The right surface treatment – crucial for a successful outcome

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

C1 Electro-galvanized

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

- Very low environmental corrosion.
- Heated areas.
- Arid atmosphere.
- Insignificant quantities of pollutant.
- DIN 50961/ISO 2081.

C2 Pre-galvanized

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

- Low environmental corrosion.
- Non-heated areas with fluctuating levels of temperature and humidity.
- Few instances of condensation and low levels of airborn pollution.
- SS-EN 10327:2004.

C3 Hot-dip galvanized

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

- Average environmental corrosion.
- Areas with average levels of humidity and some airborn pollution caused by production processes.
- Atmospheres containing some salt or average levels of airborne pollution.
- EN-ISO1461:2009

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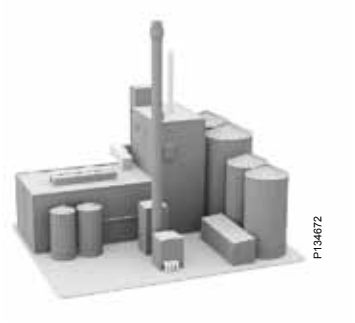
C4 Hot-dip galvanized

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

- High environmental corrosion.
- Areas with high levels of humidity and considerable air-born pollution.
- Atmospheres with average salt content or discernible levels of airborne pollution.
- EN-ISO1461:2009.



C5-I Stainless steel AISI 304L

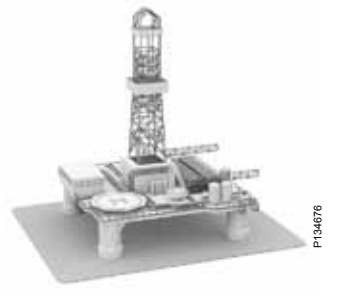
Indoor- and outdoor environments: Chemical and heavy industries, tunnels, swimming pools, dockyards etc.

- Very high (industrial) environmental corrosion.
- Areas with almost permanent condensation, large quantities of airborn pollution, high levels of humidity and aggressive atmospheres.
- SS2333 RF/AISI 304L

C5-M Stainless steel, AISI 316L

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

- Very high (marine) environmental corrosion.
- Areas with almost permanent condensation and large quantities of airborn pollution. Atmospheres with high salt content.
- SS2348 SF/AISI 316L



Corrosion classes

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

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

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

Corrosion class	Environmental corrosion	Examples of typical environments in temperate climates (informative)		Schneider Electric designation
		Outdoors	Indoors	
C1	Very low	–	Heated areas with arid atmosphere and insignificant quantities of pollutant, e.g. offices, shops, schools and hotels.	**Electro-galvanized** DIN 50961/ISO 2081
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-galvanized** Z 275 in accordance with SS-EN 10327:2004
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 galvanized** after manufacture in accordance with EN-ISO 1461:2009
C4	High	Atmospheres with average salt content or discernible levels of airborne pollution. Industrial and coastal areas.	Areas of high humidity and considerable airborne pollution as the result of production processes, e.g. chemical plants, swimming pools and dockyards.	
C5-I	Very high (industrial)	Industrial areas with high levels of humidity and aggressive atmospheres.	Areas with almost permanent condensation and large quantities of airborne pollution.	**Zinkpox®** HDG+powder coating*
				Stainless steel SS2333 AISI 304L
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

* Only for Cable Ladders and Cable Trays
** Only for Cable Ladders

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

Corrosion class	Mass loss per surface unit and thickness reduction (1 year of exposure)[1]			
	Steel		Zinc	
	Mass loss (g/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

Surface treatments

Defem Mesh Trays - Technical and material data

Steel wire

Specification:	C9D acc. to EN 10016-2 AISI 316L acc. to EN 10088-3
Density:	7.7-7.85 kg/m^3
Surface treatment:	• Electro-galvanized (>8 µm): EN ISO2081 • Hot-dip galvanised (>70 µm): EN ISO 1461 • Passivated (AISI 316L)

Steel sheet

Specification:	S235 acc. to EN 10025-2 AISI 316L acc. to EN ISO10088-2
Density:	7.7-7.85 kg/m^3
Surface treatment:	• Electro-galvanized (>8 µm): EN ISO 2081 • Hot-dip galvanised (55-70µm): EN ISO 1461 • Passivated (Stainless steel)

Resistance to impact	20 J (IEC 61537)
Temperature range	From –20°C to +90°C

Electro-galvanized
Products are manufactured in accordance with DIN 50961/ISO 2081. Such products are intended for use only in warm, dry areas with negligible pollutant levels.

Pre-galvanized
Products are manufactured from Z 275 pre-galvanized sheet steel in accordance with SS-EN 10327:2004. Under normal conditions, surface sections created during cutting and drilling will repair themselves, providing superb anti-corrosion protection.

Hot-dip galvanized
Schneider-electric has one of the most modern hot-dip galvanization plants in the Nordic countries. The hot-dip process is continuous, guaranteeing a high and even quality. The manufactured products are hot-dip galvanized in accordance with EN-ISO 1461:2009 whilst nuts and bolts are hot-dip galvanized in accordance with SS-EN ISO 10684:2004. 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. When cuts/perforations or other kind of operation that damage or remove coating in HDG items suitable to be installed in aggressive corrosion class, must be repaired with a zinc rich paint.

Stainless steel
Products manufactured in accordance with SS 2333/ AISI 304 or 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 fertilizer factories, high humidity tunnels, etc. Stainless steel products are also ideal for use in environments where special hygiene requirements are in force, such as dairies, abattoirs, other food industries and pharmaceutical factories.

Stainless steel AISI 304L or AISI 316L
The deciding factor in choosing between stainless steel AISI 304L 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 304L or AISI 316L material is required.

Factors to consider when installing Stainless Steel Mesh trays

1. Transport/handling
Make sure that no iron objects come into contact with the stainless steel products.

2. Storing
Never store stainless steel products close to where iron products are machined, for example close to cutting and grinding operations.

3. Welding
Welding during installation should be avoided where possible. If welding must be performed, make sure that only methods suitable for stainless steel are used.

4. Tools
When cutting or grinding, always use cutting wheels and grinding tools which are free from iron. Do not use tools that have been previously used for cutting or grinding products containing iron. When drilling, use an HSS-drill. To maximize the useful life of the drill, employ a cooling fluid during drilling. When installing, conventional assembly tools can be used. However, when using a nut tightener, ensure that the thread is first lubricated to prevent jamming.
Never mix untreated or galvanized products with stainless steel.

5. Measures
If a blue annealing appears when cutting, grinding or drilling, 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:

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

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

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

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

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

Potential balancing

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

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

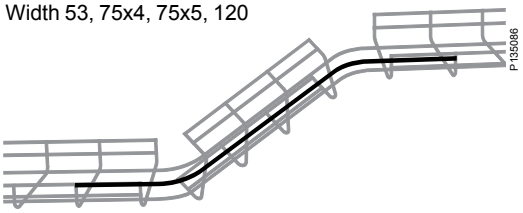
(*) Currently this valour is studied through document IEC/SC23A/WG12, CLC/TC213/WG-5 – 765. It will be changed to 50 mΩ x metre.

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

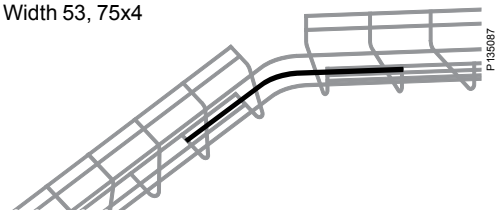
To guarantee a safe installation, Schneider Electric recommends a proper earthing of all the elements that make up the system (sections and accessories), using the accessories designed specifically for this purpose. Ensure that all connections are well fixed and proper values are matching according to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

Electro-galvanized and Hot-dip galvanized
The applications below are approved only in combination with copper cable.

Width 53, 75x4, 75x5, 120



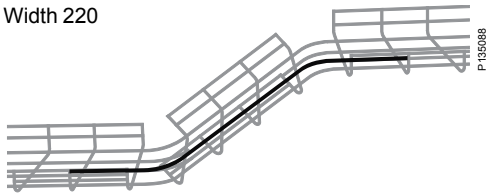
Width 53, 75x4



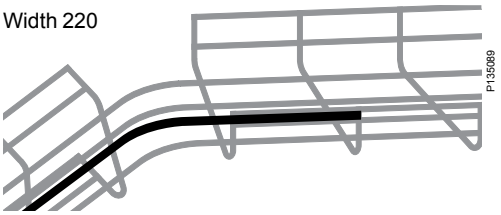
Stainless AISI 316L
Mesh Trays in the dimensions 53, 75x4, 75x5 and 120 shall always be equipped with copper cable.

The applications below are approved only in combination with copper cable.

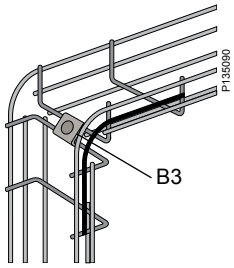
Width 220



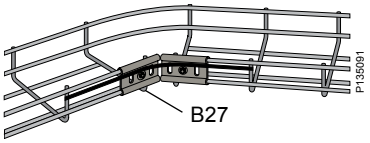
Width 220

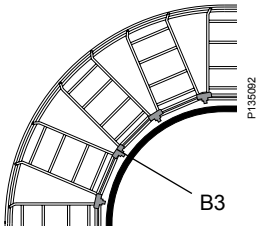


Width 220, 320



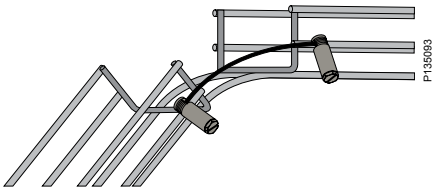
Width 220, 320, 422, 522, 622





Potential balancing

To meet the demands for conductivity in these cases, a copper cable dimensioned according to local regulations has to be installed as shown in the adjoining drawing. End terminals at the cable are recommended in environments where there is a risk of corrosion.



Article/Material	Art. no.
Marking clip B44, Equipotential bonding Flame resistant plastics	11 494 29

Article/Material	Art. no.	Max cable area mm²
Earth Connection Clamp B18 Brass/ Nickel anodized	11 491 80	25

Measured values on real installations

Resistance/Conductivity in mΩ/5 m (including Joining fitting).

Mesh tray	Electro-galvanized mΩ/5 m	Hot-dip galvanized mΩ/5 m	Stainless Steel mΩ/5 m
622/110	1.28	1.89	9.41
622/60	1.50	2.23	10.81
522/110	1.50	2.23	10.81
522/60	2.27	2.51	12.01
422/110	2.27	2.51	12.01
422/60	2.90	3.35	16.67
320/110	2.90	3.35	16.67
320/60	4.20	4.46	22.17
220/110	4.20	4.46	22.17
220/60	5.60	5.52	26.20
120/110	5.60	5.52	26.20
120/60	7.10	6.58	34.79
75x5/55	6.70	9.98	50.98
75x4/55	6.85	10.12	51.10
53/45	7.13	11.05	51.88

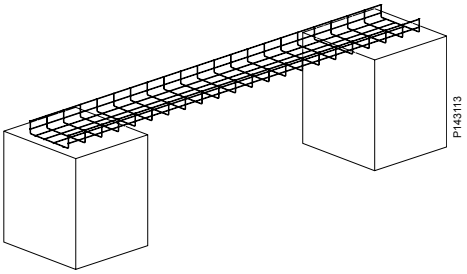
Electro-magnetic compatibility EMC

Electromagnetic Compatibility

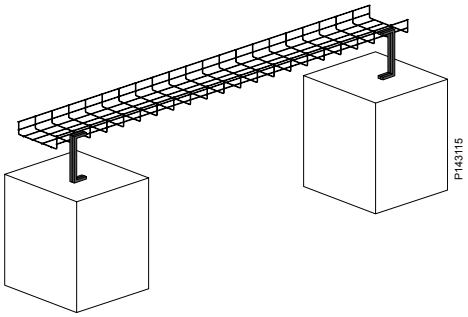
Schneider Electric has performed measurements at EMC Services in Gothenburg regarding EMC requirements, report RE-10273-17181.
The results show that the shielding performance of both incoming and emitted fields is good concerning Defem mesh trays.

When correctly installed Defem mesh tray products work as a protective earth structure.
This means that Schneider Electric products can be used to achieve good engineering practice in accordance with the EMC directive 2014/30/EU.

Recommended installation examples

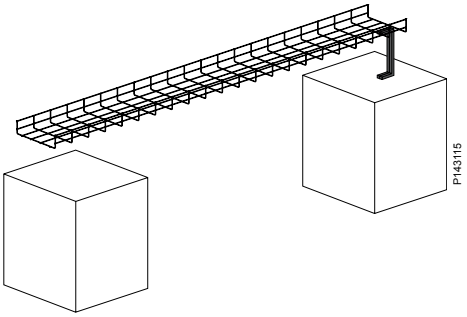


Metal against metal connection
- the ultimate installation

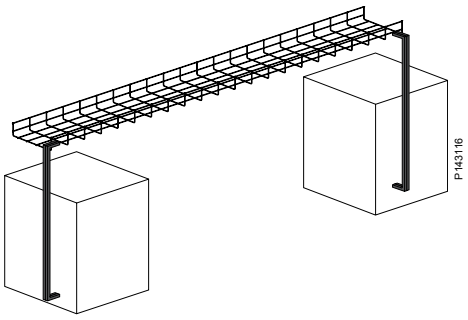


Short double connection
- realistic installation

Not recommended installation examples



Single connection
- poor installation



Long double connection
- in best case EMC neutral

Quality

The Defem mesh trays meet the toughest product standards:
IEC 61537
DIN 4102-12 for fire resistance E90
NEMA VE1

List of reports on test carried out by the Swedish Testing and Research Institute (SP)

Electrical Continuity
SP F205777

Vibration
SP 94 F 20903

Other tests	Test made by
Measurements of resistance value from different combinations of Defem Mesh tray and Defem U-bar. Report no. LNKM 036 99.	Telia, Sweden
Tests with Category 5 and 6 cables, in room temperature and in a climatic room with different loads, up to 43 layers, about 250 mm. Report no. Danak-19J0698/Delta K311126.	Delta Institute, Denmark
EMC characteristics. Report nº TR-10024-16723	EMC Services Elmiljöteknik AB, Sweden
EMC Performance- Shielding test Report nº RE-10273-17181	EMC Services Elmiljöteknik AB, Sweden
Tests with fibre patch cord with 2 mm thickness. In room temperature with different loads corresponding to layers of patch cord up to 300 mm. Report nº MHN06514B	Schenker/Telia Sonera, Sweden
Test Concerning fire resistance DIN 4102-12, E30-E60-E90, ABP P-MPA-E-13-003.	MPA NRW, Germany
Test Concerning fire resistance according to EN 1363-1. Report nº Zp-05-01.02.003	Pavus, Czech Rep.
Defem Mesh tray as conductor of equipotential bonding according to IEC 61537,11:1.	SP, Sweden
Defem Mesh tray is approved for use in USA and Canada according to Underwriters Laboratories - ULE-212854.	UL, USA
Defem Mesh tray is approved by Det Norske Veritas (DNV) for offshore and ship-yard use, TAE00000MR.	DNV, Norway

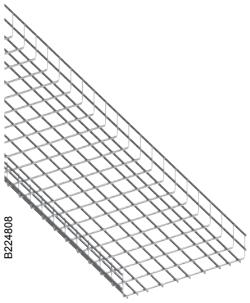
Management system - Quality and Environment
Schneider Electric has a third-party certified management system for quality and environment in accordance with OHSAS 18001:2007, ISO 9001:2008 and ISO 14001:2004.

CE-marking of products
The CE-marking of products is placed on the product or on the packing according to “Declaration of Conformity” (DOC), applicable to Schneider Electric Cable Support System.

EMC directive 2014/30/EU
The Cable Support System is neutral according to the EMC directive 2014/30/EU.

Low voltage directive 2014/35/EU
Schneider Electric fulfills the demands according to the harmonized standard SS-EN 61537 Edition 2:2006.

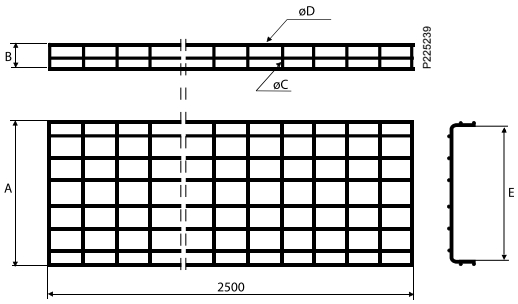
Technical information
Loading capacity



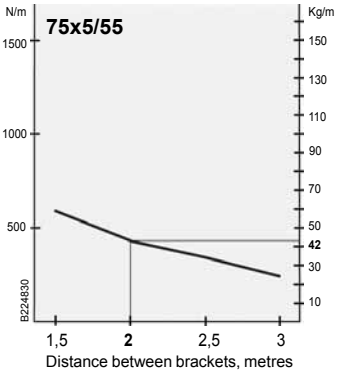
Safe working-load

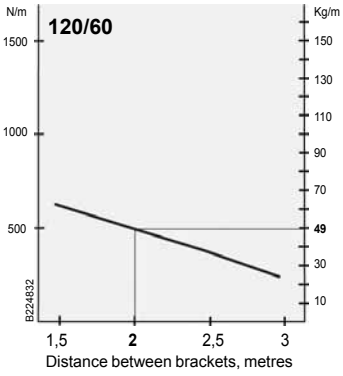
The safe working-load is calculated according to the standard IEC 61537. See diagrams below.

