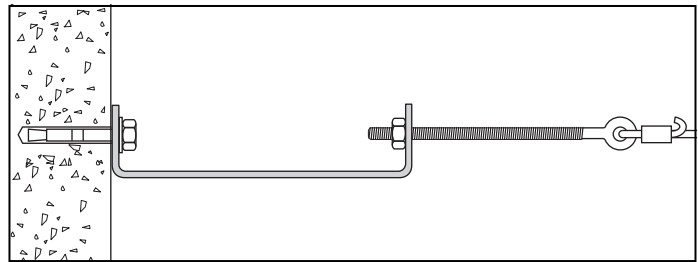
Use and installation



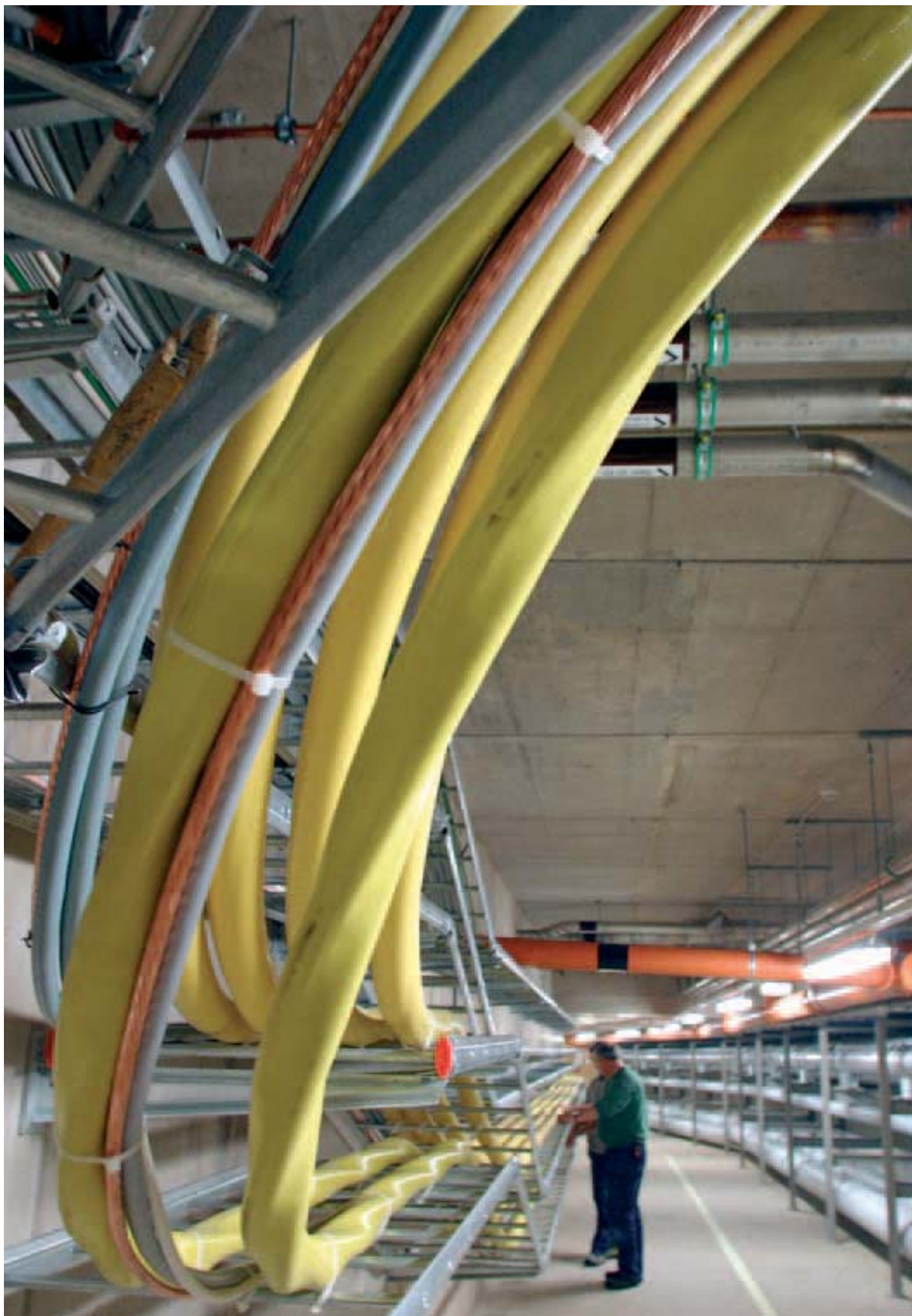
Tightening loop is installed in End bracket HT-11 for installation on ceiling beam.



Tightening loop is installed in Angle bracket 5L for installation in ceiling.



Tightening loop is installed in Wall bracket HT-14 for installation on wall.

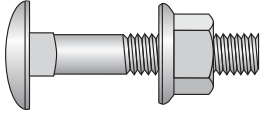


Screw set 2S

**WIBE**

WEF-0001

For fastening of Support bracket 3 on Pendant/Fixing rail 24/20F and Angle bracket 5L to the opening on Pendant rail 24/34, 24/40 and 24/48.



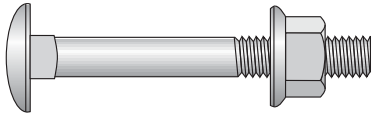
	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Screw set 2S (screw MVBF 8x40 + nut M6MF8)	715735 8	2.9
*EAN-code=732167+Part.no+C (control figure)		

Screw set 20S

**WIBE**

WEF-0001

For installation of Support bracket 3 on Pendant/Fixing rail 24/20 and Vertical piece 20, Angle bracket 5L to the opening on Pendant/Fixing rail 24/48 and 24/20.



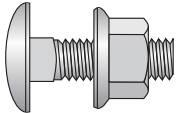
	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Screw set 20S (screw MVBF 8x60+nut M6MF8)	715736 5	3.7
*EAN-code=732167+Part.no+C (control figure)		

Screw set 22S

**WIBE**

WEF-0001

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, 24/40 and 24/48, Angle bracket 5L against the back of pendant/fixing rail, Pendant/fixing rails back to back.



	Hot dip galv. Part. No. C*	Stainl. steel (AISI316) Part. No. C*	Weight kg 100 pcs
Screw set 22S (screw MVBF 8x16+nut M6MF8)	713694 0	725582 5	1.9
*EAN-code=732167+Part.no+C (control figure)			

Screw set W34

**WIBE**

WEF-0001

For fastening of dividing strips on KHZSP, KHZSPZ, KHZPS and KHZP.



	Electro-galv. Part. No. C*	Stainl. steel (AISI316) Part. No. C*	Weight kg 100 pcs
Screw set W34 (screw MSCS 6x12 + nut M6MF 6)	718473 6	725589 4	0.8
*EAN-code=732167+Part.no+C (control figure)			

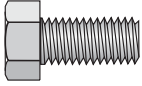
Screw M10 x 20



WIBE

WEF-0001

Used with Spring nut M10 (AISI 316) for installation of Cantilever arm 50 (AISI 316L) on Pendant/Fixing rail 24/48.



	Stainl. steel (AISI316) Part. No. C*	Weight kg 100 pcs
Screw M6S 10x20	728649 2	2.2
*EAN-code=732167+Part.no+C (control figure)		

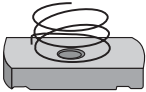
Spring nut M8/M10



WIBE

WEF-0001

For fastening of accessories (control panels etc.) on Pendant/Fixing rail 24/48.



	Hot dip galv. Part. No. C*	Stainl. steel (AISI316) Part. No. C*	Weight kg 100 pcs
Spring nut M8	716407 3	—	2.7
Spring nut M10	—	728622 5	3.9
*EAN-code=732167+Part.no+C (control figure)			

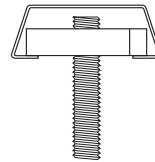
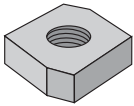
Back nut M8



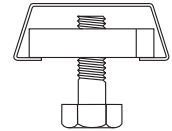
WIBE

WEF-0001

For fastening of vertical pieces etc. in the rungs of KHZSP, KHZSPZ, KHZP, KHZPS and KHZPV.



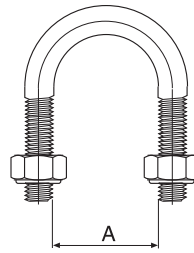
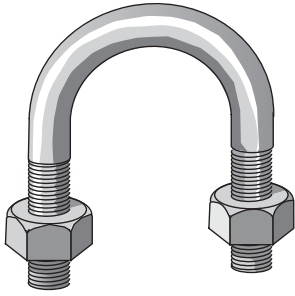
Mounting with Threaded rod M8 and Backnut M8 in the cable ladder rungs.



Pendants etc. are mounted with Bolt M8 and Back nut M8 in the cable ladder rungs.

	Dim mm	Hot dip galv. Part. No. C*	Weight kg 100 pcs
Back nut M8	M8	718632 7	2.5
*EAN-code=732167+Part.no+C (control figure)			

Used for installation of Support bracket 3 directly on roof bolt.



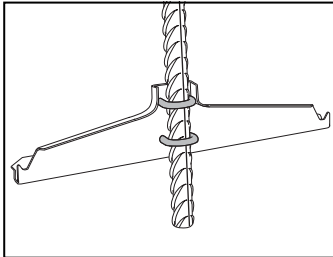
	A mm	Stainl. steel (AISI316L) Part. No. C*	Weight kg 100 pcs
Clamp set M6-25** (2 clamps and 4 locking nuts)	ø29	720786 2	5
Clamp set M6-20*** (2 clamps and 4 locking nuts)	ø24	725587 0	4

*EAN-code=732167+Part.no+C (control figure)

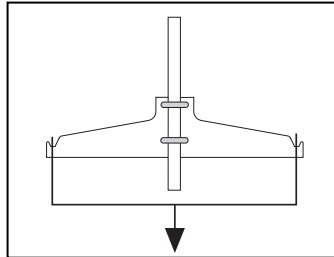
** Clamp set M6-25 must be used for Support bracket 3, hot dip and pre-galvanized.

*** Clamp set M6-20 must be used for Support bracket 3, stainless steel AISI316L and Installation plate 60, all surface treatments.

Use and installation



For installation of Support bracket 3 directly on ribbed bar 16-25 or fully threaded bar M16-M27.