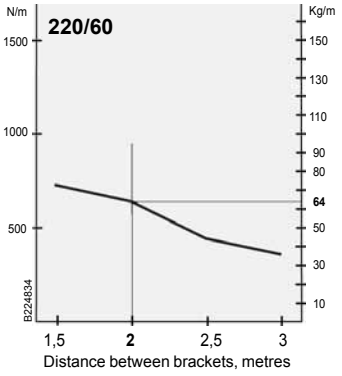
- The load is uniformly distributed along the mesh trays
- Free location of joints between supports
- The safety working-load value is given when: – the longitudinal deflection is ≤1% of the span between brackets – the transversal deflection is ≤5% of the width of the mesh tray.

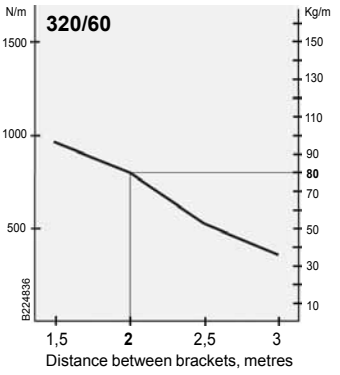


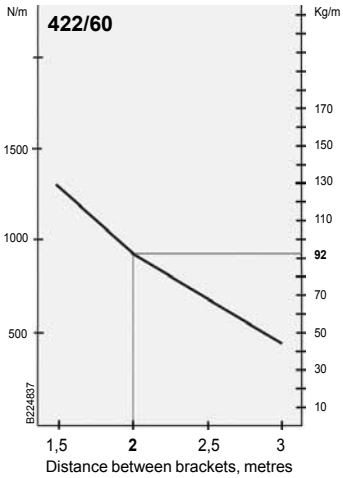
Type	A mm	B mm	C mm	D mm	E mm
Mesh tray 53/45	53	45	4	4	37
Mesh tray 75/55	75	55	4	4	59
Mesh tray 75/55	75	55	5	5	55
Mesh tray 120/60	120	60	5	5	100
Mesh tray 220/60	220	60	5	5	200
Mesh tray 320/60	320	60	5	5	300
Mesh tray 422/60	422	60	5	6	400
Mesh tray 522/60	522	60	5	6	500
Mesh tray 622/60	622	60	5	6	600

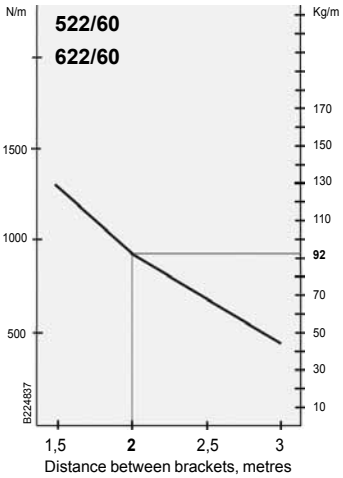




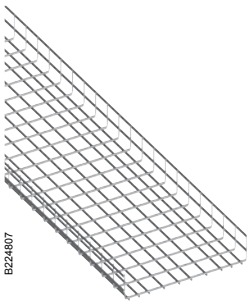








Technical information
Loading capacity



Safe working-load

The safe working-load is calculated according to the standard IEC 61537. See diagrams below.

- The load is uniformly distributed along the mesh trays
- Free location of joints between supports
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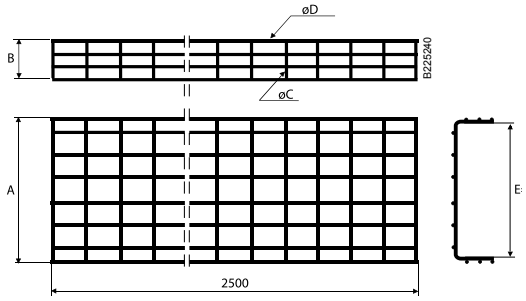
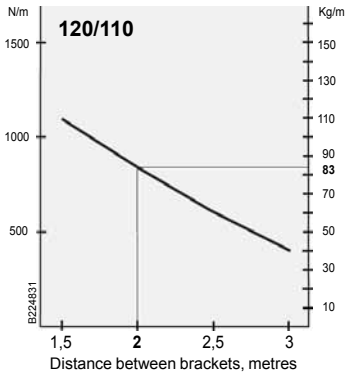
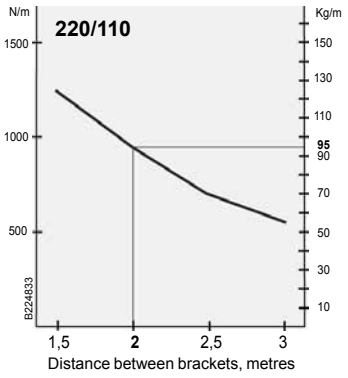
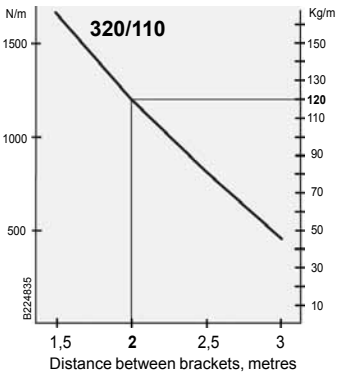
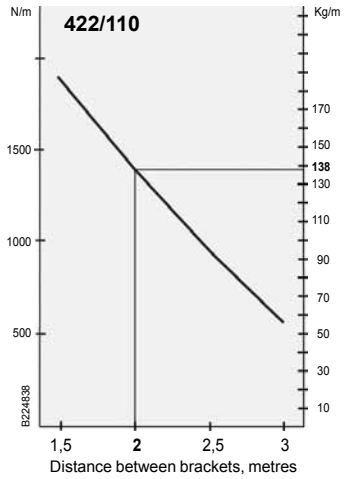


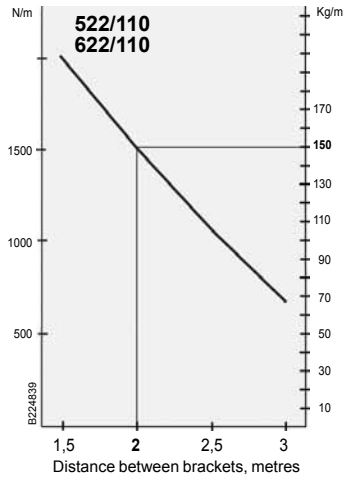
Type	A mm	B mm	C mm	D mm	E mm
Mesh tray 120/110	120	110	5	5	100
Mesh tray 220/110	220	110	5	5	200
Mesh tray 320/110	320	110	5	5	300
Mesh tray 422/110	422	110	5	6	400
Mesh tray 522/110	522	110	5	6	500
Mesh tray 622/110	622	110	5	6	600









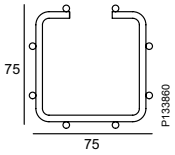


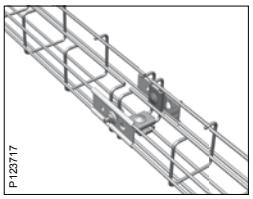
Technical information
Use and installation

C-Mesh tray

For use where mounting with long support distances (up to 4 metres) are needed.

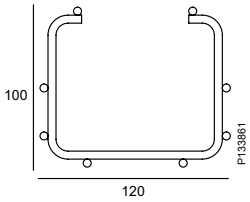
C-Mesh tray 75x75

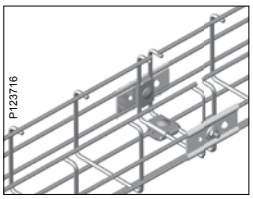




Joining of two C-Mesh trays 75x75.

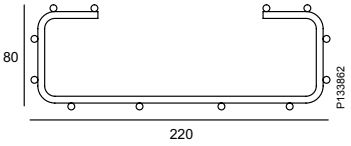
C-Mesh tray 120x100

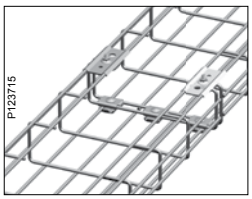




Joining of two C-Mesh trays 120x100.

C-Mesh tray 220x80



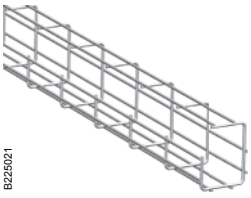


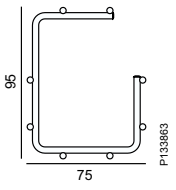
Joining of two C-Mesh trays 220x80.

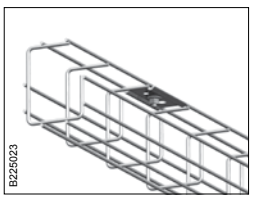
G-Mesh tray

For installation in ceilings, onto walls, under desks and mounting on cable ladders.

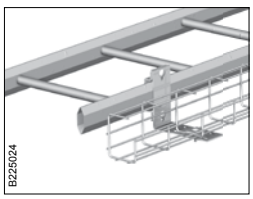
G-Mesh tray 75x95





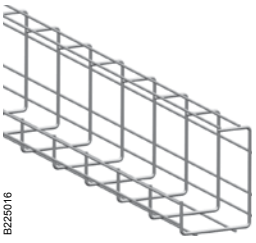


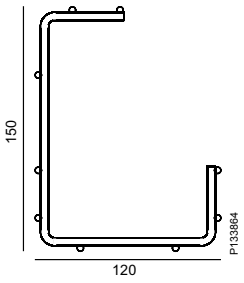
For mounting in ceilings, under desks etc. Fitting B1 is used.

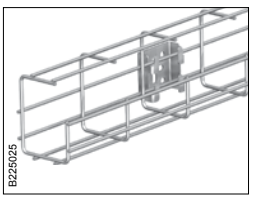


G-Mesh tray mounted on cable ladder, Combi fitting B21 90° is used.

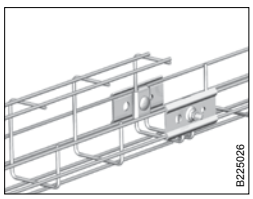
G-Mesh tray 120x150







Bracket B4 can also be used for mounting onto floor, wall or ceiling.



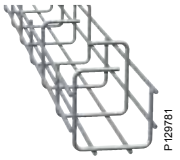
Fittings B1 and B2 are used for joining the mesh trays.
Example of jointing G-mesh tray with standard mesh tray

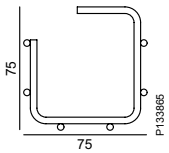
Technical information
Use and installation

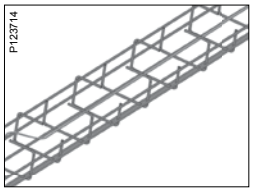
Z-Mesh tray

For environments where regular and thorough cleaning is required.

Z-Mesh tray 75x75

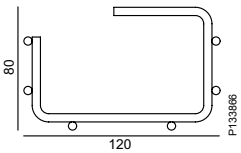


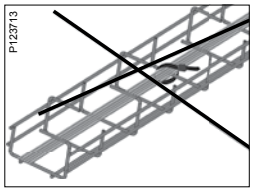




The cable is routed in a zigzag pattern inside the Z-Mesh tray.

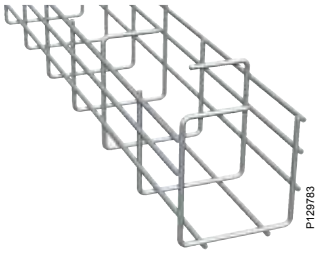
Z-Mesh tray 120x80

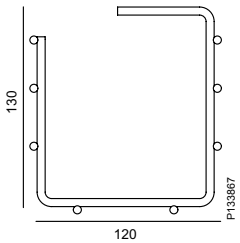


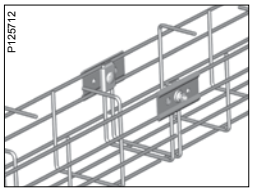


No cable ties are needed, not even in vertically mounted trays.

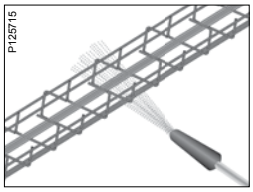
Z-Mesh tray 120x130





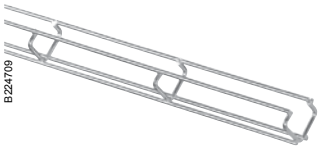


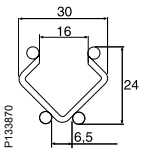
Fittings B1 and B2 are used for joining of Z-Mesh trays.

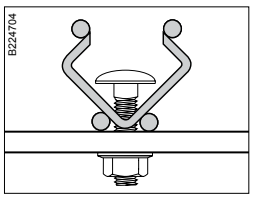


The non-bundled cables will stay in place during cleaning.

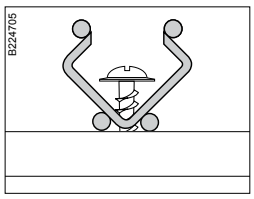
Mini Mesh B30-D



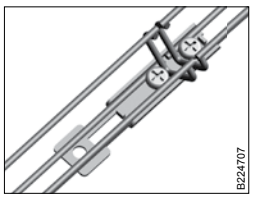




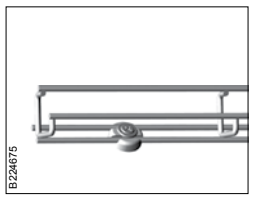
Can be mounted with Bolt and Nut B13.



Can be mounted with suitable screw for wood, concrete etc.



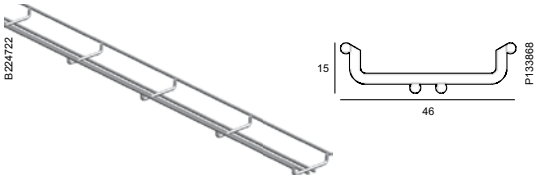
Two Mini Mesh B30-D joined with Mounting coupler B20.

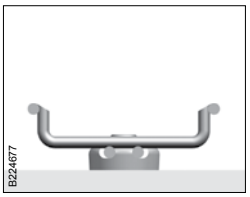


B30-D mounted onto Mounting spacer B22.

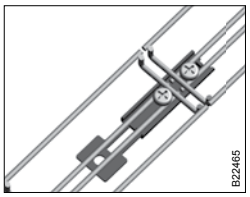
Technical information
Use and installation

Mini Mesh B30-U



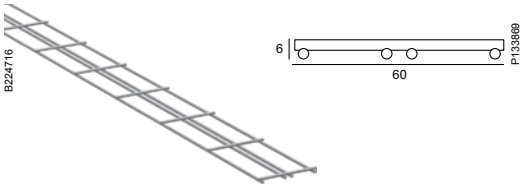


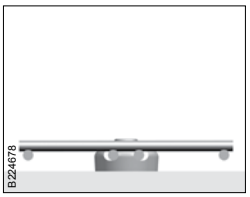
B30-U mounted onto Mounting spacer B22.



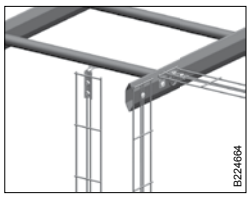
Two Mini Mesh B30-U joined with Mounting coupler B20.

Mini Mesh B30-I





B30-I mounted onto Mounting spacer B22.

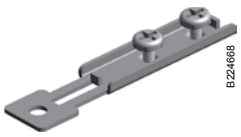


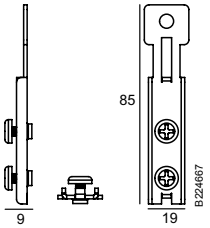
B30-I mounted onto cable ladder.

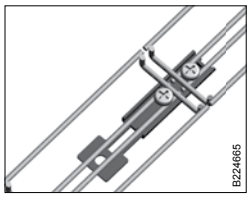
Technical information
Use and installation

Mounting coupler B20

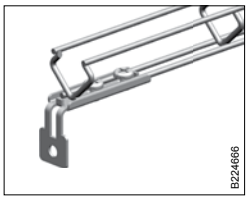
Used for joining and mounting of Mini Mesh Mesh trays.