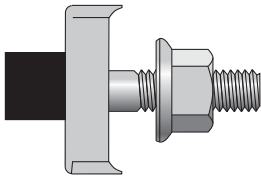
Max. symmetrical loading 300 kg. Make sure the clamps grip the bar in a correct manner.

T-bolt 26 and 26F

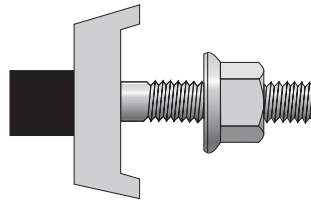


Used for mounting with Pendant/Fixing rails 24/40 and 24/48.

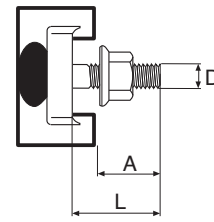
WEF-0002



T-bolt 26/M8
T-bolt 26/M10
(For P/F-rail 24/40,24/48)



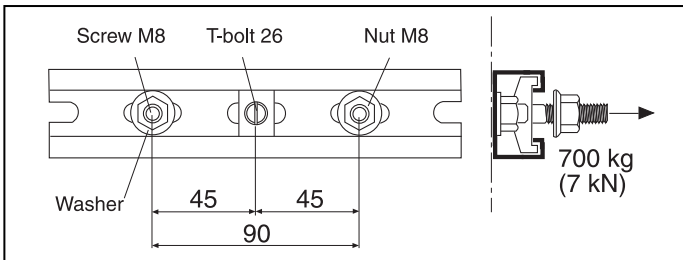
T-bolt 26F/M8
T-bolt 26F/M10
(For P/F-rail 24/48)



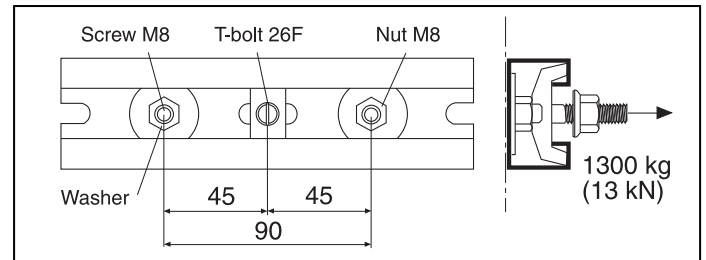
	D	L	A	Electro-galv. Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316) Part. No. C*	Weight kg 100 pcs
		mm	mm				
T-bolt 26	M8	30	24	734982 1	734743 8		3.5
T-bolt 26	M10	30	24		714009 1		5
T-bolt 26F	M8	30	24	734983 8	734744 5	734986 9	4.5
T-bolt 26F	M10	30	24	734864 0	716794 4	728596 9	7
T-bolt 26F	M8	40	34	734984 5	734745 2	734987 6	5
T-bolt 26F	M10	40	34	734865 7	716795 1	728597 6	7.5
T-bolt 26F	M8	50	44	734985 2	734746 9	734988 3**	5.5
T-bolt 26F	M10	50	44	734866 4	716796 8	728598 3	8

*EAN-code=732167+Part.no+C (control figure) **Produced to order

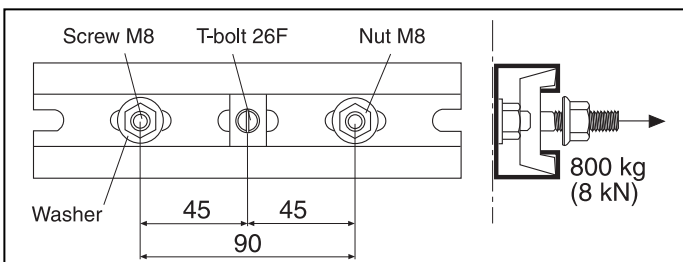
Max permitted extraction force



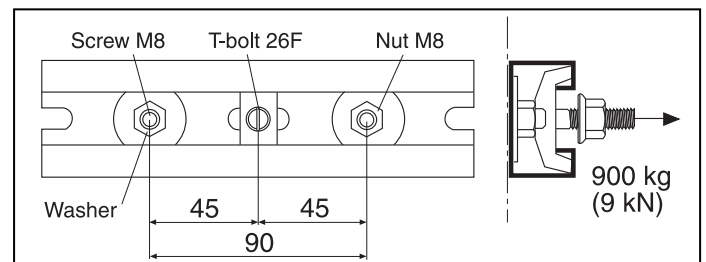
T-bolt 26 M8/M10 + P/F-rail 24/40, 24/48 + Washer 8.4x19x1.5



T-bolt 26F M10 + P/F-rail 24/48 + Washer 9x35x2

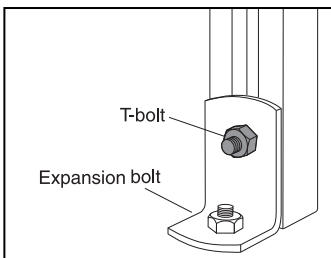


T-bolt 26F M8/M10 + P/F-rail 24/48 + Washer 8.4x19x1.5

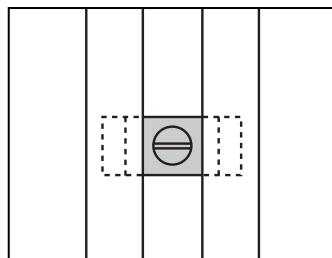


T-bolt 26F M8 + P/F-rail 24/48 + Washer 9x35x2

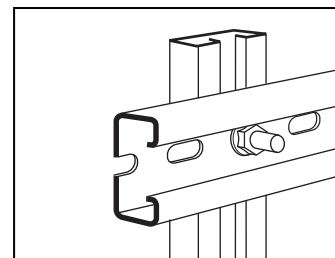
Use and installation



Installation of Pendant/fixing rail on floor (or wall) with Angle bracket 5L and T-bolt.



Check the position mark on the bolt to ensure the right position of the T-bolt in the rail.

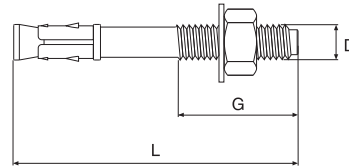
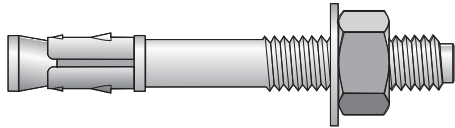


T-bolt M8 makes it possible to mount through the perforation of Pendant/fixing rail 24/40 and 24/48.

Expansion bolts



Electro-galvanized, hot dip galvanized or stainless steel AISI316.
For installation of all Wibe cantilever arms and vertical pieces.

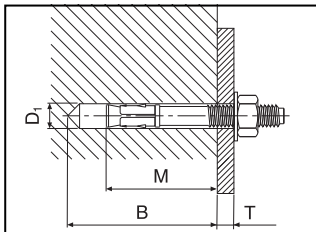


	D mm	L mm	G mm	Electro-galv Part. No. C*	Hot dip galv. Part. No. C*	Stainl. steel (AISI316) Part. No. C*	Weight kg 100 pcs
Expansion bolt M6x40**	6	40	18	782222 5	782237 9	782252 2	1.04
Expansion bolt M6x65**	6	65	28	782223 2	782238 6	782253 9	1.54
Expansion bolt M8x50**	8	50	24	782224 9	782239 3	782254 6	2.22
Expansion bolt M8x95**	8	95	41	782225 6	782240 9	782255 3	3.61
Expansion bolt M8x120**	8	120	66	782226 3	782241 6	782256 0	4.35
Expansion bolt M10x60	10	60	29	782227 0	782242 3	782257 7	4.44
Expansion bolt M10x80	10	80	34	782228 7	782243 0	782258 4	5.32
Expansion bolt M10x100	10	100	54	782229 4	782244 7	782259 1	6.28
Expansion bolt M12x85	12	85	35	782230 0	782245 4	782260 7	8.17
Expansion bolt M12x100	12	100	50	782231 7	782246 1	782261 4	9.23
Expansion bolt M12x145	12	145	82	787052 3	787053 0	787054 7	12.5
Expansion bolt M16x110	16	110	53	782232 4	782247 8	782262 1	18.57
Expansion bolt M16x125	16	125	63	782233 1	782248 5	782263 8	20.4
Expansion bolt M16x150	16	150	76	782234 8	782249 2	782264 5	23.9
Expansion bolt M20x170	20	170	55	782235 5	782250 8	782265 2	44.83
Expansion bolt M20x220	20	220	55	782236 2	782251 5	782266 9	57.02

*EAN-code=732167+Part.no+C (control figure)

**M6 and M8 are delivered with an extra washer with a larger diameter. This washer must be mounted close to the cantilever arm or vertical piece. The smaller standard washer must be put on top of the bigger washer close to the nut.

Use and installation

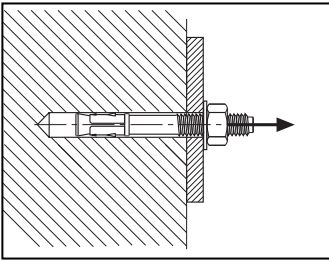


D₁ = Drill diameter
M = Installation depth
B = Min. drilling depth
T = Material thickness

Data for installation

Dim	D ₁ mm	B mm	M mm	T mm	Tightening
					moment Nm
M6x40	6	35	30	5	7
M6x65	6	50	50	15	7
M8x50	8	45	35	5	20
M8x95	8	65	55	30	20
M8x120	8	65	55	55	20
M10x60	10	60	40	5	35
M10x80	10	70	60	10	35
M10x100	10	70	60	30	35
M12x85	12	80	50	5	55
M12x100	12	80	75	20	55
M12x145	12	80	75	60	55
M16x110	16	105	100	5	100
M16x125	16	105	100	20	100
M16x150	16	105	100	45	100
M20x170	20	150	120	20	240
M20x220	20	150	120	70	240

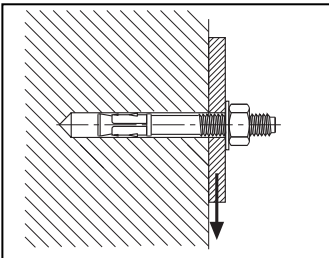
Extraction force



Permitted extraction force in KN for various concrete qualities

Dim	Installation depth mm	Concrete class			
		C25	C30	C35	C40
M6	30	1.4	1.6	1.8	2.0
M6	40	2.3	2.8	2.9	3.0
M6	50	3.2	3.5	3.7	4.0
M8	35	1.6	1.8	2.0	2.3
M8	40	2.0	2.4	2.5	2.9
M8	55	3.3	3.8	4.0	4.7
M10	40	2.2	2.5	2.8	3.1
M10	60	4.0	4.5	5.0	5.6
M12	50	3.1	3.5	3.9	4.4
M12	75	6.5	7.4	7.8	9.3
M12	80	7.5	8.5	9.0	10.5
M16	100	9.4	10.7	12.0	13.4
M20	120	12.3	14.0	15.7	17.4

Transverse force



Permitted transverse force in kN for various concrete qualities

Dim	Installation depth mm	Concrete class			
		C25	C30	C35	C40
M6	30	1.1	1.3	1.5	1.6
M6	40	1.6	2.1	2.2	2.3
M6	50	2.2	2.4	2.6	2.8
M8	35	1.4	1.6	1.8	1.9
M8	40	2.0	2.2	2.4	2.5
M8	55	3.8	4.0	4.2	4.4
M10	40	1.6	1.8	2.0	2.2
M10	60	5.7	6.0	6.2	6.5
M12	50	2.2	2.5	2.7	3.0
M12	75	9.6	9.9	10.2	10.5
M12	80	10.6	11.0	11.4	12.2
M16	100	12.3	12.8	13.2	13.7
M20	120	15.9	17.0	17.5	19.3

Electro-galvanized.