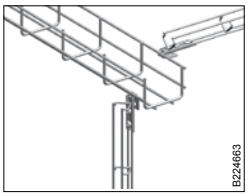


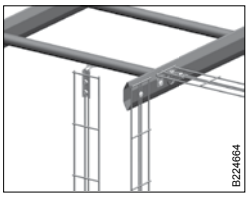


Used for joining of Mini Mesh Trays.



Can be used for mounting of Mini Mesh trays to ceiling, floor and onto wall.

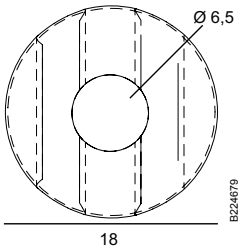


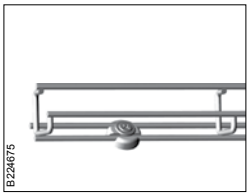


The mounting coupler can be used for vertical and horizontal mounting of Mini Mesh trays onto mesh trays and cable ladders.

Mounting spacer B22

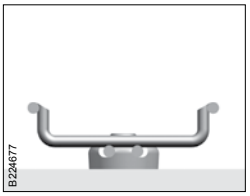
Plastic Spacer that fits all Mini Mesh dimensions.
Easy to mount, just snap the spacer onto the bottom wires.



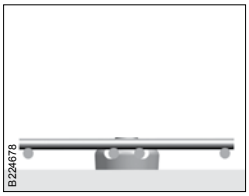


Front view of Mounting Spacer B22 attached to Mini Mesh.

Side view of Mounting Spacer. B22 attached to Mini Mesh-D.



Side view of Mounting Spacer. B22 attached to Mini Mesh-U.



Side view of Mounting Spacer. B22 attached to Mini Mesh-I.

Technical information
Use and installation

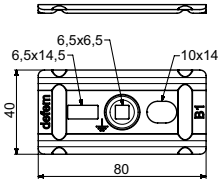
Recommended couplers

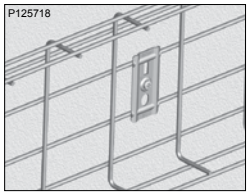
For joining Mesh trays

Mesh tray size	Side joining	Central joining
53 - 220	2xB1 + 2xB2 + 2xB13 or 2xB52	Not required
320	2xB1 + 2xB2 + 2xB13 or 2xB52	2xB2 + 1xB13
422	2xB1 + 2xB2 + 2xB13 or 2xB52	4xB2 + 2xB13
522 - 622	2xB1 + 2xB2 + 2xB13 or 2xB52	6xB2 + 3xB13

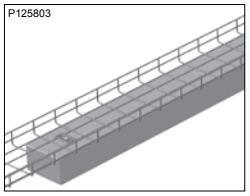
Fitting B1

Delivered without bolt and nut.

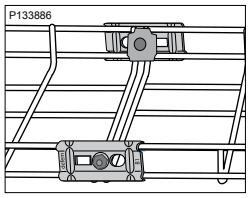




Fitting B1 can be used as a wall bracket.



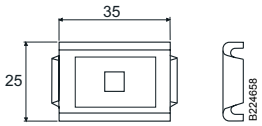
Fitting B1 can be mounted over the centre wires as carrier of lighting fittings.

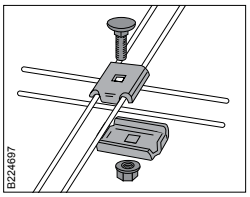


Mesh tray 53 to 220 is joined with:
2 pcs of Fitting B1
2 pcs of Fitting B2
2 pcs of Bolt and Nut B13

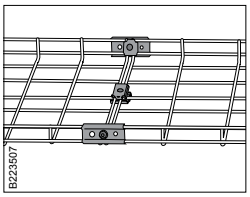
Fitting B2

Delivered without bolt and nut.

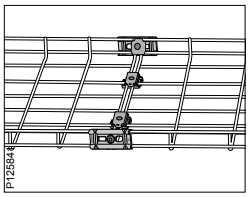




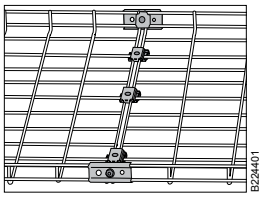
For joining in bottom of tray:
2 pcs of Fitting B2
1 pc of Bolt and Nut B13.



Mesh tray 320 is joined with
2 pcs of Fitting B1
4 pcs of Fitting B2
3 pcs of Bolt and Nut B13.

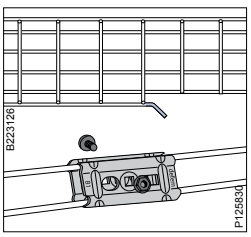


Mesh tray 422 is joined with
2 pcs of Fitting B1
6 pcs of Fitting B2
4 pcs of Bolt and Nut B13

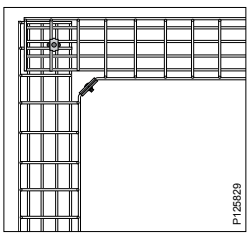


Mesh tray 522 and 622 is joined with
2 pcs of Fitting B1
8 pcs of Fitting B2
5 pcs of Bolt and Nut B13.

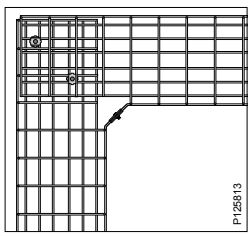
90° angling with Fitting B1 och B2



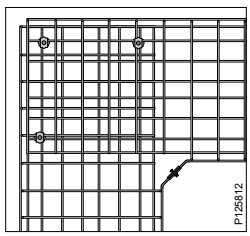
To obtain a softer inner angle, 2 Fittings B1 can be mounted with Bolt and Nut B13.



Mesh tray 53 to 220 are joined with:
2 pcs of Fitting B1
2 pcs of Fitting B2
2 pcs of Bolt and Nut B13



Mesh tray 320 and 422 are joined with:
2 pcs of Fitting B1
4 pcs of Fitting B2
3 pcs of Bolt and Nut B13

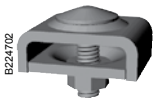


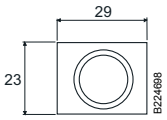
Mesh tray 522 and 622 are joined with:
2 pcs of Fitting B1
6 pcs of Fitting B2
4 pcs of Bolt and Nut B13

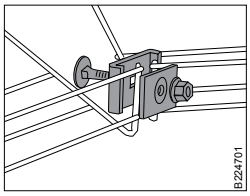
Technical information
Use and installation

Fitting B3

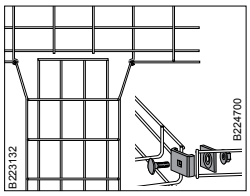
Delivered with bolt and nut.



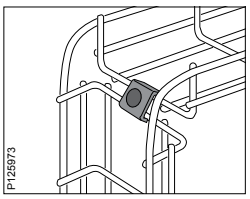




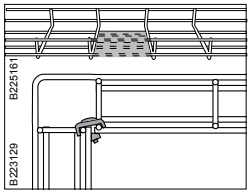
Horizontal bends are joined with Fitting B3.



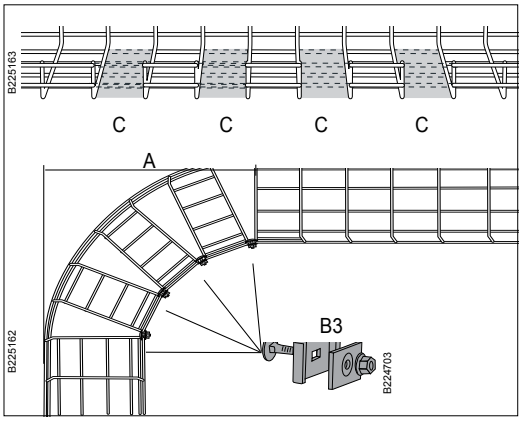
Four way and tees are joined with Fitting B3.



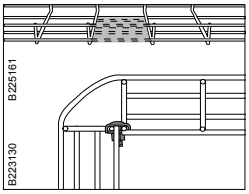
Vertical bends are joined with one or more Fitting B3, depending on mesh tray width.



Mesh tray 53 is shaped to straight 90º angle by cutting out marked wires and joined with Fitting B3.



Mesh tray 120-622 is shaped to straight 90 º angle by cutting out every other marked mesh tray section and joined with Fitting B3 according to table below.

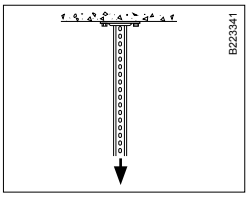


Mesh tray 53 is shaped to straight 90º angle by cutting out marked wires and joined with Fitting B3.

Mesh tray	A mm	C No. of cut-out sections	Fitting B3 No.
120	300	2	2
220	550	4	4
320	820	6	6
422	1080	8	8
522	1320	10	10
622	1590	12	12

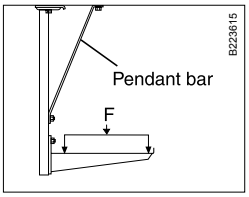
Technical information
Use and installation

Breaking load symmetrical loading*



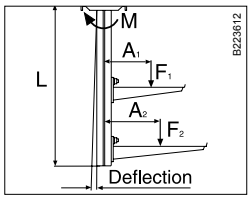
Breaking load for Vertical piece 2F (VP) = 2300 kg (23 kN) at symmetrical loading.

VP + Pendant bar for reduction of deflection

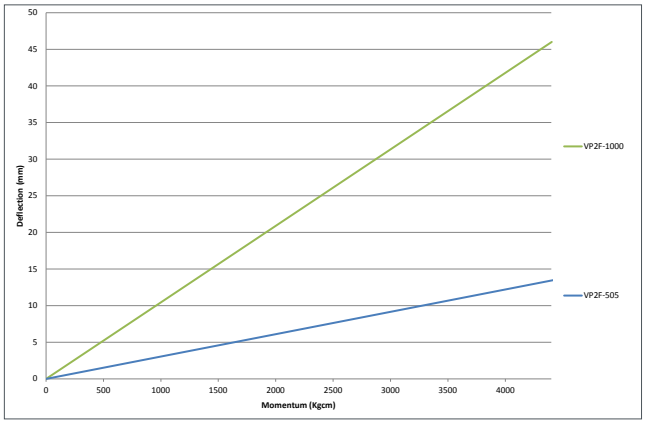


Deflection of Vertical piece 2F is reduced by installing Pendant bar 1. Loadings in accordance with chart below.

Breaking load asymmetrical loading



M = Σ F x A
See also max loading for Cantilever 50i.



For values outside diagram please contact Schneider electric.

Example
Conditions:
- 2 m support distance.
- 10 kg/m cantilever arm 50i
- Two cantilever arm 50i, 200 and 300 mm
- One-side loading
- VP 2F//505
- Bending?

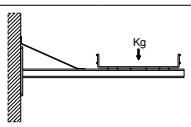
$M = \sum F \times A$ (kgcm)

$$M = \underset{(F_1)}{10 \times 2} \times \underset{(A_1)}{\left(\frac{25}{2} + 2.6\right)} + \underset{(F_2)}{10 \times 2} \times \underset{(A_2)}{\left(\frac{35}{2} + 2.6\right)}$$

M = 704 kgcm - bending as per diagram, about 2 mm.

Bending torque M is total sum of F x A (kgcm).
F = Cantilever arm 50i loading (kg)
F = Loading (kg/m) x support distance (m).
A = Distance between loading and VP external side (cm)
A = $\frac{\text{Ca 50i width}}{2}$ + 2.6 cm
L = VP length
Break load torque 6 000 (kgcm)

Loading table for Vertical piece 2F installed as a cantilever arm



Vertical piece 2F with Pendant bar 1/500

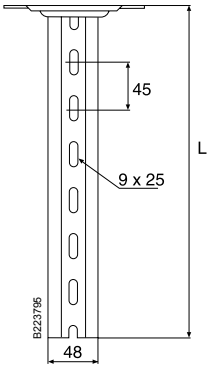
Pendant type	2F/1000
Mesh tray width	Breaking load
120	75
220	80
320	90
420	100
620	120

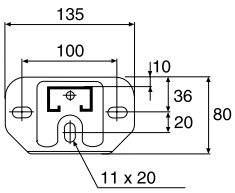
**Safe working load according to IEC 61537 is breaking load divided by 1,7.*

Technical information
Use and installation

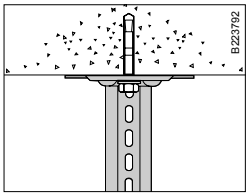
Vertical piece 2F

Vertical piece to be used for installation of Support bracket 3 or Cantilever arm 50 /50i. Can be joined to Pendant/fixing rail 24/48 with Pendant joint 2FJ. Can be mounted from the ceiling or on the floor . Can also be installed as a cantilever arm on a wall.

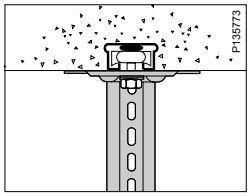




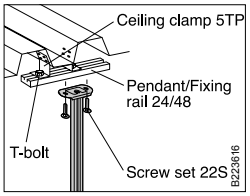
Type	L mm
Vertical piece 2F/280	280
Vertical piece 2F/505	505
Vertical piece 2F/1000	1000



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

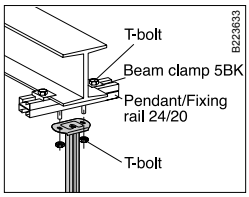


On Fixing rail forcasting-in, mount Vertical piece 2F using T-bolt.



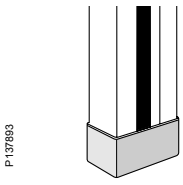
In ceilings with trapezoidal sheeting, mount Vertical piece 2F as shown above.

P135780

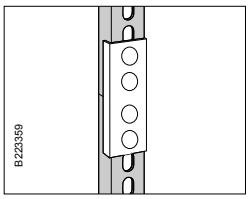


On beams in ceilings, mount Vertical piece 2F as shown in the figure above. When the beam flange thickness does not exceed 13 mm, use Beam clamp 5BK-10 and T-bolt 26F/40. For flange thicknesses not exceeding 30 mm use Beam clamp 5BK-30 and T-bolt 26F/50.

Mounting Cantilever arm 50i on pendant 2F/2FB with t-bolt.



High visibility end plug for enhanced safety and provide protection against personal injury .

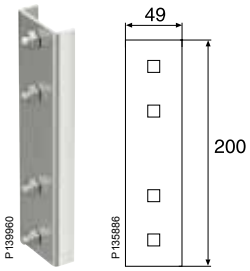


Vertical piece 2F can be joined to achieve the required length using Pendant/Fixing rail 24/48 and Pendant joint 2FJ.

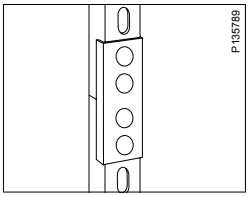
Technical information
Use and installation

Pendant joint 2FJ

Pendant joint to be used for joining pendant/fixing rails and vertical pieces.



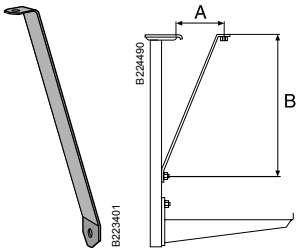
Pendant joint 2FJ



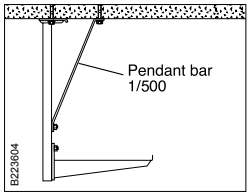
Pendant joint 2FJ, used for joining of Vertical piece 2F and Pendant/ Fixing rail 24/48.

Pendant bar 1

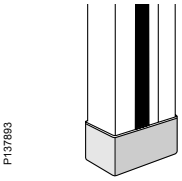
Pendant bar to be installed in order to reduce the deflection of heavily loaded vertical pieces. Installed with T-bolt and Expansion bolt.



Pendant bar 1/500 Hdg



To reduce deflection of Vertical piece 2F at heavy loads on Cantilever arm 50 the Pendant bar 1 can be used. Install with T-bolt and Expansion bolt.



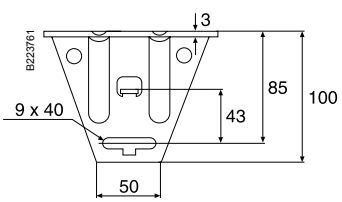
High visibility end plug for enhanced safety and provide protection against personal injury .

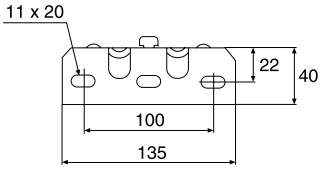
Type	A mm[1]	A mm	B mm
1/500	40	130	500

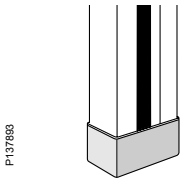
Technical information
Use and installation

Ceiling bracket 5

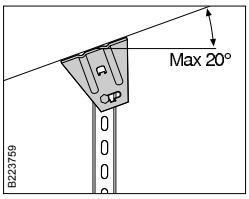
Ceiling bracket to be used for installations with Pendant/Fixing rails 24/34 and 24/48.



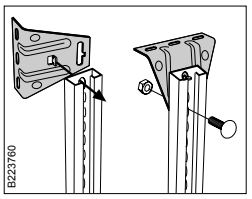




High visibility end plug for enhanced safety and provide protection against personal injury .



Using Pendant/Fixing rail 24/34 or 24/48, 1 Ceiling bracket 5 and 1 Screw set 22S it is possible to make a vertical piece that can be installed at an angle of up to 20°. Breaking load for rail 34 = 1000 kg (10 kN). Breaking load for rail 48 = 1200 kg (12 kN).

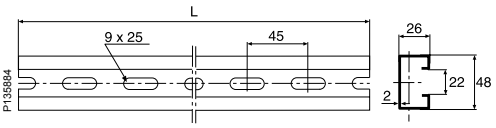


Mount Ceiling bracket 5 to the back of the pendant/ fixing rail by turning the ceiling bracket 90° and inserting the tab into the hole in the rail. Then turn the ceiling bracket back and lock it in the required position using 1 Screw set 22S. When mounting it at a horizontal ceiling, lock the screw in the slot recess for better lateral stability. Ceiling bracket 5 can be tilted max. 20°.

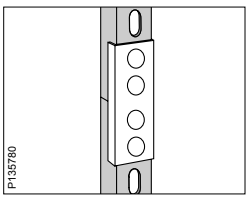
Pendant/Fixing rail 24/48

End plug 28E

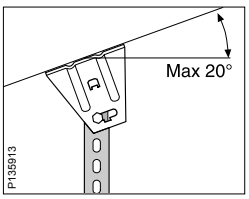
Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.



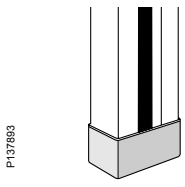
Type	L mm
Pendant/Fix. rail 24/48	2970



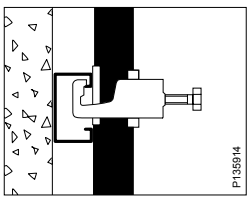
Vertical piece 2F may be joined using Pendant/ Fixing rail 24/48 and Pendant joint 2FJ to achieve the required length.



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.



High visibility end plug for enhanced safety and provide protection against personal injury .

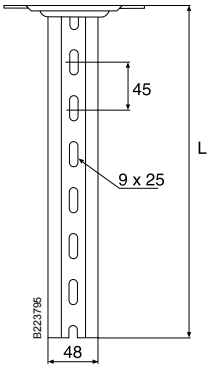


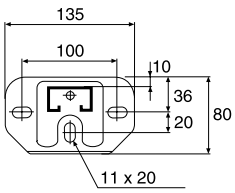
Cables are mounted on a Pendant/Fixing rail 24/48 using cable clamps of type A.

Technical information
Use and installation

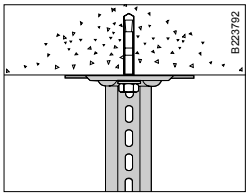
Vertical piece 2F

Vertical piece to be used for installation of Support bracket 3 or Cantilever arm 50 /50i. Can be joined to Pendant/fixing rail 24/48 with Pendant joint 2FJ. Can be mounted from the ceiling or on the floor . Can also be installed as a cantilever arm on a wall.

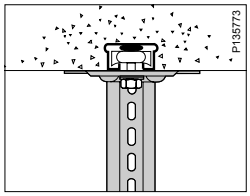




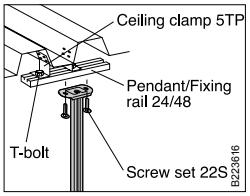
Type	L mm
Vertical piece 2F/280	280
Vertical piece 2F/505	505
Vertical piece 2F/1000	1000



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

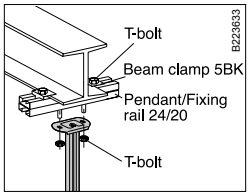


On Fixing rail forcasting-in, mount Vertical piece 2F using T-bolt.



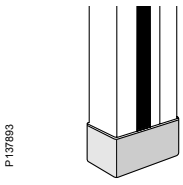
In ceilings with trapezoidal sheeting, mount Vertical piece 2F as shown above.

P135780

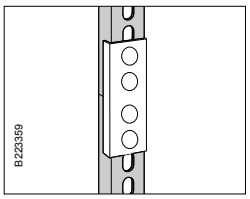


On beams in ceilings, mount Vertical piece 2F as shown in the figure above. When the beam flange thickness does not exceed 13 mm, use Beam clamp 5BK-10 and T-bolt 26F/40. For flange thicknesses not exceeding 30 mm use Beam clamp 5BK-30 and T-bolt 26F/50.

Mounting Cantilever arm 50i on pendant 2F/2FB with t-bolt.



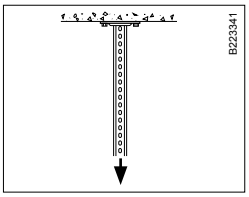
High visibility end plug for enhanced safety and provide protection against personal injury .



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

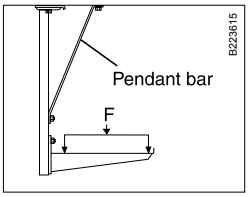
Technical information
Use and installation

Breaking load symmetrical loading*



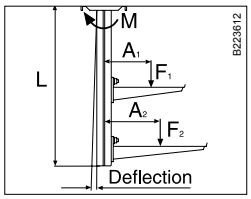
Breaking load for Vertical piece 2F (VP) = 2300 kg (23 kN) at symmetrical loading.

VP + Pendant bar for reduction of deflection

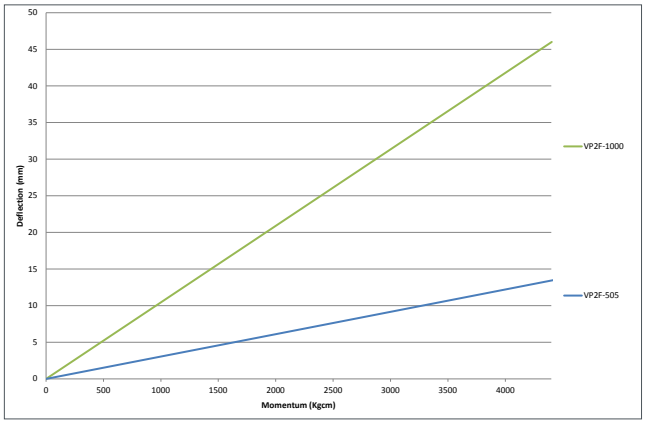


Deflection of Vertical piece 2F is reduced by installing Pendant bar 1. Loadings in accordance with chart below.

Breaking load asymmetrical loading



M = Σ F x A
See also max loading for Cantilever 50i.



For values outside diagram please contact Schneider electric.

Example
Conditions:
- 2 m support distance.
- 10 kg/m cantilever arm 50i
- Two cantilever arm 50i, 200 and 300 mm
- One-side loading
- VP 2F//505
- Bending?

M = ∑ F x A (kgcm)

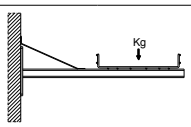
$$M = 10 \times 2 \times \left(\frac{25}{2} + 2.6\right) + 10 \times 2 \times \left(\frac{35}{2} + 2.6\right)$$

(F_1) (A_1) (F_2) (A_2)

M = 704 kgcm - bending as per diagram, about 2 mm.

Bending torque M is total sum of F x A (kgcm).
F = Cantilever arm 50i loading (kg)
F = Loading (kg/m) x support distance (m).
A = Distance between loading and VP external side (cm)
A = $\frac{\text{Ca 50i width}}{2}$ + 2.6 cm
L = VP length
Break load torque 6 000 (kgcm)

Loading table for Vertical piece 2F installed as a cantilever arm



Vertical piece 2F with Pendant bar 1/500

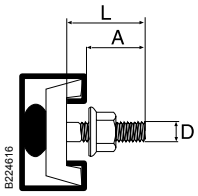
Pendant type	2F/1000
Mesh tray width	Breaking load
120	75
220	80
320	90
420	100
620	120

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

Technical information
Use and installation

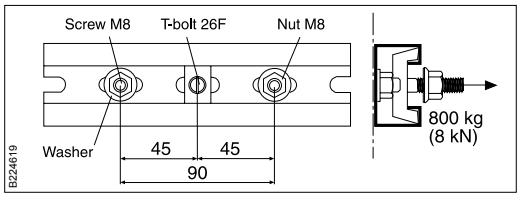
T-bolt 26F

Easy to fit into the fixing rail. It is made to stick which makes it easier to mount and attach compared to a spring nut. It stays in place by itself even before it is fixed with the nut. To be used for the mounting of Cantilever arm 50 on Pendant/Fixing rail 24/48 and all vertical pieces except Vertical piece 2.

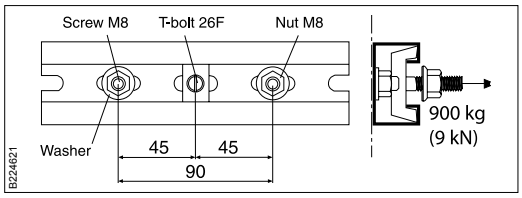


Type	L mm	A mm
M8	30	24
M10	30	24
M10	40	34
M8	50	44
M10	50	44

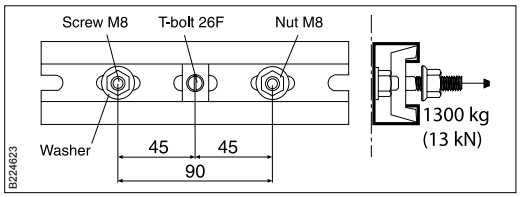
Max permitted extraction force



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



T-bolt 26F M10 + P/F-rail 24/48 + Washer 9x35x2

Screw set 2S

Screw set to be used for fastening of Support bracket 3 on Pendant/fixing rail 24/20F and Angle bracket 5L to the opening on Pendant rail 24/34 and 24/48. Set including screw MVBF 8x40 and nut M6MF8.

Screw set 20S

Screw set to be used for installation of Support bracket 3 on Pendant/fixing rail 24/20 and Vertical piece 20, Angle bracket 5L to the opening on Pendant rail 24/48 and 24/20. Set including screw MVBF 8x60 and nut M6MF8.

Screw set 22S

Screw set to be used for installation of Support bracket 3 on Vertical piece 2 and 2F, Support bracket 3 and Ceiling bracket 5 on Pendant/fixing rails 24/34 and 24/48, Angle bracket 5L against the back of Pendant/fixing rails, Pendant/fixing rails back to back. Set including screw MVBF 8x16 and nut M6MF8.

Spring nut M8/M10

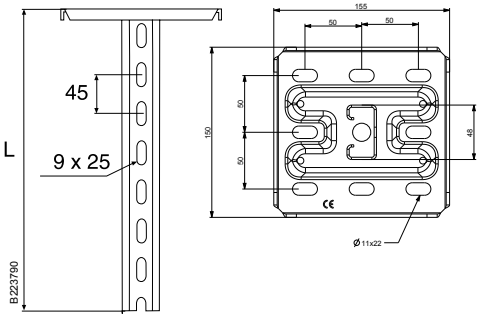
Spring nut to be used for fastening of accessories (control panels, etc.) on Pendant/fixing rail 24/48.

Technical information
Use and installation

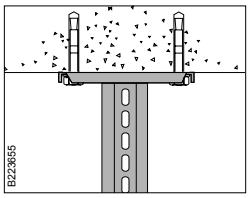
Vertical piece 2FB

Vertical piece, to be used for vertical installation together with Cantilever arm 50/50i, from a ceiling or on a floor. Can also be installed as a cantilever arm on a wall.

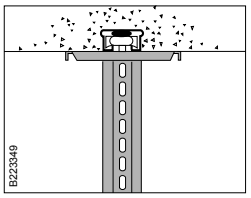
End plug 28E



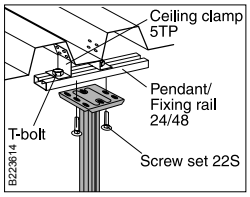
Type	L mm
Vertical piece 2FB/280	280
Vertical piece 2FB/505	505
Vertical piece 2FB/1000	1000



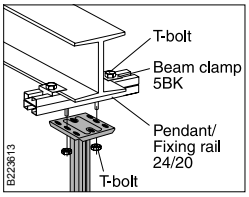
Mount Vertical piece 2FB using Expansion bolt.



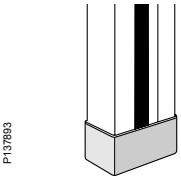
On fixing rail for casting-in,mount Vertical piece 2FB using T-bolts.



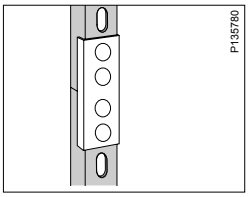
In ceilings with trapezoidal profile sheeting, mount Vertical piece 2FB as shown above



On beams in ceilings, mount Vertical piece 2FB 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.



High visibility end plug for enhanced safety and provide protection against personal injury .

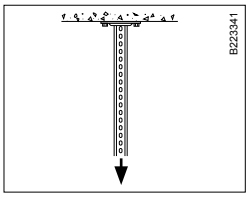


Vertical piece 2FB can be joined to achieve the required length using Pendant/Fixing rail 24/48 and Pendant joint 2FJ.

Mounting Cantilever arm 50i on pendant 2F/2FB with t-bolt.

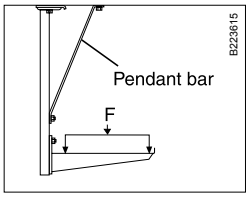
Technical information
Use and installation

Breaking load symmetrical loading*



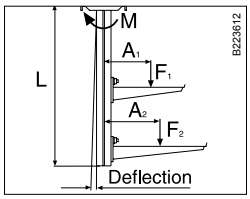
Breaking Load for Vertical piece 2FB = 3000 Kg (30kN) at symmetrical loading.

VP + Pendant bar for reduction of deflection

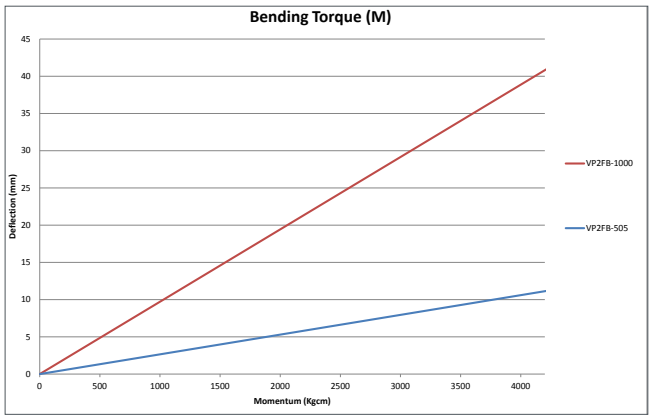


Deflection of Vertical piece 2FB is reduced by installing Pendant bar 1. Loadings in accordance with chart below.

Breaking load asymmetrical loading



M = Σ F x A
See also max loading for Cantilever 50i.



For values outside diagram please contact Schneider electric.

Example
Conditions:
- 2 m support distance.
- 10 kg/m cantilever arm 50i
- Two cantilever arm 50i, 200 and 300 mm
- One-side loading
- VP 2F/505
- Bending?

M = ∑ F x A (kgcm)

$$M = 10 \times 2 \times \left(\frac{25}{2} + 2.6\right) + 10 \times 2 \times \left(\frac{35}{2} + 2.6\right)$$

(F_1) (A_1) (F_2) (A_2)

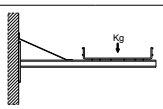
M = 704 kgcm - bending as per diagram, about 2 mm.

Bending torque M is total sum of F x A (kgcm).
F = Cantilever arm 50i loading (kg)
F = Loading (kg/m) x support distance (m).
A = Distance between loading and VP external side (cm)

$$A = \frac{Ca\ 50i}{2} + 2.6\ cm$$

L = VP length
Break load torque 7 000 (kgcm)

Loading table for Vertical piece 2F installed as a cantilever arm



Vertical piece 2F with Pendant bar 1/500

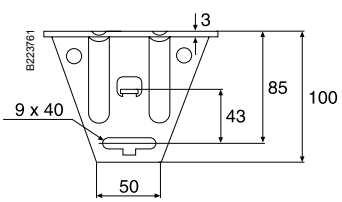
Pendant type	2F/1000
Mesh tray width	Breaking load
120	75
220	80
320	90
420	100
620	120

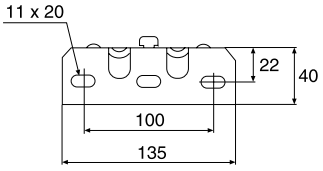
**Safe working load according to IEC 61537 is breaking load divided by 1,7.*

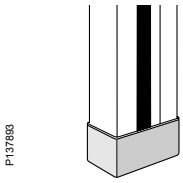
Technical information
Use and installation

Ceiling bracket 5

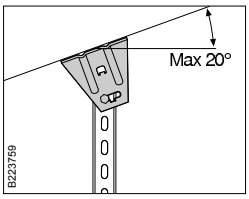
Ceiling bracket to be used for installations with Pendant/Fixing rails 24/34 and 24/48.