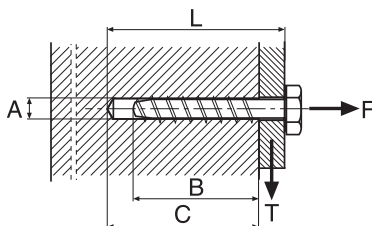
For installation on wall with Cantilever arm 50, Cantilever arm 81, Internal cantilever arm W17 or Adjustable cantilever arm W1840.

In ceiling with Vertical piece 2FPK, Vertical piece 2 or Vertical piece 20.

Concrete screw with hexagonal head, electro-galvanized, special thread constructed for safe fixing in concrete or brickwork.

This concrete screw is specially developed for safe fixing in concrete. Suitable for fixing of tubes, electrical installations, rails, handrails, machines, ventilating ducts, wood constructions.

- Easy to install
- High extraction values are obtained due to the special thread. The drill diameter is the same as the root diameter of the screw which gives a solid fixing inside the hole.
- Can be dismantled and reinstalled without reduced extraction force.
- A weaker drill and less drilling depth can be used compared to using anchor, expansion bolt, screw and plug.
- Suitable in environments which are fire classified.



A = Drill diameter
 B = Min. installation depth
 C = Min. drilling depth
 F = Extraction force kN**
 T = Transverse force kN

**For concrete class C25

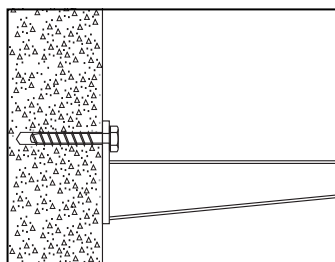
	L mm	Part. No. C*	F kN	T kN	Width of jaws mm	Dim mm	A mm	B mm	C mm	Number/ package	Weight kg 100 pcs
MMS-S	6x40 ¹	787067 7	2.40	2.2	10	6x40	5	30	40	200	0.74
MMS-S	6x50 ¹	787047 9	2.80	2.2	10	6x50	5	40	50	100	0.92
MMS-S	6x60 ¹	787048 6	2.80	2.2	10	6x60	5	40	60	100	1.03
MMS-S	7.5x35 ²	781550 0	2.50	4.8	13	7.5x35	6	30	40	100	1.2
MMS-S	7.5x40 ²	781551 7	2.50	4.8	13	7.5x40	6	30	40	100	1.3
MMS-S	7.5x50 ²	781552 4	3.00	4.8	13	7.5x50	6	40	50	100	1.4
MMS-S	10x60	781553 1	6.10	7.8	16	10x60	8	55	65	50	3.2
MMS-S	10x70	781554 8	6.10	7.8	16	10x70	8	55	65	50	3.4
MMS-S	10x80	781555 5	7.20	7.8	16	10x80	8	60	70	50	4.0
MMS-S	12x80	781556 2	8.00	7.8	18	12x80	10	60	70	25	6.0

¹ Washer 7.0x16x1.5 Electro-galv. is incl.

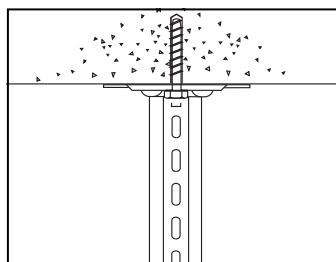
² Washer 8.4x19x1.5 Electro-galv. is incl.

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Installation of cantilever arms.



Installation of vertical pieces.

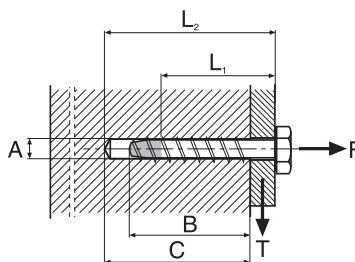
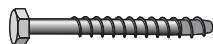
Concrete screw MMS-S



WIBE

Stainless steel AISI316 with soldered phosphatized carbon steel tip.
For installation of Cantilever arm 50 in stainless steel AISI316.

WEF-0001



A = Drill diameter
B = Min. installation depth
C = Min. drilling depth
F = Extraction force kN**
T = Transverse force kN

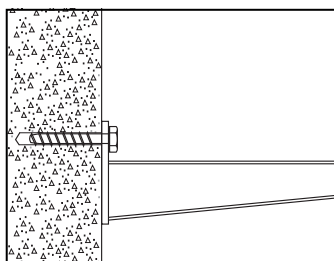
**For concrete class C25

L1/L2 mm	Part. No. C*	F kN	T kN	Width of jaws mm	Dim mm	A mm	B mm	C mm	Number/package	Weight kg 100 pcs
MMS-S 7.5x50/65 ³	781557 9	3.00	4.8	13	7.5x50/65	6	40	65	50	1.9
MMS-S 10x70/85	781558 6	7.20	7.8	16	10x70/85	8	60	85	50	4.4
MMS-S 12x80/100	781559 3	8.10	7.8	18	12x80/100	10	75	100	25	7.6

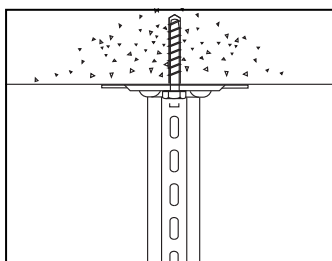
³Washer 8.4x24x2.0 AISI316 is incl.

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Installation of cantilever arms.



Installation of vertical pieces.

Concrete screw MMS-PAN



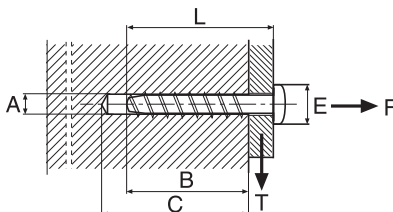
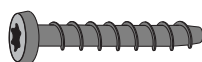
WIBE

Electro-galvanized.

For installation of Pendant strip W33.

Panheaded concrete screw, electro-galvanized and yellow chromated. Torx-recess.

WEF-0001



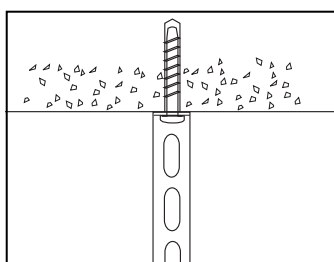
A = Drill diameter
B = Min. installation depth
C = Min. drilling depth
E = Screw head diameter
F = Extraction force kN**
T = Transverse force kN

**For concrete class C25

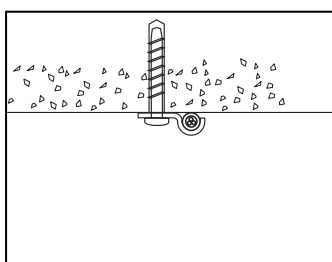
L mm	Part.No. C*	F kN	T kN	Torx	Dim mm	A mm	B mm	C mm	E mm	Antal/förp	Vikt kg 100 st
MMS-PAN 5x30	787049 3	0.8	1.4	T-20	5x30	4	25	35	7.9	200	0.32
MMS-PAN 5x50	787050 9	1.4	1.4	T-20	5x50	4	30	60	7.9	200	0.5
MMS-PAN 6x30	781560 9	2.40	2.2	T-30	6x30	5	30	40	11.5	200	0.65
MMS-PAN 7.5x45	781561 6	3.20	4.8	T-40	7.5x45	6	40	50	13	100	1.10
MMS-PAN 10x70	781562 3	7.20	7.8	T-40	10x70	8	40	50	17	50	3.40

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Installation of Pendant strip W33.



Mounting with JR-clamp.

Concrete screw MMS-PAN SH



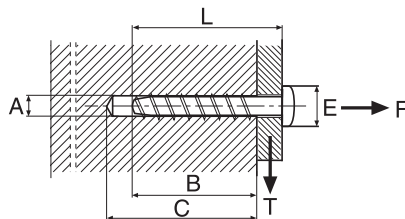
WIBE

WEF-0001

Electro-galvanized.

For installation of Ceiling attachment W31 or Tube pendant attachment W73.

Concrete screw with extra big panhead, electro-galvanized and yellow chromated. Torx-recess.



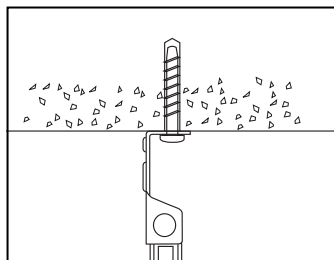
A = Drill diameter
 B = Min. installation depth
 C = Min. drilling depth
 E = Screw head diameter
 F = Extraction force kN**
 T = Transverse force kN

**For concrete class C25

	L mm	Part. No. C*	F kN	T kN	Torx	Dim mm	A mm	B mm	C mm	E mm	Number/ package	Weight kg 100 pcs
MMS-PAN SH 7.5x45		781696 5	3.00	4.8	T-30	7.5x45	6	40	50	17	100	1.4

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Installation of Ceiling attachment W31.