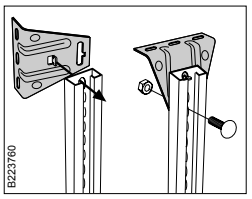




High visibility end plug for enhanced safety and provide protection against personal injury .



Using Pendant/Fixing rail 24/34 or 24/48, 1 Ceiling bracket 5 and 1 Screw set 22S it is possible to make a vertical piece that can be installed at an angle of up to 20°. Breaking load for rail 34 = 1000 kg (10 kN). Breaking load for rail 48 = 1200 kg (12 kN).

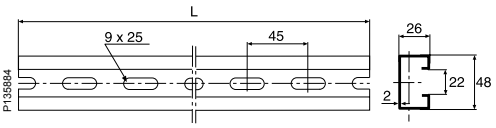


Mount Ceiling bracket 5 to the back of the pendant/ fixing rail by turning the ceiling bracket 90° and inserting the tab into the hole in the rail. Then turn the ceiling bracket back and lock it in the required position using 1 Screw set 22S. When mounting it at a horizontal ceiling, lock the screw in the slot recess for better lateral stability. Ceiling bracket 5 can be tilted max. 20°.

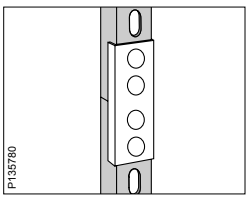
Pendant/Fixing rail 24/48

End plug 28E

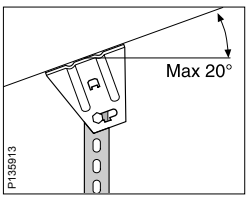
Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.



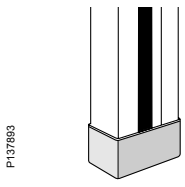
Type	L mm
Pendant/Fix. rail 24/48	2970



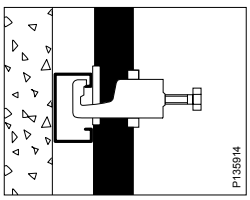
Vertical piece 2F may be joined using Pendant/ Fixing rail 24/48 and Pendant joint 2FJ to achieve the required length.



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.



High visibility end plug for enhanced safety and provide protection against personal injury .

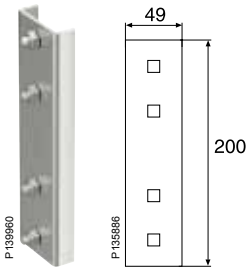


Cables are mounted on a Pendant/Fixing rail 24/48 using cable clamps of type A.

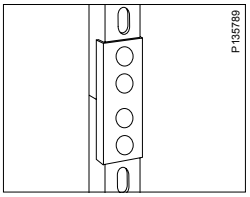
Technical information
Use and installation

Pendant joint 2FJ

Pendant joint to be used for joining pendant/fixing rails and vertical pieces.



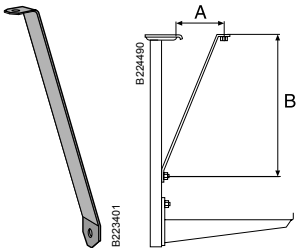
Pendant joint 2FJ



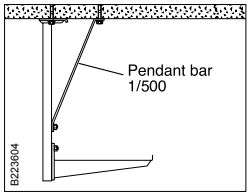
Pendant joint 2FJ, used for joining of Vertical piece 2F and Pendant/ Fixing rail 24/48.

Pendant bar 1

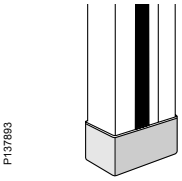
Pendant bar to be installed in order to reduce the deflection of heavily loaded vertical pieces. Installed with T-bolt and Expansion bolt.



Pendant bar 1/500 Hdg



To reduce deflection of Vertical piece 2F at heavy loads on Cantilever arm 50 the Pendant bar 1 can be used. Install with T-bolt and Expansion bolt.



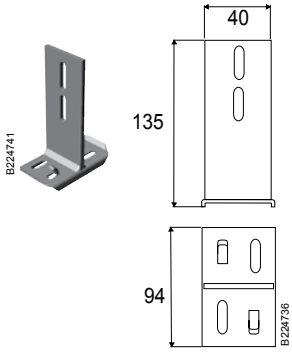
High visibility end plug for enhanced safety and provide protection against personal injury .

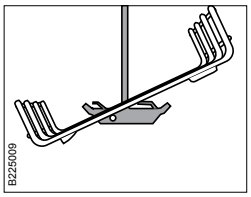
Type	A mm[1]	A mm	B mm
1/500	40	130	500

Technical information
Use and installation

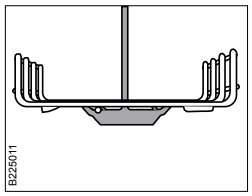
Support Hook D35/120-220

Support Hook for 120-220 mm Mesh tray.

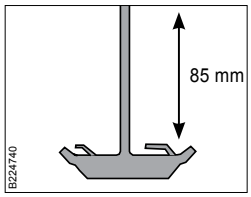




Mounted from below with angled movement.



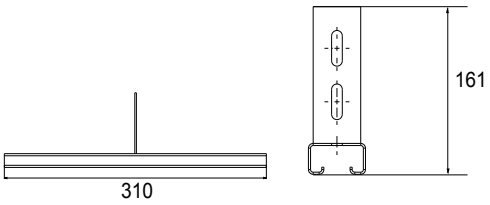
Mesh tray is mounted by closing the D35 grips.

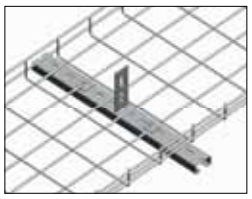


Adjustable 85 mm with Pendant 2F, 2FB and Fixing rail 24/48.

Support Hook D35/320-422

Reinforced support hook for 320-422 mm Mesh tray.

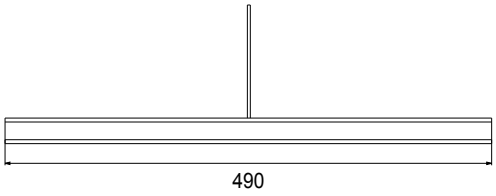


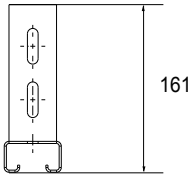


Mount the lower part of the Support Hook with 2 B2 and 2 Nut B13.

Support Hook D35/422-622

Reinforced support hook for 422-622 mm Mesh tray.

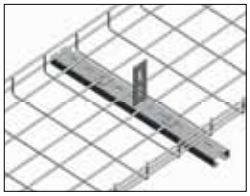




Breaking load

Type of D35	kN	kg
D35/120-220	1.7	170
D35/320-422	2.5	250
D35/422-622	3.4	340

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

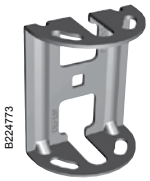


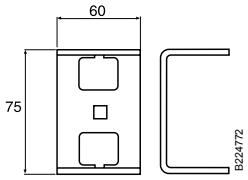
Mount the lower part of the Support Hook with 2 B2 and 2 Nut B13.

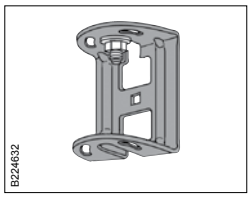
Technical information
Use and installation

Ceiling Fitting Universal B46

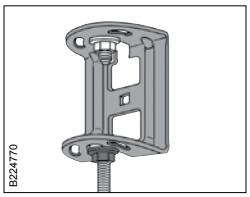
For mounting of Threaded Rod B41 onto ceiling.







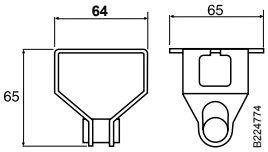
Mount the Ceiling Fitting B46 with Expansion bolt or bolt onto horizontal ceiling.

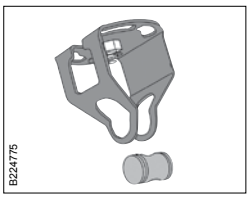


Threaded Rod B41 M8 or M10 is mounted as pendant with 2 Flange Nut B43.

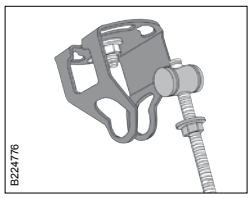
Ceiling Fitting Flexible B47

Adjusts to inclination of ceiling. Delivered complete with Tensi-lock Flange Nut.

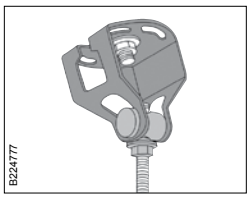




Mount the Ceiling Fitting B47 with Expansion bolt or bolt onto level or sloping ceiling.



Screw in the yoke and the Tensi-lock nut onto the Threaded Rod B41.

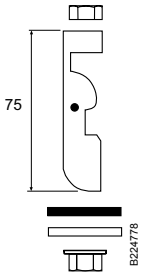


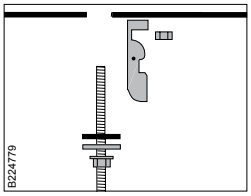
Hook the Threaded Rod onto the B47 and tighten the Nut.

Technical information
Use and installation

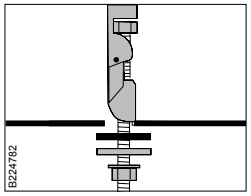
Ceiling Clamp B48

For hole Ø 22 mm. Delivered complete with Tensi-lock Nut and washers.

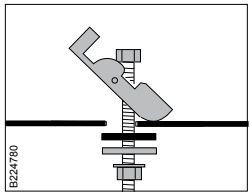




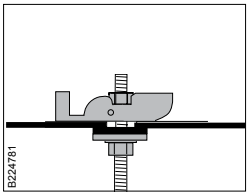
Drill a Ø 22 mm hole in the ceiling metal.



Assemble and mount the Ceiling clamp.



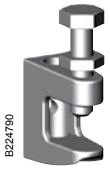
Pull down.

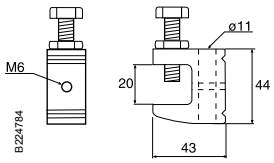


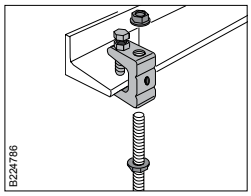
Close with the rod nut.

Beam Clamp B49

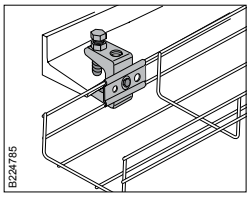
For mounting onto beam.



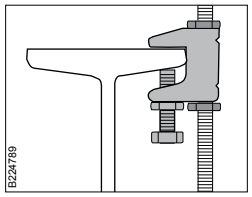




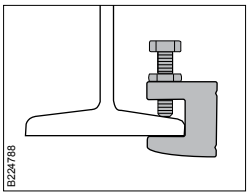
For mounting of Threaded Rod B41 with Flange Nut B43/ M8 – M10.



Mesh tray 53 –120 mm can be mounted directly onto Beam Clamp B48 with Fitting B1 and M6 bolt.



Mount the Beam Clamp with the locking bolt against the sloping side of the beam.

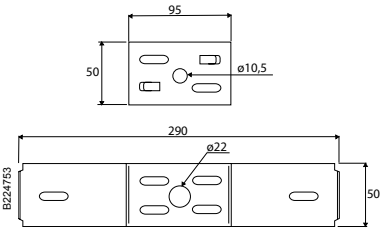


Technical information
Use and installation

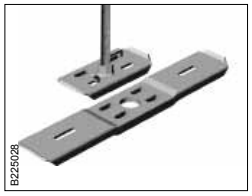
Support Hook B39 120-220 and 320-422

Support Hook for mounting onto Threaded Rod.

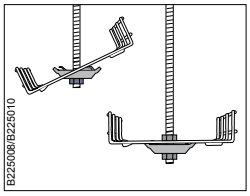
Support Hook
B39/120-220



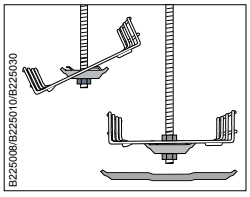
Support Hook
B39/320-422



Support Hook B39 is used together with Threaded Rod B41 as pendant. Mounted with 2 Flange Nut B43.

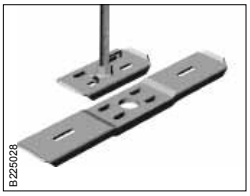


Support Hook B39/120-220. Mesh tray is moun/ted from below angled movement and by closing the grips of the B39 around the wires.

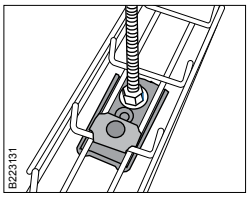


Mount the lower part of B39/320-422, after mounting the Mesh tray, with 2 Bolt and Nut B13.

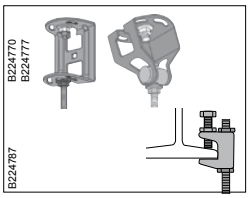
Threaded Rod B41 and Thread Lock B50



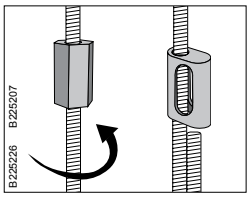
Threaded Rod B41 is mounted onto Support Hook B39 with 2 pcs Flange Nut B43.



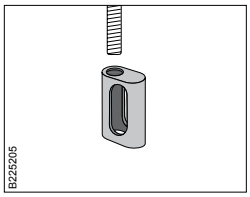
For Mesh tray 53 and 75, the Fitting B1 can be used as support hook Mounting with 1 Fitting B1, 1 Fitting B2, 1 Bolt and Nut B13 and two Flange Nut B43.



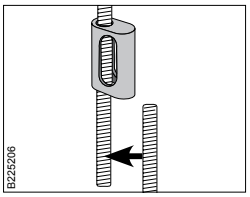
For ceiling mounting, use Ceiling Fittings B46, B47, B48 or B49.



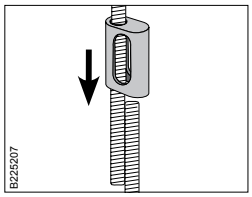
The Threaded Rod is extended by using Distance Nut B42 or Thread Lock B50 as joining fitting.



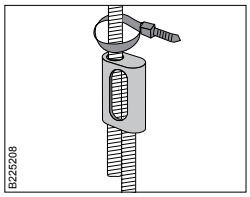
Put the Thread Lock B50 in the desired position onto the upper Rod.



Put the lower Rod in contact with the upper Rod.

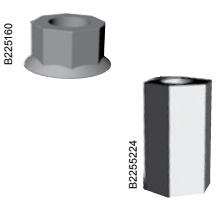


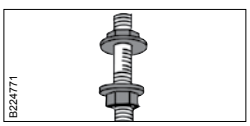
Lower the Thread Lock B50 onto both rods, now in locked position.



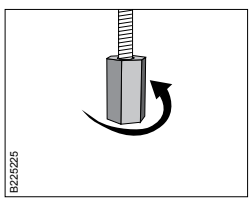
Put a cable stripe above the upper Thread Lock as safety lock.

Flange Nut B43, M8/M10 and Distance Nut B42

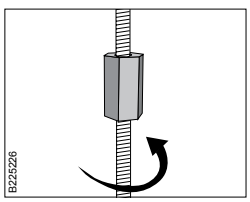




Flange Nut B43 is mounted onto Threaded Rod B41 in order to lock it to the Support Hook and the Ceiling Fittings.



Screw in the Distance Nut on the upper Threaded Rod to the middle.

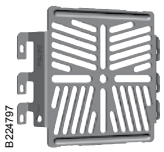


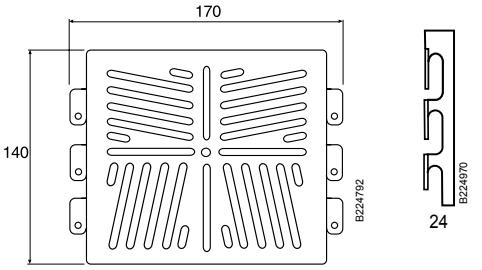
Screw in the lower Threaded Rod into the Distance Nut and tighten.

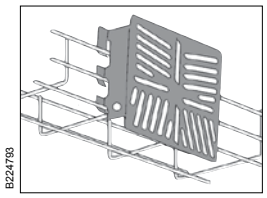
Technical information
Use and installation

Accessories Holder B5 Mini

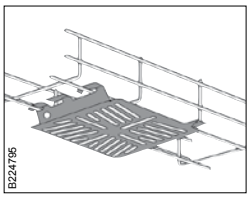
Fits to all Mesh trays.