Concrete screw MMS-ST



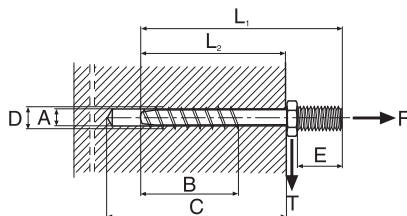
WIBE

WEF-0001

Electro-galvanized.

For installation of eye nuts.

The screw is specially developed for safe fixing in concrete. Suitable for tube installations, electrical installations, rails, handrails, machines, ventilating ducts, wood constructions.



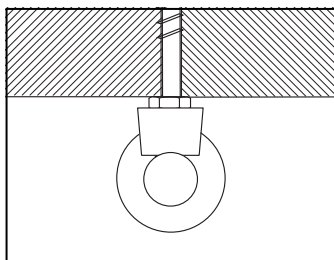
A = Drill diameter
 B = Min. installation depth
 C = Min. drilling depth
 E = Length of thread engagement
 F = Extraction force kN**
 T = Transverse force kN

**For concrete class C25

	L ₁ mm	Part. No. C*	F kN	T kN	Widths of jaws mm	DxL ₁ mm	L ₂ mm	English thread	A mm	B mm	C mm	E mm	Number/ package	Weight kg 100 pcs
MMS-ST 7.5x70		781563 0	3.20	4.8	10	7.5x70	53	M8	6	45	55	13	50	1.8
MMS-ST 10x80		781564 7	6.51	7.8	13	10x80	65	M10	8	60	70	10	50	3.5

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Installation of eye nut.

Concrete screw MMS-I



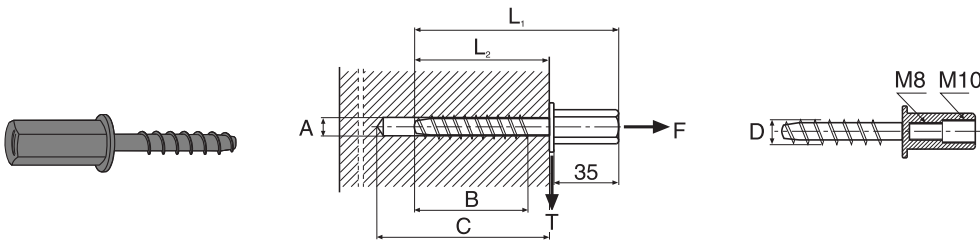
WIBE

WEF-0001

Electro-galvanized.

For installation of Pendant M8 or M10.

- High extraction values are obtained due to the special thread. The drill diameter is the same as the root diameter of the screw which gives a solid fixing inside the hole.
- Can be dismantled and reinstalled without diminished extraction force.
- A weaker drill and less drilling depth can be used compared to using anchor, expansion bolt, screw and plug.
- Suitable in environments which are fire classified.



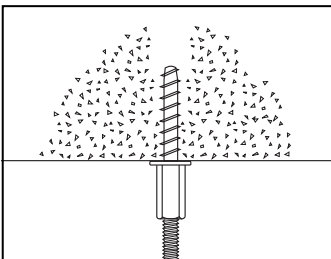
A = Drill diameter
 B = Min. installation depth
 C = Min. drilling depth
 F = Extraction force kN**
 T = Transverse force kN

**For concrete class C25

L2 mm	Part. No. C*	F kN	T kN	Widths of jaws mm	DxL1 mm	English thread	A mm	B mm	C mm	Number/package	Weight kg 100 pcs
MMS-I 7.5x55	781565 4	3.20	4.8	13	7.5x93	M8/M10	6	45	55	100	1.9

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Installation of Pendant M8 or M10.

Eye screw MMS-R

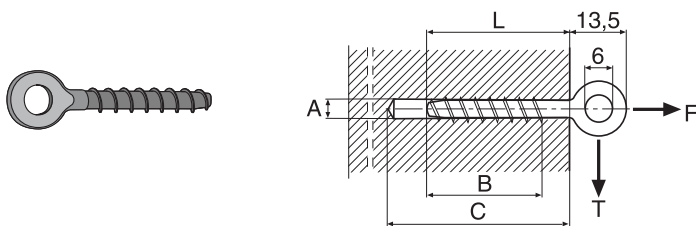


WIBE

WEF-0001

Electro-galvanized.

For installation of wires in ceiling.



A = Drill diameter
 B = Min. installation depth
 C = Min. drilling depth
 F = Extraction force kN**
 T = Transverse force kN

**For concrete class C25

L mm	Part. No. C*	F kN	T kN	Dim mm	A mm	B mm	C mm	Number/package	Weight kg 100 pcs
MMS-R 6x40	781566 1	2.80	2.2	6x40	5	40	50	250	0.76

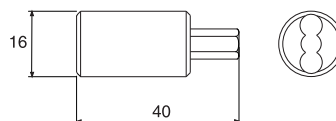
*EAN-code=732167+Part.no+C (control figure)

Mounting tool for Eye screw MMS-R

WIBE

Electro-galvanized.

WEF-0001



Part. No. C*	Number/package	Weight kg 100 pcs	
Mounting tool for Eye screw MMS-R	781567 8	1	5.5

*EAN-code=732167+Part.no+C (control figure)

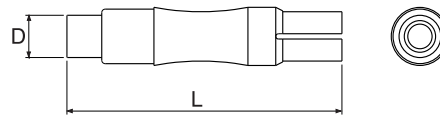
Bitro adapter

WIBE

Electro-galvanized + plastic.

WEF-0001

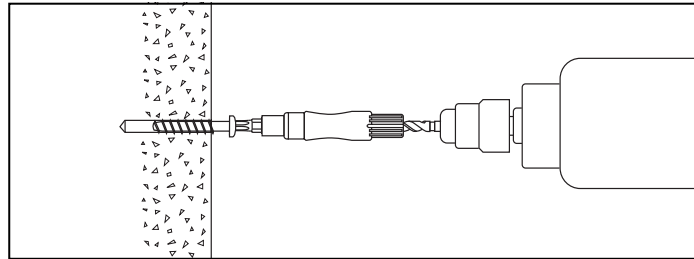
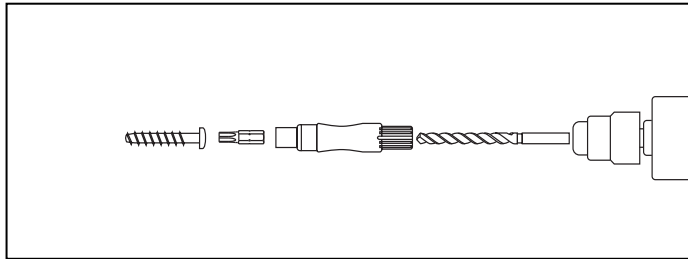
The Bitro adapter must be installed direct on Hammer drill SDS PLUS.
Drilling machine can be used. Suitable for drilling only in C25 concrete.



	Part. No. C*	For drill mm	D mm	L mm	Number/ package	Weight kg 100 pcs
Bitro adapter 5, yellow	781568 5	5	10	73	1	2.5
Bitro adapter 6, green	781569 2	6	10	73	1	3.0
Bitro adapter 8, red	781570 8	8	12	80	1	4.0
Bitro adapter 10, blue	781571 5	10	14	80	1	5.0

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Turn off the hammer function of the drilling machine. Install the Bitro adapter on the drill. Check that the adapter locks the drill to avoid turning. Put in Torxbits or Magnetic socket or Square peg + Socket 16/18. When removing the adapter tilt it lightly and pull the bit, magnetic socket or the square peg.

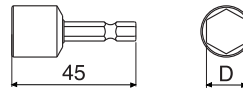
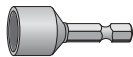
When mounting use a drilling machine with torque regulator. Otherwise be very careful. If you let the machine continue to run when the screw is in bottom it is very easy to destroy the tip of the drill or that the drill gets stuck or broken. The risk increases with the length of the drill.

Magnetic socket for Concrete screw MMS-S

WIBE

Untreated steel.

WEF-0001



	Part. No. C*	Dim mm	D mm	Number/ package	Weight kg 100 pcs
Magnetic socket 10x45	781572 2	10x45	10	1	2.5
Magnetic socket 13x45**	781573 9	13x45	13	1	3.0

**Can also be used for MMS-I.

*EAN-code=732167+Part.no+C (control figure)

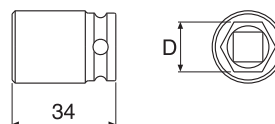
Socket for Concrete screw MMS-S

WIBE

Untreated steel.

WEF-0001

To be used together with Square peg.



	Part. No. C*	Dim mm	D mm	Number/ package	Weight kg 100 pcs
Socket 16	781574 6	16x34	16	1	6.0
Socket 18	781575 3	18x34	18	1	10.0

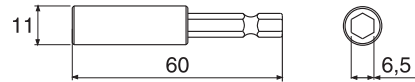
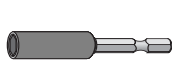
*EAN-code=732167+Part.no+C (control figure)

Bits holder

WIBE

Stainless steel AISI304.

WEF-0001



	Part. No. C*	Number/ package	Weight kg 100 pcs
Bits holder 11x60	781576 0	1	2.5
*EAN-code=732167+Part.no+C (control figure)			

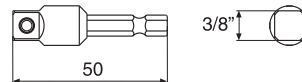
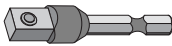
Square peg

WIBE

Untreated steel.

WEF-0001

To be used with Socket 16 and 18.



	Part. No. C*	Number/ package	Weight kg 100 pcs
Square peg 3/8x50	781577 7	1	2.0
*EAN-code=732167+Part.no+C (control figure)			

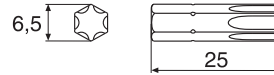
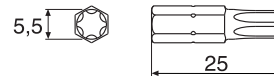
Torxbits

WIBE

Untreated steel.

WEF-0001

To be used with Concrete screw MMS-PAN SH.



	Part. No. C*	Number/ package	Weight kg 100 pcs
Torxbits TX 30x25	788552 7	2	0.5
Torxbits TX 40x25	788553 4	2	0.6
*EAN-code=732167+Part.no+C (control figure)			

Hammer drill SDS PLUS

WIBE

Untreated steel.