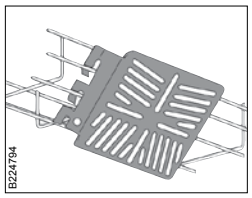




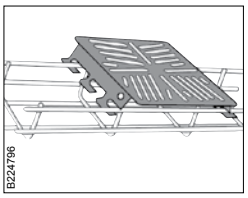
Accessories Holder B5 Mini is easily mounted directly on the side of the mesh tray.



Accessories Holder B5 Mini is mounted equally easy to the bottom of the mesh tray.



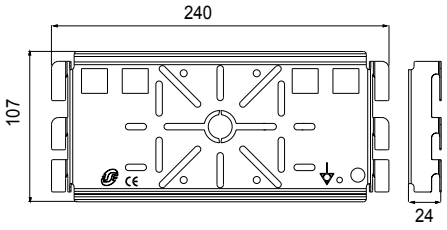
Accessories Holder B5 Mini is also mounted in 45º angle onto the mesh tray.



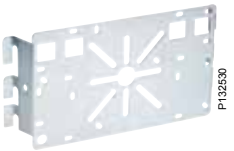
Accessories Holder B5 Mini can also be mounted on top of the 53 and 73 mesh trays.

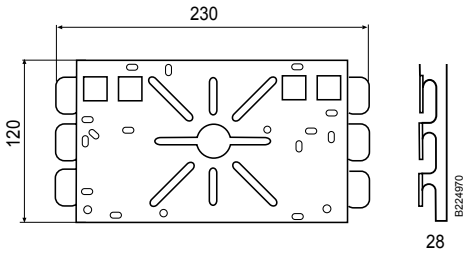
Accessories Holder B5

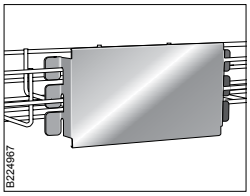
For Electro-galvanized and Hot dip galvanized



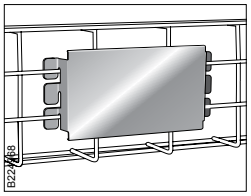
For AISI 316L



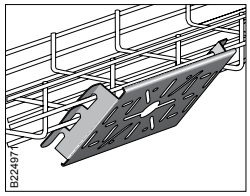




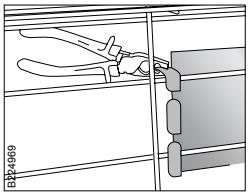
Accessories Holder B5 is easily mounted directly on the side of the mesh tray.



Accessories Holder B5 is mounted equally easy to the bottom of the mesh tray.



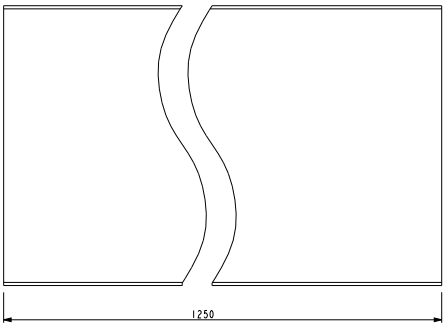
Accessories Holder B5 is also mounted in 45º angle onto the mesh tray.



Accessories Holder B5 is tightened to the mesh tray by closing the grips around the wires.

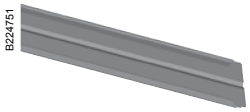
Technical information
Use and installation

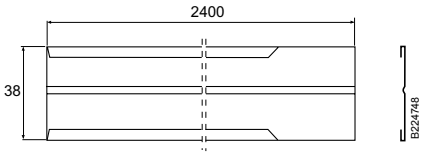
Plate Cover B7 and Clip B8

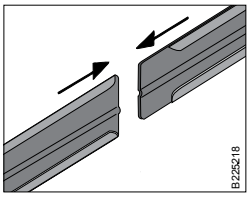


	For tray width mm	A mm
Plate Cover B7/75	75	80
Plate Cover B7/120	120	125
Plate Cover B7/220	220	225
Plate Cover B7/320	320	325
Plate Cover B7/422	422	425

Separating Plate B36







Simple joining by gliding Plates into each other.

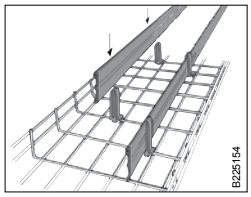
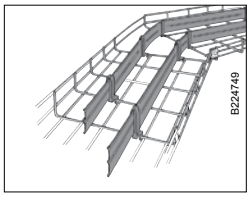


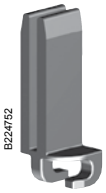
Plate Holder B38 is used for mounting of Separating Plate B36 onto Mesh tray.

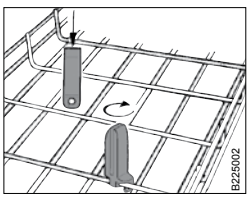


The Separating Plate B36 can be shaped to follow the horizontal bends of the mesh tray.

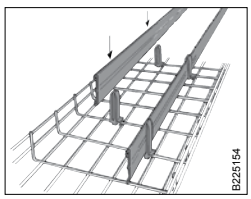
Plate Holder B38

Used for mounting of Separating Plate B36, 5 pcs/Separating Plate.





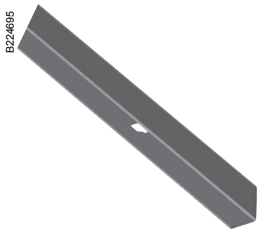
The Plate Holder is easily turned into fixed position on the mesh tray.

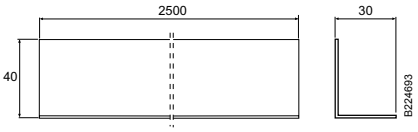


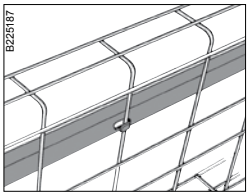
Separating Plate B36 is snapped into the Plate Holder.

Technical information
Use and installation

Separating Plate B26

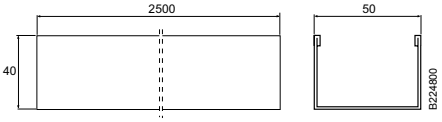


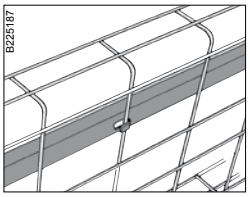




Use the grips of the Separating Plate B26 to attach to the cross wires of the Mesh tray.

Tele-Channel B6

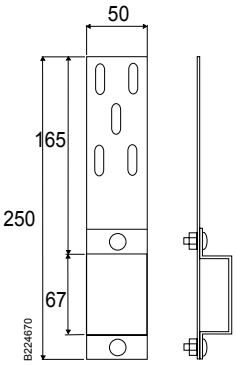


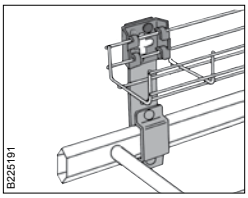


Use the grips of the B6 Tele-channel to attach to the cross wires of the Mesh tray.

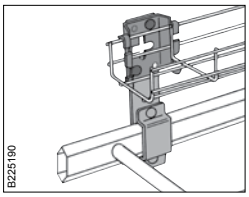
Combi Fitting B21

For mounting onto Wibe Cable Ladders.





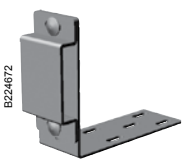
Mesh tray 53 and 75 is mounted onto Combi Fitting B21 with Bracket B4 mini
Bolt and Nut B13.

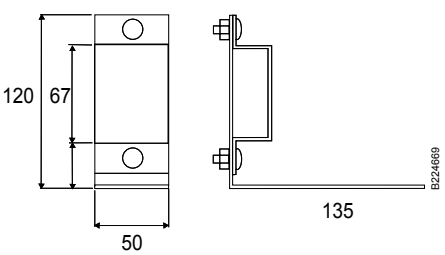


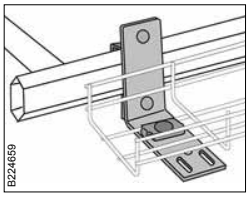
Mesh tray 120 is mounted onto Combi Fitting B21 with Bracket B4
Bolt and Nut B13.

Combi Fitting B21 90 degree

For mounting onto Wibe Cable Ladders.





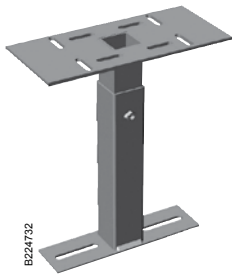


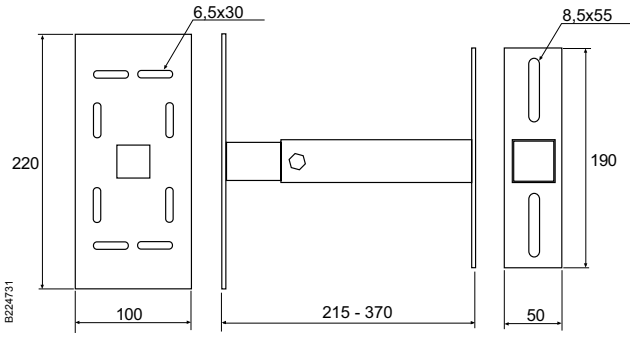
Mesh tray 53, 75 and 120 is mounted onto Combi Fitting B21 90° with
1 Fitting B2,1 Bolt and Nut B13.

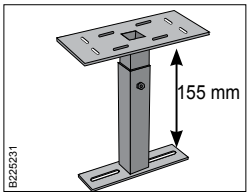
Technical information
Use and installation

Support B33

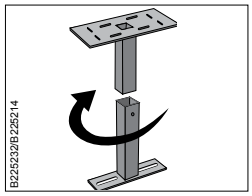
For mounting of all Mesh trays on floor, for example under raised floor.



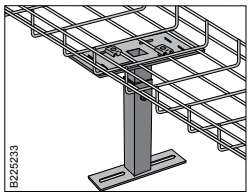




B33 Support is adjustable in height from 215 to 370 mm.



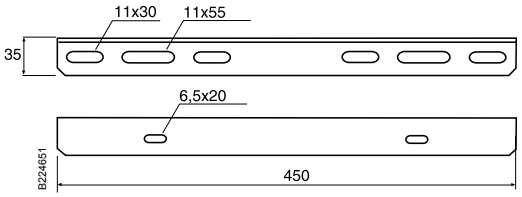
Upper or lower part can be adjusted in 90º angle.

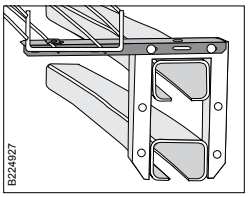


Mesh tray is mounted with suitable number of Fitting B2, Bolt and Nut B13.

Conveyor Bracket B17

Universal fitting for mounting of mesh trays along conveyor system.

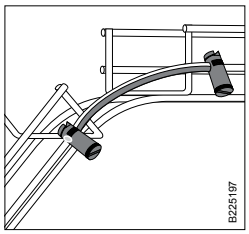




The Mesh tray is mounted onto the Conveyor Bracket with
1 Fitting B2.
1 Bolt and Nut B13.

Earth Connection Clamp B18

For mounting of earth cable onto chosen wire in the Mesh tray.

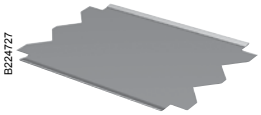


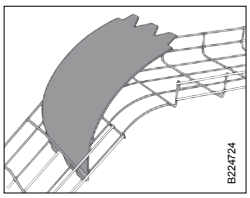
Earth connection clamp B18 is mounted to connect earth cable to mesh tray.

Technical information
Use and installation

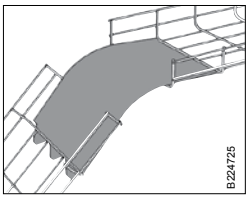
Bend Plate B31

For smooth cable bend at change of level.





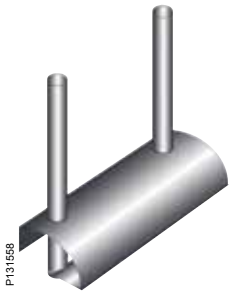
Attach the Bend Plate ends into the lower part of the Mesh tray.

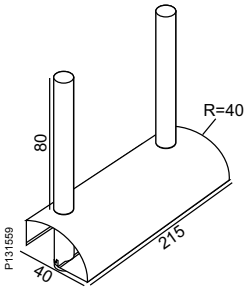


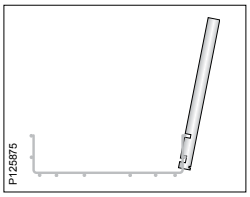
Attach the Bend Plate into the upper part of the Mesh tray.

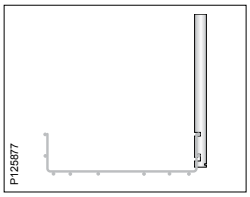
Side Radius Limiter B11

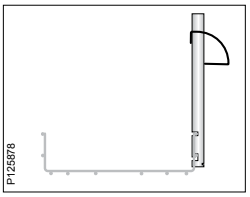
Used for limiting side bend radius of any cable type.

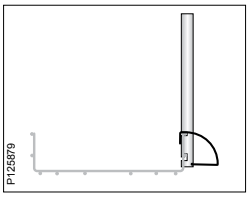






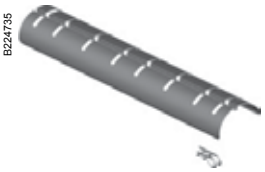


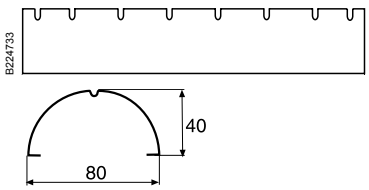


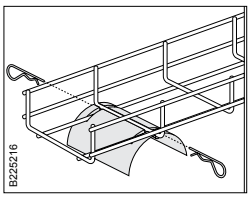


Radius Limiter B34

Limits the bend radius for sensitive cables.



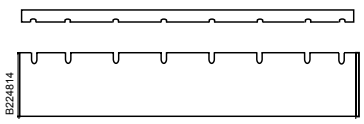


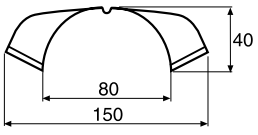


The radius limiter is mounted from below with the locking stick.

Radius Limiter B67 and Cover B68

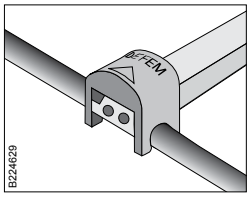
Limits the bend radius and gives protection at side position.
Cover B68 is used for protection of cables < 2 mm.



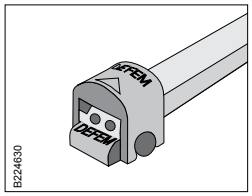


Technical information
Use and installation

AS-I Clips B14

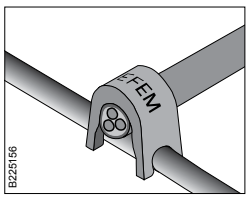


For fixing of AS-I cable. Blue for 4 mm wire, grey for 5 mm wire.

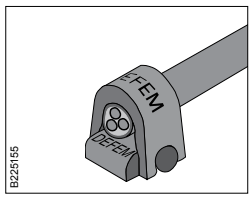


Grey clips are also used for mounting onto Fixing Plate B15.

Cable Clips B16

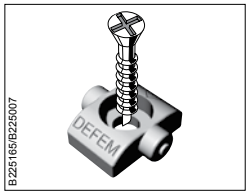


For mounting of cable or hose, Ø 6, 8 or 10 mm, onto 5 mm tray wire.

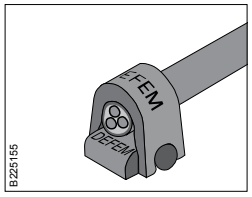


Also used for mounting of cable or hose onto Fixing Plate B15.

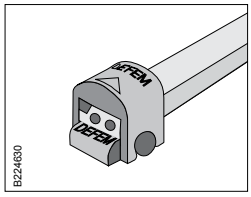
Fixing Plate B15



For mounting of cable or hose onto, for example, machines. Mounted with suitable screw.



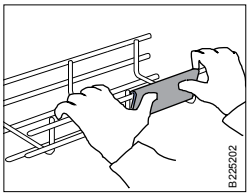
The cable is mounted with Cable Clips B16 onto Fixing Plate B15.



The AS-I cable is mounted with B14 AS-I Clip onto Fixing Plate B15.

Technical information
Use and installation

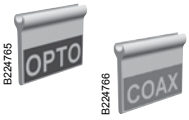
Marking Clip B44

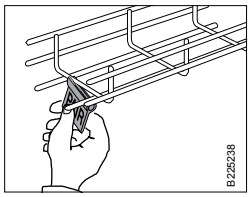


The Marking Clip is snapped onto the two side wires.

Identification Tag B40

Fits to wire Ø 5mm.

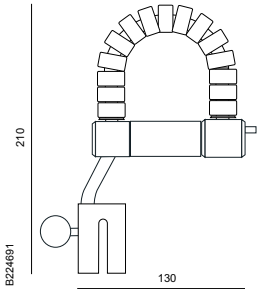


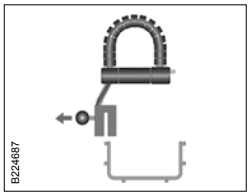


The Identification Tag is snapped onto the mesh tray.

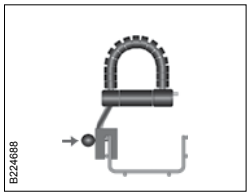
Cable Roller B25

Facilitates the pulling of cables into the mesh trays.

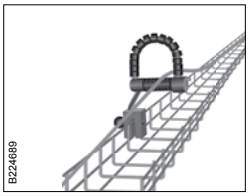




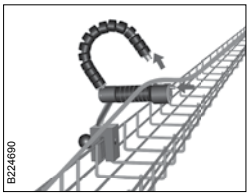
Pull the black knob outwards, place the cable roller onto the mesh tray.



Release the black knob and the cable roller is securely mounted on the mesh tray.



Simply pull the cable through the cable roller to the desired distance.



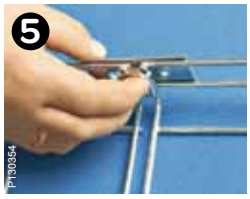
Push the small metal button to open the cable roller and place the cable in the tray.

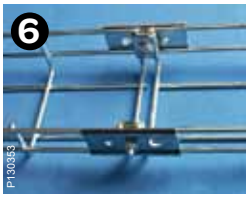
Appropriate tightening torque

Part	Application	Tightening torque (Nm)
Fitting B52	Side joint	M6: 6
Fitting B2+B13	Couplers	M6: 6
Fitting B3	Bends	M6: 6
Fitting B2+B13+Ca50i	Fitting to Ca50i	M6: 6
Fitting B27+B13	Bends/fittings	M6: 6
B46&B47+B41&B43		M8: 15/M10: 25
B41+Nut B43	Threaded rod	M8: 15/M10: 25
B41+Nut B42	Threaded rod	M8: 15/M10: 25
B48	Fitting to ceiling	M8: 15/M10: 25
B49	Fitting to beam	M8: 15/M10: 25
MCT 75+B52	Central suspension	M6: 6
T-Bolt 26+2F+Ca50i	Support system	M8: 15/M10: 25
Screw set 2S+Pendant bar1+2F	Support system, front side of 2F	M8: 15/M10: 25
Screw set 2S+Pendant bar1+2F	Support system, back side of 2F	M8: 15/M10: 25
Screw set 20S+2F+(2)Ca50i	Balance application	M8: 15/M10: 25
Screw set 22S+2F+Ca50i	Support system, back side of 2F	M8: 15/M10: 25
2FJ+24/48	Extension application	M8: 15/M10: 25

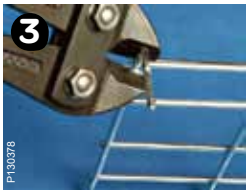
Technical information
Mounting instructions

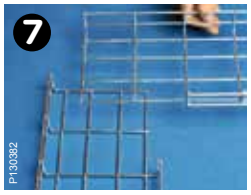
Connection of two trays / B1, B2, B13 alt B52

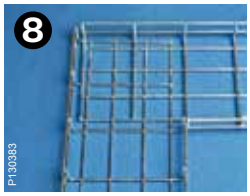


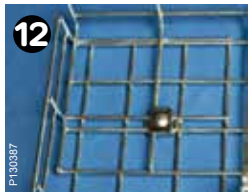


90 degree flat bends / B2

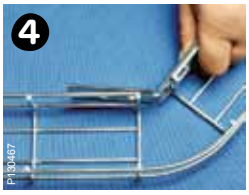






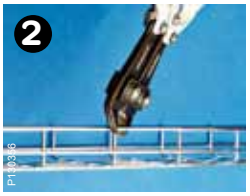


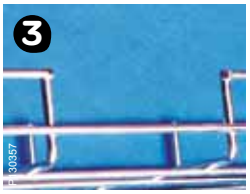
Angled flat bends / B27, B2, B13

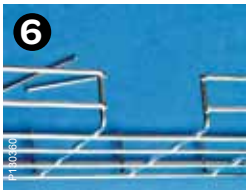


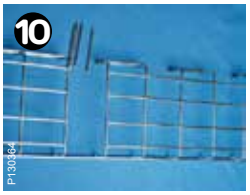
Technical information
Mounting instructions

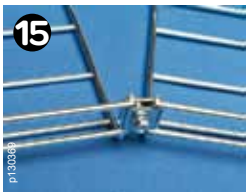
Large radius flat bends / B3

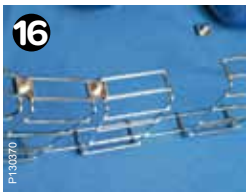








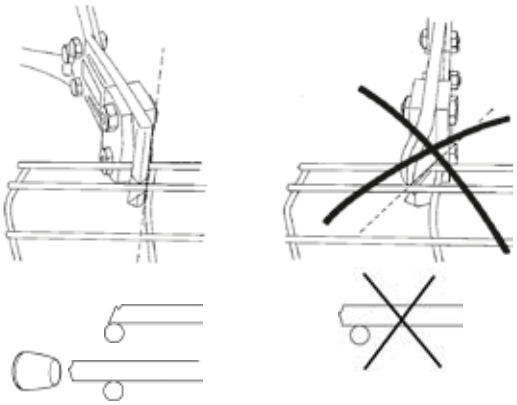


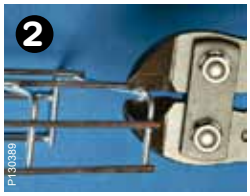


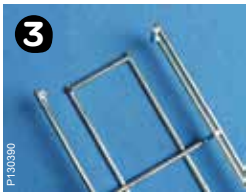
Technical information

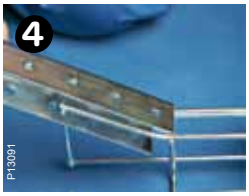
Mounting instructions

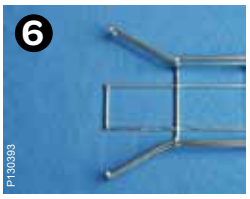
T-junction 90 degree / B3

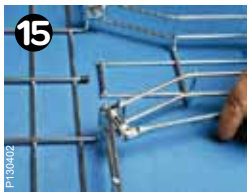






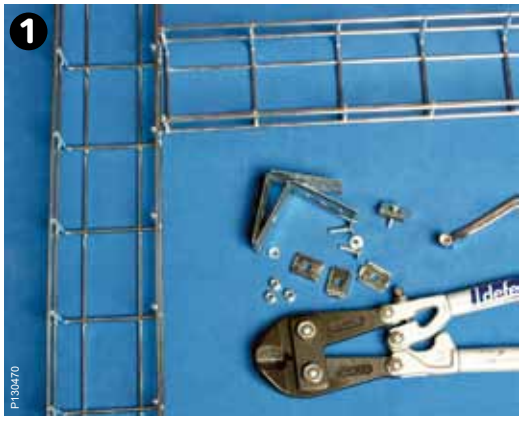




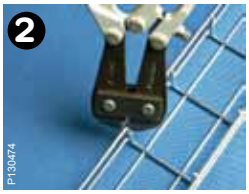


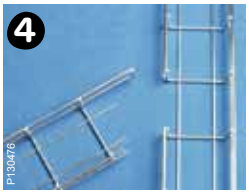
Technical information
Mounting instructions

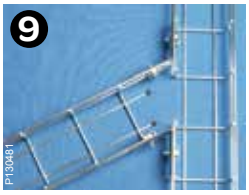
T-junction 90 degree / B27, B2, B13



T-junction various angles / B27, B2, B13

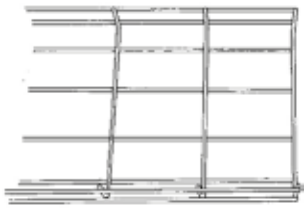


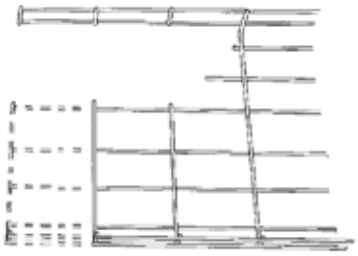


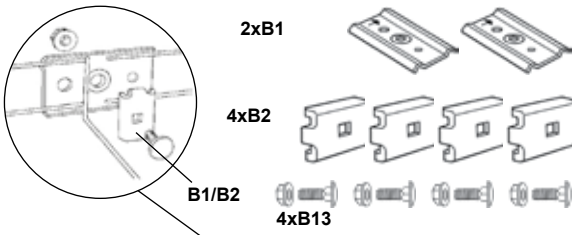


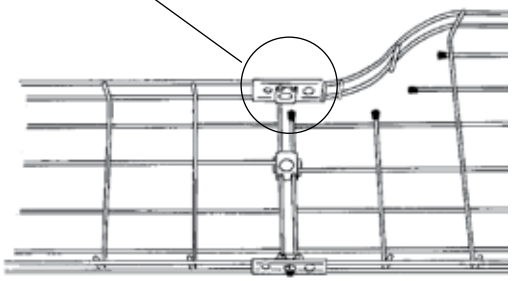
Technical information
Mounting instructions

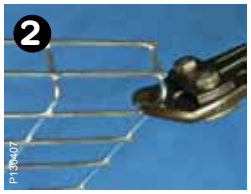
Reducer / B1, B2, B13 alt B52

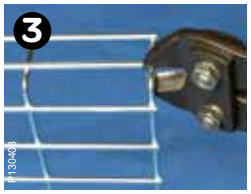


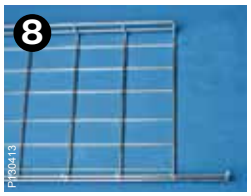


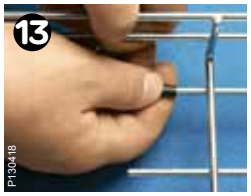


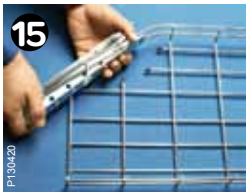


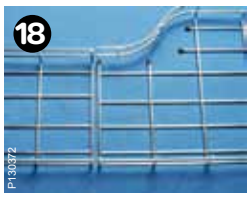


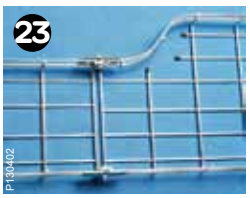






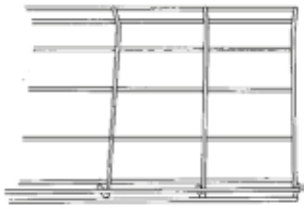


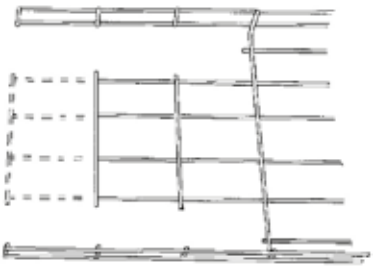


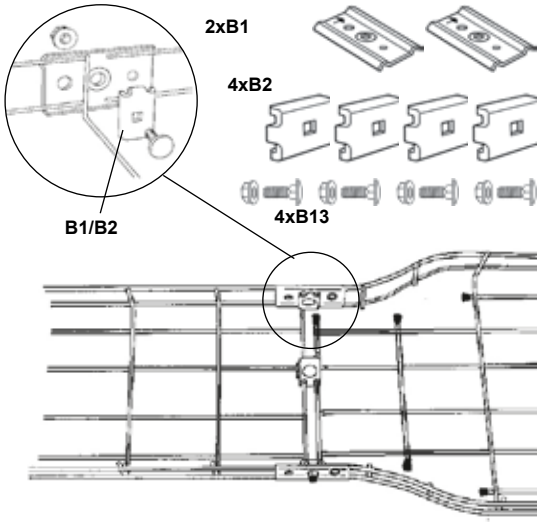


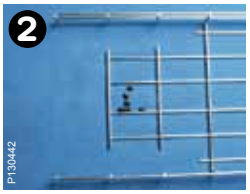
Technical information
Mounting instructions

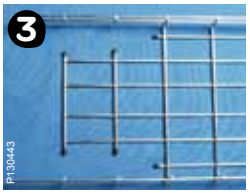
Symmetric reducer / B1, B2, B13



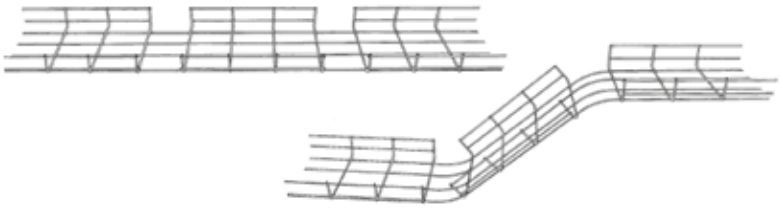


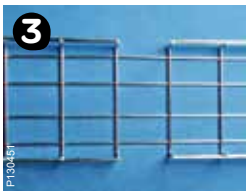






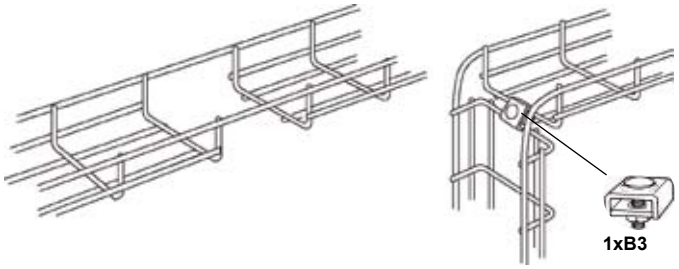
Raisers

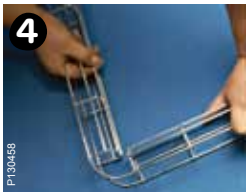




Technical information
Mounting instructions

Making an external corner / B3





Defem CombiRack™
+ Defem mesh trays

= Complete installation

With Defem mesh trays and accessories for the routing of cables at several levels the installation is complete.

Defem CombiRack - for telecom, data and technical rooms

Defem CombiRack

An open rack solution with Defem CombiRack 19” provides a complete overview, access and easy maintenance of the entire installation - it is easy to build, expand and re-build.
Open racks provide extremely good ventilation as there is nothing to block the air. The Defem CombiRack saves floor space and can easily be adapted exactly to the present needs.

Minimum Material. Maximum Flexibility

The whole installation can be performed by one person. Once the first frame has been installed an extension requires only one new rack side and two U-bar beams for each new rack. This saves both material and labour costs.

Steel mesh trays
U-Bar support system

CombiRacks™ 19"

P132997

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Construction kit No. 1				
Construction kit for self-assembly, CombiRack No 1. The first CombiRack is constructed with two rack sides, stabilized by two overhead U-bars. The CombiRack sides are assembled acc. to the description enclosed in the package with a 13 mm spanner B45. To facilitate mounting of the racks mounting frame B2590 should be used. Finally, the mounting profiles are screw-fastened. Material: Steel, electro-galvanized.				
CombiRack 19" 42U	600/195/2000	3840	7321677890682	5002632
CombiRack 19" 42U	800/195/2000	4010	7321677890705	5002634
CombiRack 19" 46U	600/195/2200	4160	7321677890781	5002642
CombiRack 19" 46U	800/195/2200	4330	7321677890804	5002644

P132996

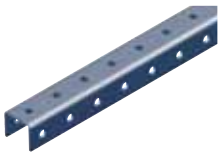
Add-on kit				
Construction kit for self-assembly, Add-on CombiRack. The next section is constructed with Add-on CombiRack, mounted on the first rack by two overhead U-bars. Assembled acc. to the description enclosed in the package with a 13 mm spanner B45. To facilitate mounting of the racks mounting frame B2590 should be used. Finally, the mounting profiles are screw-fastened. Material: Steel, electro-galvanized.				
Add-on CombiRack 19" 42U	600/195/2000	2360	7321677890699	5002633
Add-on CombiRack 19" 42U	800/195/2000	2530	7321677890712	5002635
Add-on CombiRack 19" 46U	600/195/2200	2530	7321677890798	5002643
Add-on CombiRack 19" 46U	800/195/2200	2690	7321677890811	5002645

CombiRack No. 1	Add-on CombiRack	
		
A CombiRack kit gives a complete rack.	Use the Add-on rack for the next.	Continue by using further Add-on racks until the line corresponds to your wish!