WEF-0001



	Part. No. C*	Dim mm	Cutting length of the drill mm	Number/ package	Weight kg 100 pcs
Hammer drill SDS PLUS 4x110	787021 9	4x110	50	1	3.0
Hammer drill SDS PLUS 5x110	781631 6	5x110	50	1	3.5
Hammer drill SDS PLUS 5x160	781632 3	5x160	100	1	4.0
Hammer drill SDS PLUS 5.5x110	787022 6	5.5x110	50	1	4.0
Hammer drill SDS PLUS 5.5x160	787023 3	5.5x160	100	1	4.0
Hammer drill SDS PLUS 6x110	781633 0	6x110	50	1	4.5
Hammer drill SDS PLUS 6x160	781634 7	6x160	100	1	5.0
Hammer drill SDS PLUS 7x160	787025 7	7x160	100	1	5.5
Hammer drill SDS PLUS 7x210	787026 4	7x210	150	1	6.0
Hammer drill SDS PLUS 8x160	781636 1	8x160	100	1	6.0
Hammer drill SDS PLUS 8x210	781637 8	8x210	150	1	6.5
Hammer drill SDS PLUS 10x160	781638 5	10x160	100	1	7.5
Hammer drill SDS PLUS 10x210	781639 2	10x210	150	1	9.0
Hammer drill SDS PLUS 12x210	787027 1	12x210	150	1	9.5
Hammer drill SDS PLUS 16x300	787028 8	16x300	230	1	20.0
Hammer drill SDS PLUS 20x450	787029 5	20x450	370	1	56.0

Masonry drill WBL/WBE

Tungsten carbide tip. Tool steel shank with plated finish.

Masonry drill WBE 4x 75	787030 1	4x 75	40	1	2.0
Masonry drill WBE 5x 85	787031 8	5x 85	50	1	2.5
Masonry drill WBL 5x150	787032 5	5x150	60	1	2.0
Masonry drill WBE 5.5x 85	787033 2	5.5x 85	50	1	2.0
Masonry drill WBL 5.5x150	787034 9	5.5x150	90	1	2.0
Masonry drill WBE 6x100	787035 6	6x100	60	1	2.0
Masonry drill WBL 6x150	787036 3	6x150	90	1	4.0
Masonry drill WBE 7x100	787037 0	7x100	60	1	4.0
Masonry drill WBL 7x150	787038 7	7x150	90	1	4.0
Masonry drill WBL 7x300	787039 4	7x300	220	1	8.0
Masonry drill WBL 8x150	787040 0	8x150	90	1	4.0
Masonry drill WBL 8x200	787041 7	8x200	135	1	6.0
Masonry drill WBL 10x150	787042 4	10x150	90	1	6.0
Masonry drill WBL 10x200	787043 1	10x200	135	1	8.0
Masonry drill WBL 12x200	787044 8	12x200	135	1	10.0
Masonry drill WBL 16x300	787045 5	16x300	220	1	26.0
Masonry drill WBL 20x400	787046 2	20x400	230	1	62.0

*EAN-code=732167+Part.no+C (control figure)

Mounting of Wibe concrete screws

To use Wibe concrete screws is both safe and easy. No special tools or machines are required.

The screw performs an exact adapted thread in the bedding which means that no control of the tightening moment is required.

The extraction force of a Wibe concrete screw is better than that of an expansion bolt with the same diameter

You can choose a smaller diameter of a concrete screw than that of an expansion bolt and still receive the same extraction force.

The same concrete screw can be re-used.

Mounting instruction



Use a drill suitable to the screw.
Drill the hole.



Switch off the hammer function.
Mount the Bitro adapter on the drill. Pull in a bit or socket suitable for the screw to be used.



Mount with drilling machine.
Wibe concrete screws can also be mounted with regular hand tools as box sockets.



1. Drill a hole with the same diameter as the root of the screw
(for 6 mm drill 5 mm, for 7.5 mm drill 6 mm, for 10 mm drill 8 mm and for 12 mm drill 10 mm).
The drill depth must be at least 10 mm deeper than the installation depth.
2. Blow the hole free from dust or drill 10 mm deeper than required so that the drill cutting can be left in the hole.
3. Mount the concrete screw close to the application bedding, no defined tightening moment is required.
Note – don't tighten the screw with a higher moment than stated on the package or technical data.

Extraction forces, in kN, depending on installation depth in uncracked concrete C25.

Calculated values with a safety factor of 3.0.

Installation depth mm	MMS-5	MMS-6	MMS-7.5	MMS-10	MMS-12
25	0.8	2.02	2.15		
30	1.4	2.40	2.50		
35		2.50	2.60	3.50	
40		2.80	3.00	3.80	
45		2.80	3.20	4.00	5.50
50		2.80	4.10	4.30	6.30
55			6.10	6.10	7.20
60		2.80	6.51	7.20	8.00
70				7.90	8.10
80					10.00

Transverse forces Concrete screw MMS

Dimensioned transverse force in kN.

Concrete screw	MMS-5	MMS-6	MMS-7.5	MMS-10	MMS-12
	1.4	2.2	4.8	7.8	7.8
Screw diameter mm	5	6	7.5	10	12
Breaking torsional moment (Nm)	12	24	28	80	120
Recommended max tightening moment (Nm)	10	10	20	50	80

Spacing

The above values are valid when the distance from the nearest corner or free edge to the screw is at least 10 x screw diameter. The spacing between two screws must be minimum 20 x screw diameter.

Low density anchor TLF



WIBE

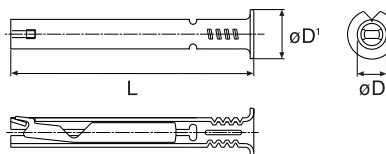
WEF-0006

Hot dip galvanized

For fixing in light concrete or clinker concrete. For medium or heavy installations.

Unique advantages:

- Long expansion area and heavy expansion – very high loading values
- The expansion can be directed - superior loading values even at small edge distances.
- Very quick installation – drives in and expands with a hammer and Hammer tool TLF-S

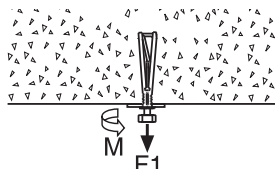


	Part. No. C*	DxL mm	D ¹ mm	Drill diameter mm	Number/ package	Weight kg 100 pcs
Low density anchor TLF 8x65**	781782 5	8x 65	13	8	50	1.4
Low density anchor TLF 12x100	781783 2	12x100	20	12	25	4.7
Low density anchor TLF 12x145	781784 9	12x145	20	12	25	6.2
Low density anchor TLF 16x130	781785 6	16x130	25	16	10	10.0

**One Hammer tool is incl. in each package.

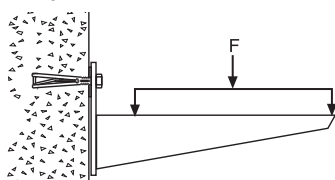
*EAN-code=732167+Part.no+C (control figure)

Loading - All loadings refer to mounting in light concrete Y 500



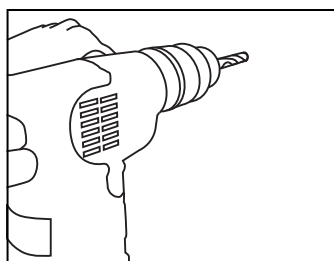
	Max Tightening moment M=Nm	Extraction force F1 kN	Transverse force kN
TLF 8x65 mounted with wood screw TKX Fzb SPAX-5x35	1	0.3	0.3
TLF 12x100 mounted with hexagon head wood screw T6S 4.6 Fzv 8x40	6	0.6	0.6
TLF 12x145 mounted with hexagon head wood screw T6S 4.6 Fzv 8x40	6	0.6	0.6
TLF 16x130 mounted with hexagon head wood screw T6S 4.6 Fzv 10x40	10	0.6	0.6

Max permitted load F on Cantilever arm 50

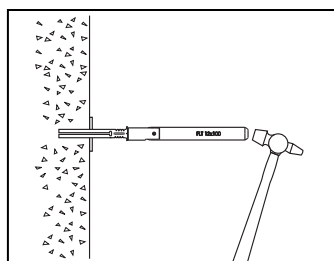


	50-200		50-300		50-400		50-500		50-600	
	Kg	kN	Kg	kN	Kg	kN	Kg	kN	Kg	kN
TLF 8x 65										
TLF 12x100	26	0.26	25	0.25	22	0.22	23	0.23	21	0.21
TLF 12x145	26	0.26	25	0.25	22	0.22	23	0.23	21	0.21
TLF 16x130	26	0.26	25	0.25	22	0.22	23	0.23	21	0.21

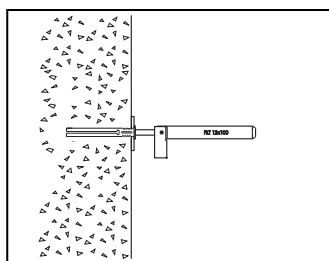
Use and installation



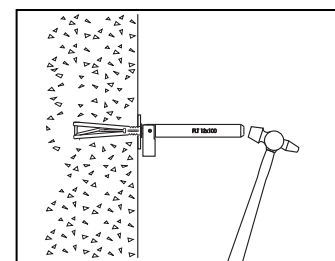
Drill with recommended drill diameter, see above. (Without pre-drilling in quality Y400 and Y450).



Low density anchor TLF installed with Hammer tool TLF-S. Put the hammer tool into the installation hole of the low density anchor and bolt the anchor.



Lower the distance.

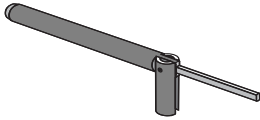


Expand the anchor by means of the Hammer tool.

Hammer tool TLF-S

Untreated steel.

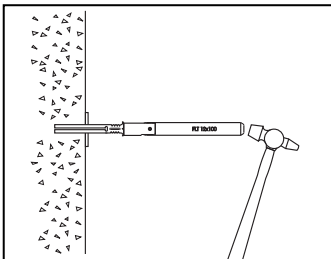
For driving in and expansion of the Low density anchor TLF.



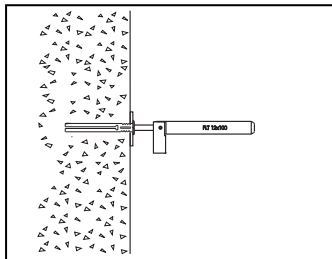
	Part. No. C*	L mm	Number/ package	Weight kg 100 pcs
Hammer tool TLF-S 12x100	781842 6	180	1	23
Hammer tool TLF-S 12x145	781843 3	225	1	24
Hammer tool TLF-S 12x130	781844 0	220	1	42

*EAN-code=732167+Part.no+C (control figure)

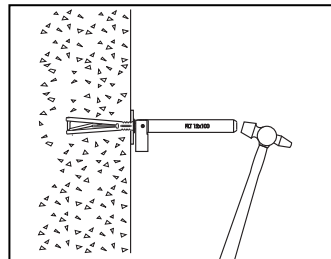
Use and installation



Put the Hammer tool into the installation hole of the Low density anchor and bolt the fixing (without pre-drilling in quality Y400 and Y450).