Steel mesh trays
U-Bar support system

U-Bar

B224803



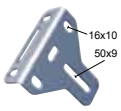
Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
U-bar B60				
U-bar to be used for support of Defem Mesh Tray System and assembly of CombiRack frames. Distance between hole centres: 40 mm, hole Ø 8.5 mm. Material: Steel, electro-galvanized.				
B60	35/40/400	90	7321677889921	5002450
B60	35/40/480	110	7321677889938	5002451
B60	35/40/520	120	3606480518591	5002454
B60	35/40/600	140	3606480518607	5002455
B60	35/40/720	160	7321677889945	5002452
B60	35/40/800	180	3606480518614	5002456
B60	35/40/920	200	3606480518621	5002457
B60	35/40/1000	220	3606480518638	5002458
B60	35/40/1920	420	7321677889952	5002453
B60	35/40/2120	480	3606480518645	5002459
B60	35/40/2876	620	7321677888429	1149400

Fittings

B224804

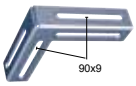
Joining fitting B61				
Fitting to be used for the joining of U-bars. Package of 6 pcs. Material: Steel, electro-galvanized.				
B61	30/36/235	20	7332227014014	1149401

B224809



Angled fitting B62				
Angled fitting to be used for the mounting of U-bars. Package of 6 pcs. Material: Steel, electro-galvanized.				
B62	35/101/110	20	7321677888443	1149402

B224812



Corner fitting B65				
Corner fitting to be used for the mounting of U-bars and the assembly of CombiRack. Package of 6 pcs. Material: Steel, electro-galvanized.				
B65	30/130/130	20	7321677888498	1149407

B224810

Adjustable foot B63				
Adjustable foot for U-bars. With ball joint that compensates for uneven floors. Hole diameter 8.5 mm. M8-thread on the back side. Distance between hole centres 40 mm. Adjustable height 70 mm. Package of 6 pcs. Material: Steel, electro-galvanized.				
B63	44/44/104	30	7321677888481	1149406

Cap, Bolt, Nuts

B224811

End cap B64				
Cap to be used for protection of exposed ends of the U-bar. Package of 10 pcs. Material: PE.				
B64	40/20/40	10	7321677888450	1149403

B224813

Flange bolt B66				
Tensi-Lock for gas-tight connections. Package of 50 pcs. Material: Steel, electro-galvanized.				
B66 M8x20	17/17/30	70	7321677888467	1149404

P14154

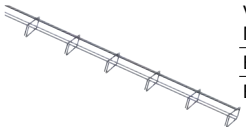
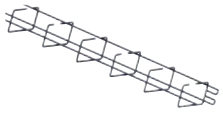
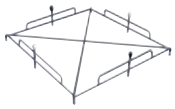
Flange nut B43				
Tensi-Lock for gas-tight connections. Package of 50 pcs. Material: Steel, electro-galvanized.				
B43 M8	17/17/8	40	7321677888474	1149405

B225159

Cage nut set B2490				
Cage nut set including Torx bolt and nut. Package of 10 pcs. Material: Steel, electro-galvanized.				
B2490	10/10/16	10	7321677890040	5002490

Steel mesh trays
U-Bar support system

Accessories

	Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
B225200 	**Mounting profiles B2460 and B2461**				
	Profile to be used when mounting 19" frames. Fittings included. Material: Steel, electro-galvanized.				
	B2460 19"	35/53/1876	250	7321677889969	5002460
	B2461 19"	35/53/2060	270	7321677889976	5002461
B225242 	**Cable duct B2468**				
	Vertical cable duct for the organizing and routing of cables. Fittings included. Material: Steel, electro-galvanized.				
	B2468/95	65/95/1400	115	7321677890019	5002468
	B2468/140	65/140/1400	143	7321677890002	5002467
B225164 	**Cable duct B2469**				
	Horizontal cable duct 19" for the organizing and routing of cables. Fittings included. Material: Steel, electro-galvanized.				
	B2469 19"	85/45/495	26	7321677890026	5002469
B225219 	**Adaptor B2580**				
	Telescopic adaptor to be used to compensate for the difference between equipment and rack depth. Adjustable 15-220 mm. Material: Steel, electro-galvanized.				
	B2580 19"	44/33/176	30	7332227015806	5002580
B225201 	**Mounting frame B2590**				
	Mounting frame that simplifies the mounting of CombiRack frames. Material: Steel, electro-galvanized.				
	B2590	563/85/603	200	7321677890187	5002590

Compatible Actassi products

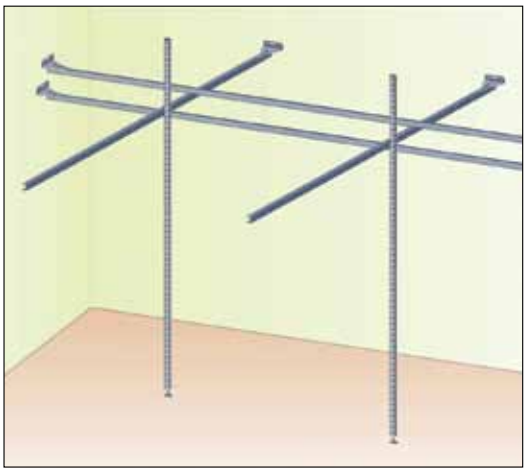
	Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
B228297 	**Telescopic tray 19", 2 U**				
	Tray with telescopic slides to be mounted to the front uprights of 19" racks. Delivered with the telescopic slides assembled. Heel of 5 mm. One tray per package. Maximum load 5 kg. For increased load, use the below support, maximum load 15 kg. Material: Sheet steel, dark grey RAL 7016.				
	Telescopic tray	88/250/484	–	–	NSYBT2U25PG
B228296 	**Fixed tray 19", 2 U**				
	Tray for fixed mounting to the front or rear uprights of 19" racks. Heel of 5 mm. One tray per package. Maximum load 20 kg. For increased load, use the below support. Material: Sheet steel, dark grey RAL 7016.				
	Fixed tray	88/250/484 88/400/484	–	–	NSYBF2U25PG NSYBF2U40PG
B227118 	**Support 19"**				
	Support 19" to be used for the above trays to increase the loading capacity. Fixed to the front or rear uprights of 19" racks. Two supports per package. Length 140 mm. Material: Steel.				
	Support for trays	80/55/140	–	–	NSYGF140OPB

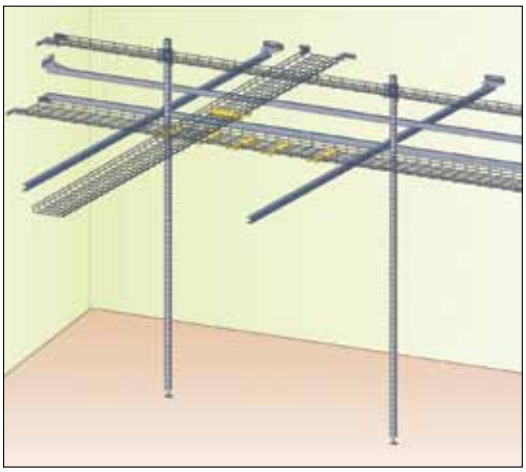
Tools

	Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
B224769 	**Spanners B45/10 and B45/13**				
	Combination spanner, open end/flex head end. Suitable for Defem U-Bars and Mesh trays. Material: Steel, electro-galvanized.				
	B45/10	15/15/180	7	7332227222006	1622200
	B45/13	18/18/200	8	3606480518553	1622221

CombiRacks™ 19”
U-Bar support system

- Simple installation
- Simple maintenance
- Full visibility and access
- Continuous Bonding

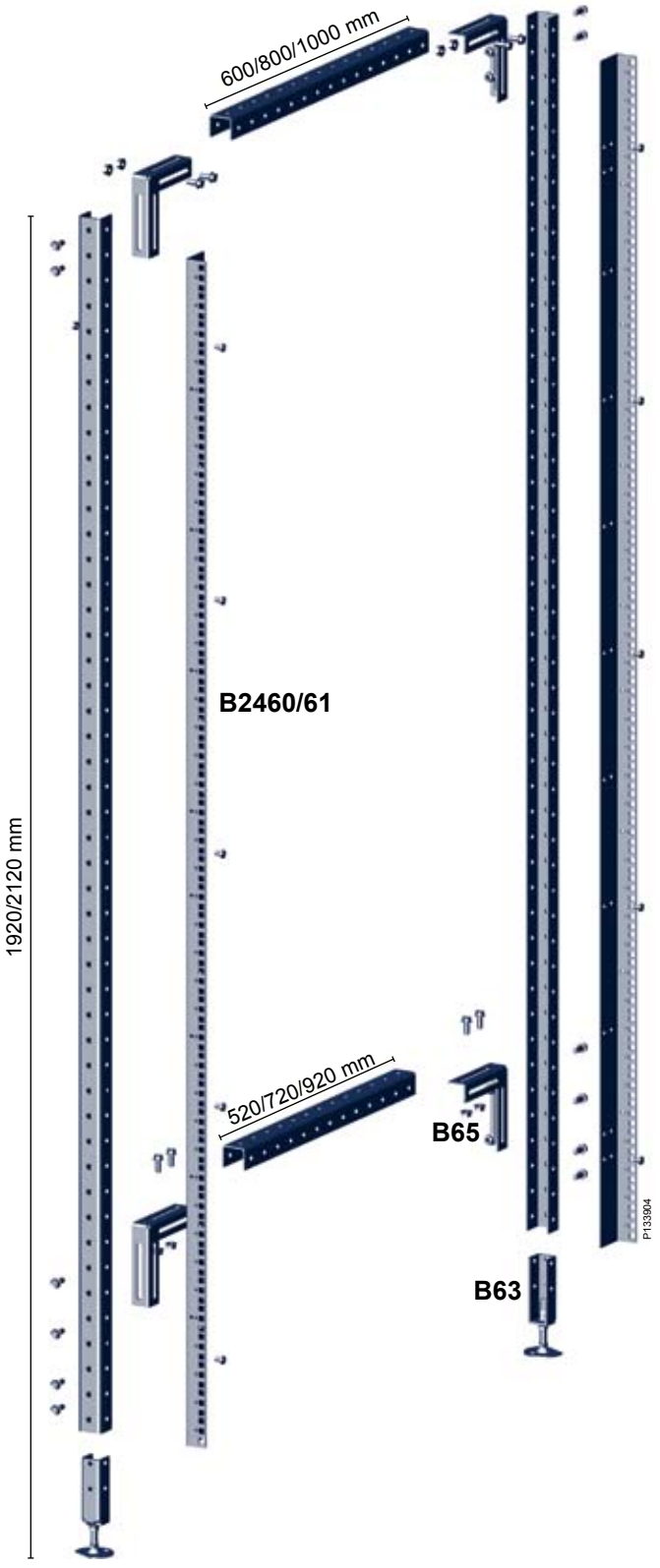


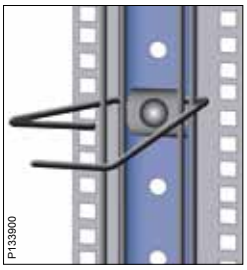


With the Level 1 U-bar at 2120 mm, this allows for multiple choices of cabinets or open CombiRack frames.

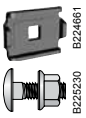
Technical information
Mounting instructions

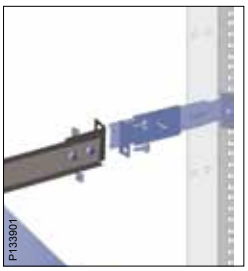
The use of U-profile



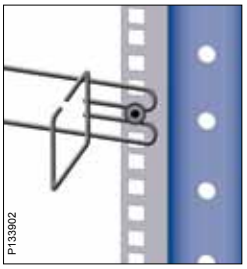


B2468
+ 2xB2
+ 2xB13

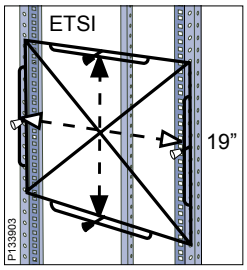




B2580
+ 8xB2490



B2469
+ 2xB2490

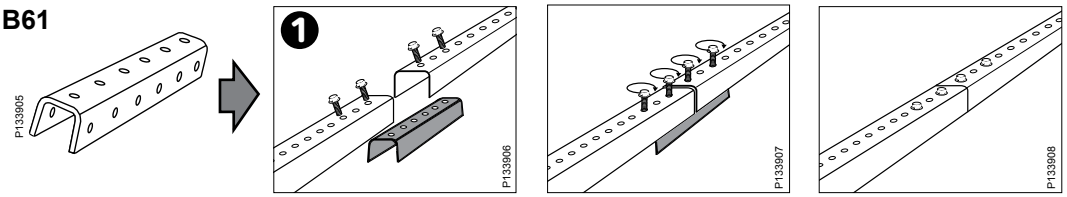


B2590

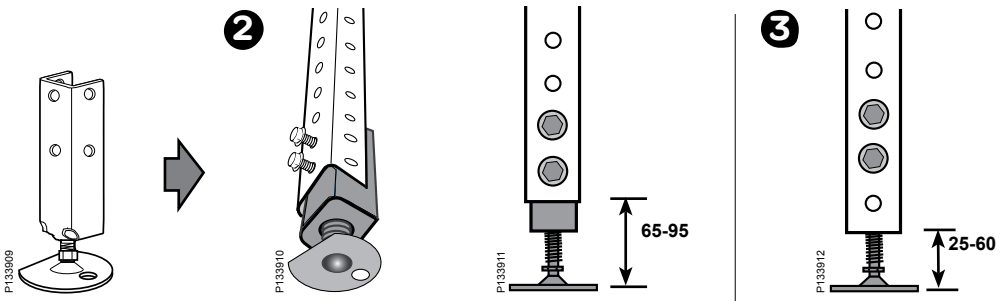
Technical information
Mounting instructions

The use of U-profile

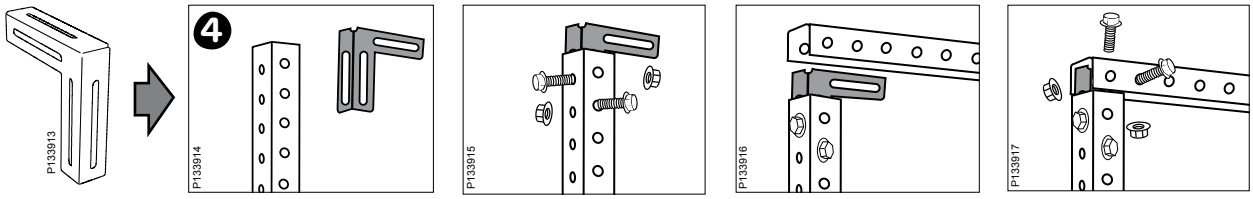
B61



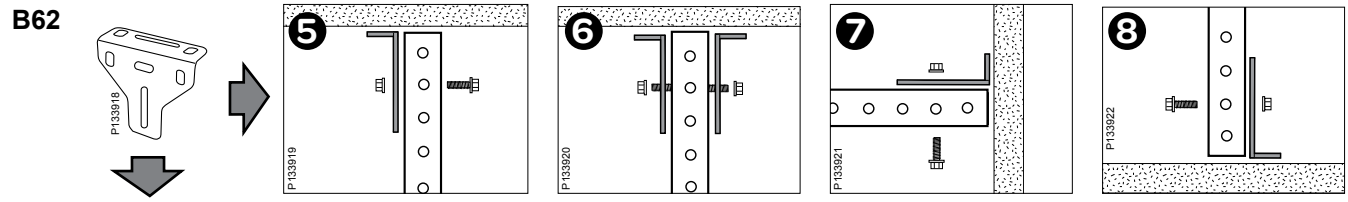
B63

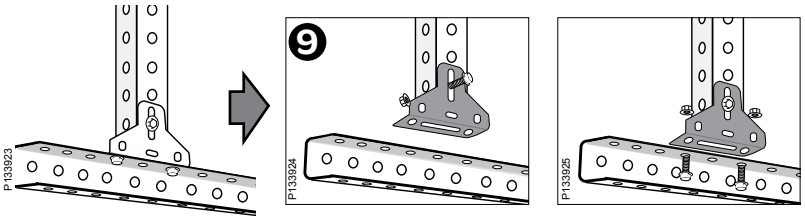


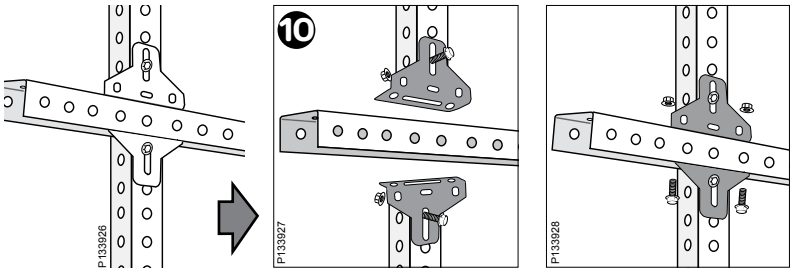
B65



B62







Reference number overview

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