Lower the distance.



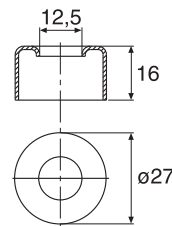
Expand the anchor by means of the Hammer tool.

Sleeve TLF-H12



Hot dip galvanized.

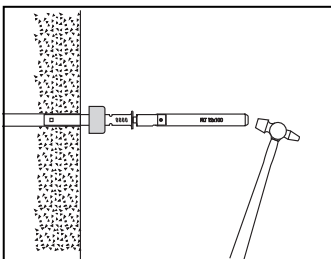
To be used together with Low density anchor TLF 12x100 or 12x145 in order to raise the transverse force performance.



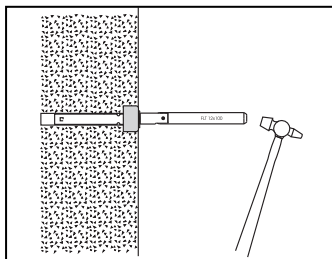
	Part. No. C*	Number/ package	Weight kg 100 pcs
Sleeve TLF-H12	781867 9	25	1.3

*EAN-code=732167+Part.no+C (control figure)

Use and installation



Put the sleeve on the Low density anchor. (See instructions for Low density anchor TLF).



Bolt the Low density anchor with the sleeve in level with the wall.

Adapter TLF-A12

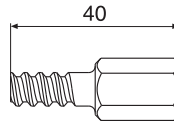
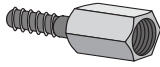


WIBE

WEF-0007

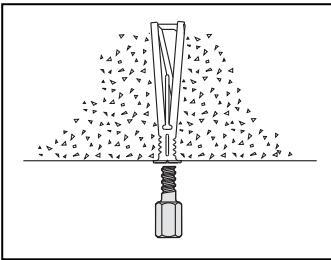
Electro-galvanized.

To be used together with Low density anchor TLF 12x100 or 12x145 in order to receive an interior M10 thread.
Suits Pendant M10.

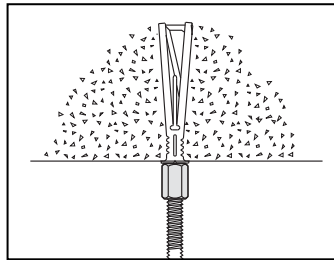


	Part. No. C*	Number/ package	Weight kg 100 pcs
Adapter TLF-A12	781868 6	10	2.1
*EAN-code=732167+Part.no+C (control figure)			

Use and installation



Screw the Adapter into the expanding Low density anchor.



Pendant M10 in the Adapter.

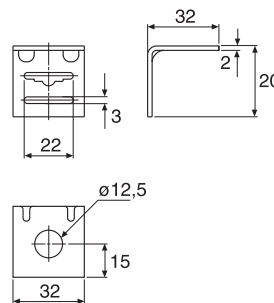
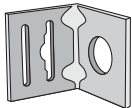
Angled bracket TLF-F12

WIBE

WEF-0001

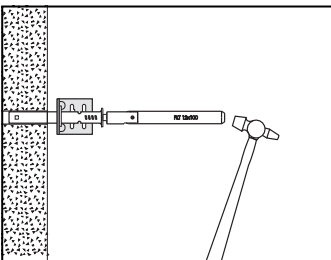
Pre-galvanized.

To be mounted with Low density anchor TLF 12x100 or 12x145 and can be used as a hanging for band or wire installations.

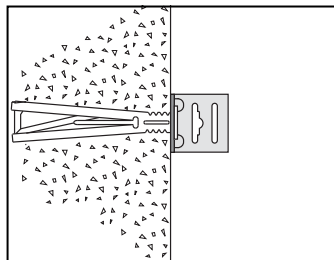


	Part. No. C*	Number/ package	Weight kg 100 pcs
Angled bracket TLF-F12	781869 3	25	2.6
*EAN-code=732167+Part.no+C (control figure)			

Use and installation



Mount the Angled bracket on the Low density anchor.
(See instructions for Low density anchor TLF).



Bolt the Low density anchor with the Angled bracket into the bedding and check that it is secured.

Express hanger SVH

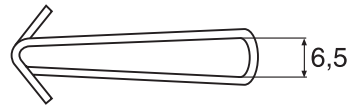
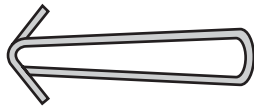
Stainless steel AISI316.

For fixing in concrete, natural stone, solid brick or plate.

Used for installation of armatures close to the ceiling (with locking block) as well as for hanging of integrated ceilings, armatures, electrical-, tube- or ventilating equipment.

Mounting tool SVH-T, for mounting to the right installation depth, is included in the package.

Cover plate is included only for SVH-E1.



	Part. No. C*	Drill mm	Min. drilling depth mm	Number/package	Weight kg 100 pcs
Express hanger SVH-E1	781870 9	8	30	100	0.3
Express hanger SVH-E2**	781871 6	8	30	500	0.3

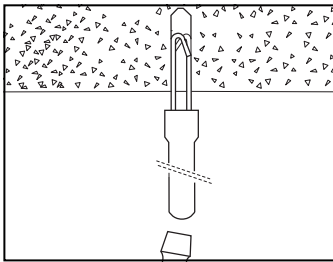
**Cover plate not included.

*EAN-code=732167+Part.no+C (control figure)

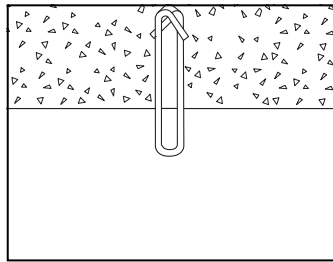
Loading

	Permitted load capacity at safety factor 3 at extraction	
	Concrete C25 kN	Solid brick kN
Express hanger SVH-E1	1.0	0.5
Express hanger SVH-E2	1.0	0.5

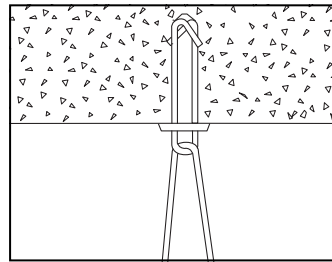
Use and installation



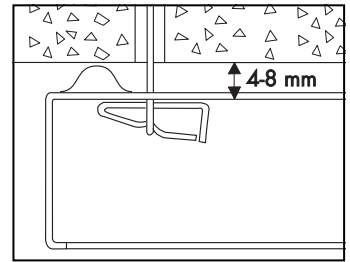
Hole must be drilled with a 8 mm drill, drilling depth minimum 30 mm. Drive in the Express hanger with the Mounting tool SVH-T. The installation depth always turns out to be the right.



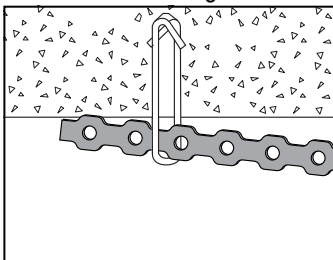
The short and stiff wire ends grip effectively into the sides of the hole resulting in a safe and strong fixing.



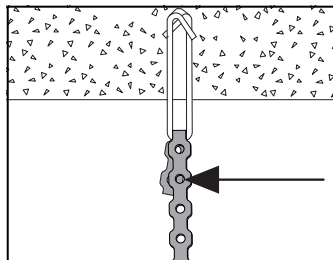
Mounting of wires. Cover plate hides the hole.



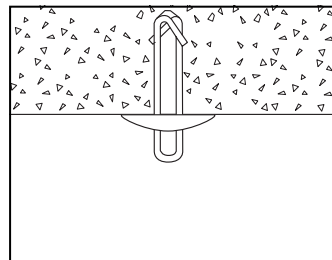
Mounting close to the ceiling with Securing spring SVH-L.



Express hanger SVH can also be used for installation of Fixing strip TRB and TGB.



When the fixing strip is turned into position it self-locks. Can also be locked with screw, rivet or lashing wire for extra security.



At a visible installation, hide the hole with a cover plate. Delivered together with SVH-E1.

Securing spring SVH-L

WIBE

Stainless steel AISI304.

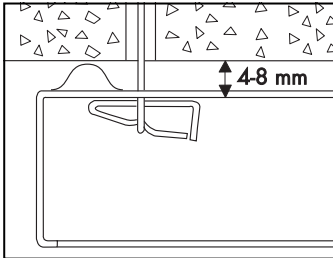
WEF-0001

For installation of armatures close to ceiling.



	Part. No. C*	Number/ package	Weight kg 100 pcs
Securing spring SVH-L	781872 3	25	0.20
*EAN-code=732167+Part.no+C (control figure)			

Use and installation



For installation of armatures close to the ceiling. Maximum loading per securing spring is 4 kg.

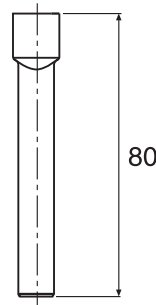
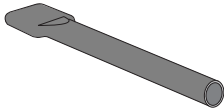
Mounting tool SVH-T

WIBE

Electro-galvanized.

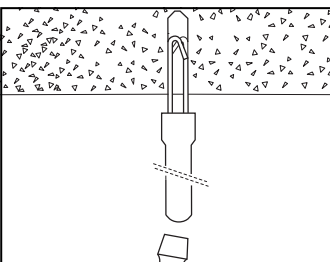
WEF-0001

For installation of Express hanger SVH.



	Part. No. C*	Number/ package	Weight kg 100 pcs
Mounting tool SVH-T	781873 0	10	1.8
*EAN-code=732167+Part.no+C (control figure)			

Use and installation



For installation of Express hanger SVH. The installation depth will always turn out to be the right.

Fixing strip TGB

WIBE

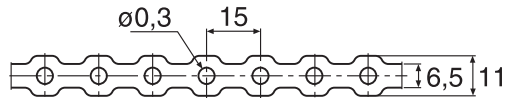
WEF-0001

Pre-galvanized.

For pendant installation and clamping.

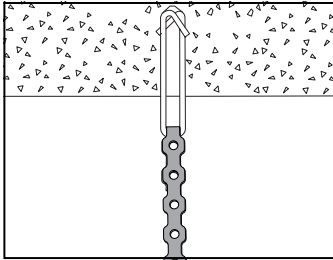
Cold-rolled and galvanized sheet metal, perforated for easy installations.

For fixing tools as Express hanger SVH or Low density anchor TLF with Angled bracket TLF-F12.

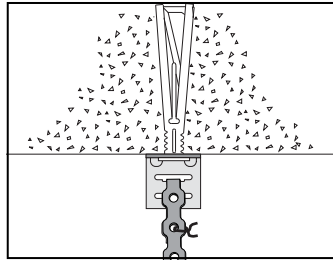


	Part. No. C*	Number/ Package	Weight kg 100 pcs
Fixing strip TGB 11x0.7	781874 7	1 (25m)	105
*EAN-code=732167+Part.no+C (control figure)			

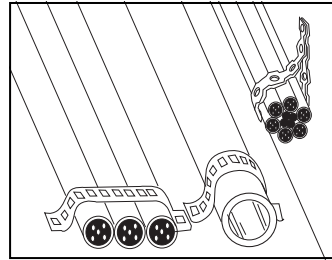
Use and installation



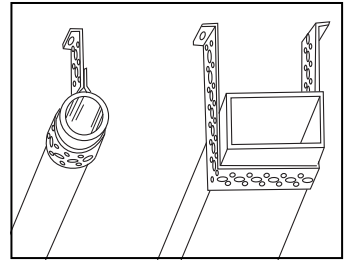
Can be mounted with Express hanger SVH.



Can be mounted with Low density anchor TLF and Angled bracket TLF-F12.



Can easily be mounted with other suitable fixing tools.



Fixing strip TRB

WIBE

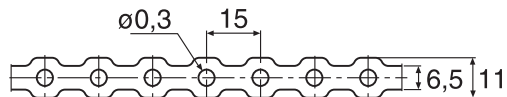
WEF-0001

Stainless steel AISI304.

For pendant installation and clamping.

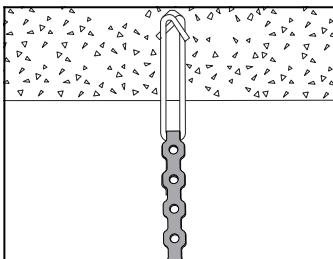
Stainless steel band AISI304 for qualified installations in all type of environments.

Express hanger SVH or Low density anchor TLF with Angled bracket TLF-F12 can be used as fixing tools.

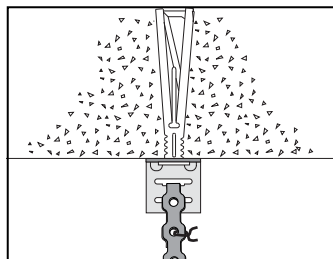


	Part. No. C*	Number/ package	Weight kg 100 pcs
Fixing strip TRB 11x0.7	781875 4	1 (10m)	42
*EAN-code=732167+Part.no+C (control figure)			

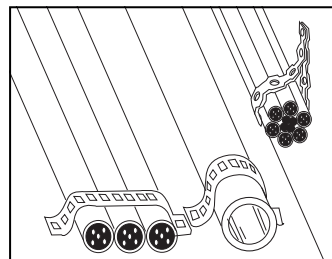
Use and installation



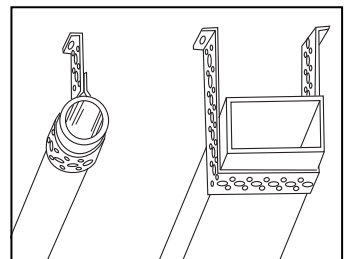
Can be mounted with Express hanger SVH.



Can be mounted with Low density anchor TLF and Angled bracket TLF-F12.



Can easily be installed with other suitable fixing tools.

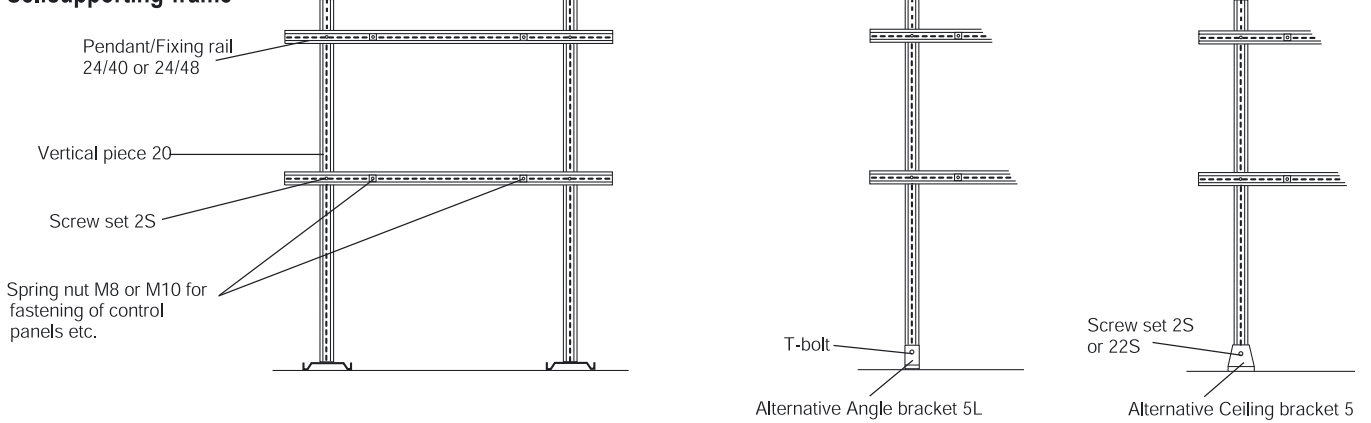




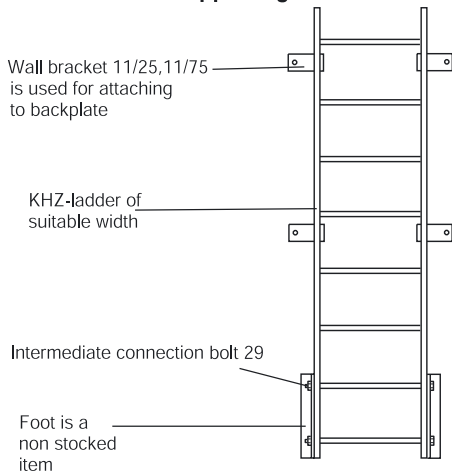
Part. No. C*	Description	Number/ package	Part. No. C*	Description	Number/ package
Concrete screw MMS-S, Electro-galvanized			Concrete screws MMS-I, Electro-galvanized		
788520 6	MMS-S 6x40	10	788539 8	MMS-I 7.5x55	5
788521 3	MMS-S 6x50	10	Eye screw MMS-R, Electro-galvanized		
788522 0	MMS-S 6x60	10	788540 4	MMS-R 6x40	10
788523 7	MMS-S 7.5x35	10	Mounting tool for Eye screw MMS-R, Electro-galvanized		
788524 4	MMS-S 7.5x40	10	781567 8	Mounting tool for Eye screw	1
788525 1	MMS-S 7.5x50	10	Bitro adapter, Electro-galvanized + plastic		
788526 8	MMS-S 10x60	5	781568 5	Bitro adapter 5, yellow	1
788527 5	MMS-S 10x70	5	781569 2	Bitro adapter 6, green	1
788528 2	MMS-S 10x80	5	781570 8	Bitro adapter 8, red	1
788529 9	MMS-S 12x80	5	781571 5	Bitro adapter 10, blue	1
Concrete screw MMS-S, Stainless steel AISI316			Magnetic socket for Concrete screw MMS-S		
788530 5	MMS-S 7.5x50/65	2	781572 2	Magnetic socket 10x45	1
788531 2	MMS-S 10x70/85	2	781573 9	Magnetic socket 13x45	1
788532 9	MMS-S 12x80/100	2	Socket for Concrete screw MMS-S		
Concrete screws MMS-PAN, Electro-galvanized			781574 6	Socket 16	1
788541 1	MMS-PAN 5x30	10	781575 3	Socket 18	1
788542 8	MMS-PAN 5x50	10	Bits holder, Stainless steel AISI304		
788533 6	MMS-PAN 6x30	10	781576 0	Bits holder 11x60	1
788534 3	MMS-PAN 7.5x45	10	Square peg for Socket 16 and 18		
788535 0	MMS-PAN 10x70	5	781577 7	Square peg 3/8x50	1
Concrete screws MMS-PAN SH, extra big panhead, Electro-galvanized			Torxbits		
788536 7	MMS-PAN SH 7.5x45	10	788552 7	TX 30x25	2
Concrete screws MMS-ST, Electro-galvanized			788553 4	TX 40x25	2
788537 4	MMS-ST 7.5x70	10			
788538 1	MMS-ST 10x80	5			

*EAN-code=732167+Part.no+C (control figure)

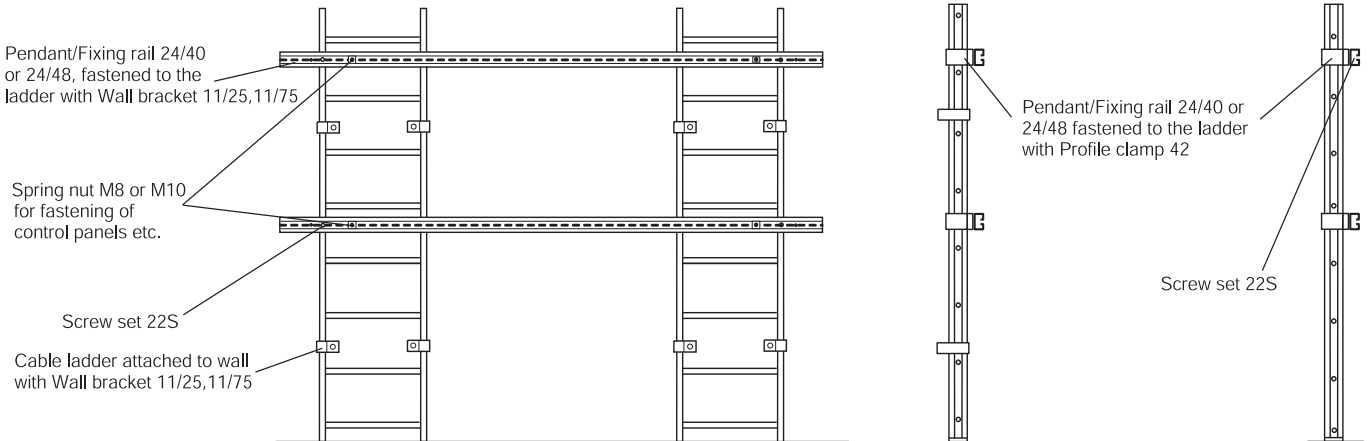
Selfsupporting frame



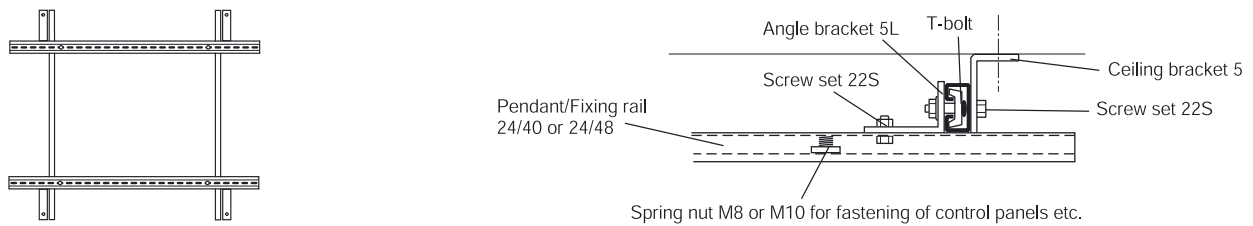
Ladder as a selfsupporting frame

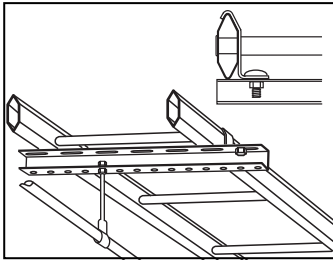


Frame mounted on cable ladders

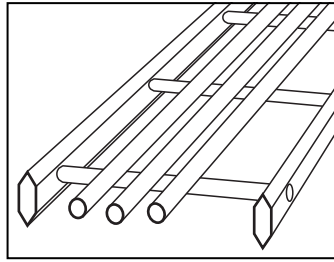


Wall mounted frame

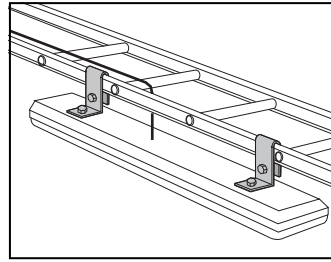




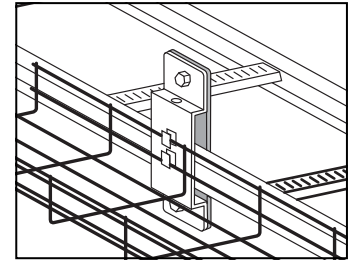
Water pipes, gas and sprinkler installations mounted on U-profile fixed with Profile clamp 42 under the ladder.



Hydraulic and pneumatic pipes are easily placed on cable ladders.

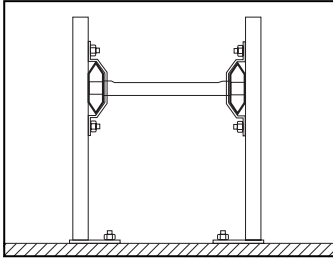


Installation of neon light fittings can easily be made with Wall bracket 11/25 or 11/75.

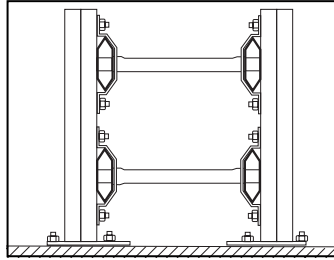


A Mesh tray can easily be mounted along a cable ladder with accessories from the Mesh tray program.

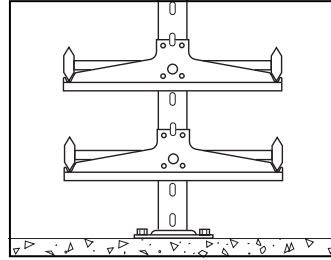
Floor installations



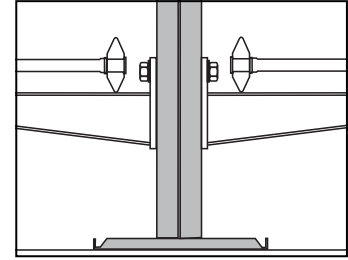
One or more cable ladders can be mounted with Vertical piece 2F, Profile clamp 41 and T-bolt.



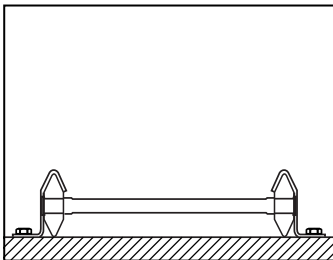
At heavy loadings several cable ladders can be mounted with Vertical piece 20, Profile clamp 41 and T-bolt 26.



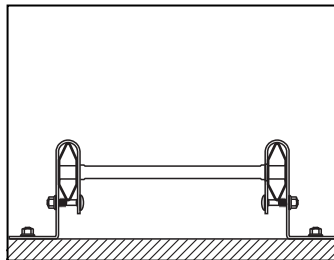
Cable ladders mounted on Vertical piece 2F and Support bracket 3.



Cable ladders mounted on Vertical piece 20 and cantilever arms.

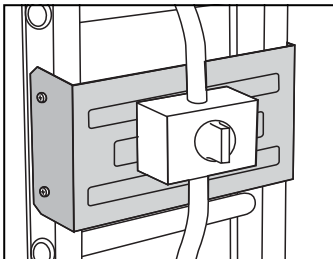


Installation of neon light fittings can easily be made with Wall bracket 11/25 or 11/75.

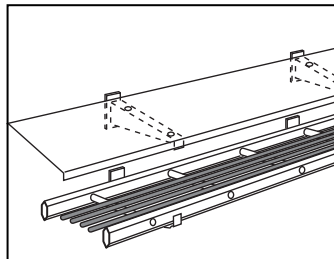


Cable ladders mounted with Wall bracket 11/25 or 11/75.

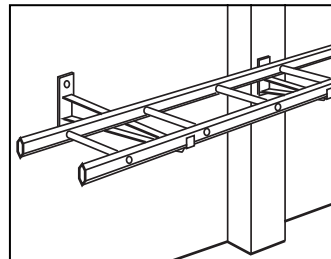
Other installation examples



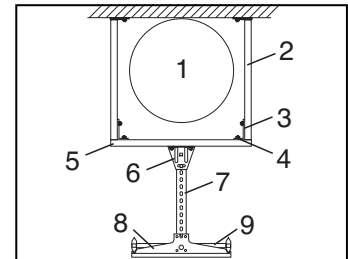
The Support bracket/joint for Wibe cable trays may very well be used as a mounting plate.



Tilted protective roofs can easily be mounted with a Cantilever arm 50F placed upside down.

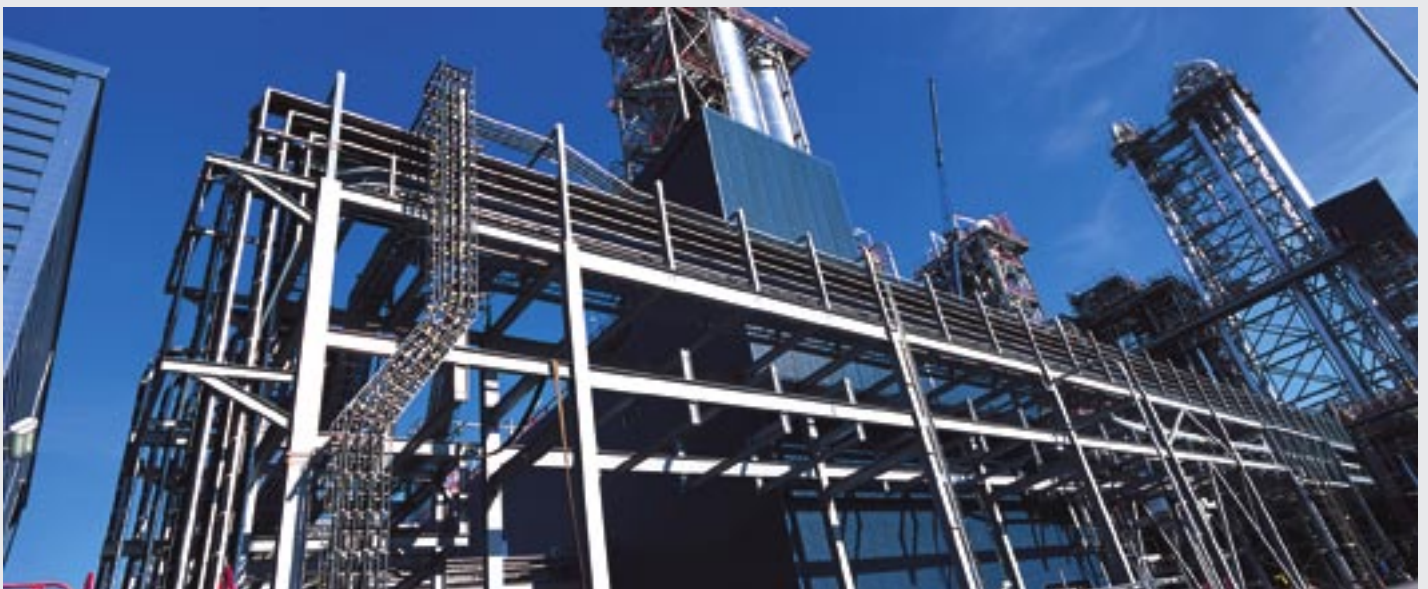


Use Cantilever arm 50/700-1000 as support when cable ladders have to pass columns etc.



Installations under ventilation pipes and ducts:

1. Ventilating pipe
2. Vertical piece 2F
3. Angle bracket 5L
4. T-bolt 26
5. P/F-rail 24/20, 24/34 or 24/48
6. Ceiling bracket 5
7. Support bracket 3
8. Cable ladder



WIBE

CABLE SUPPORT SYSTEMS

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