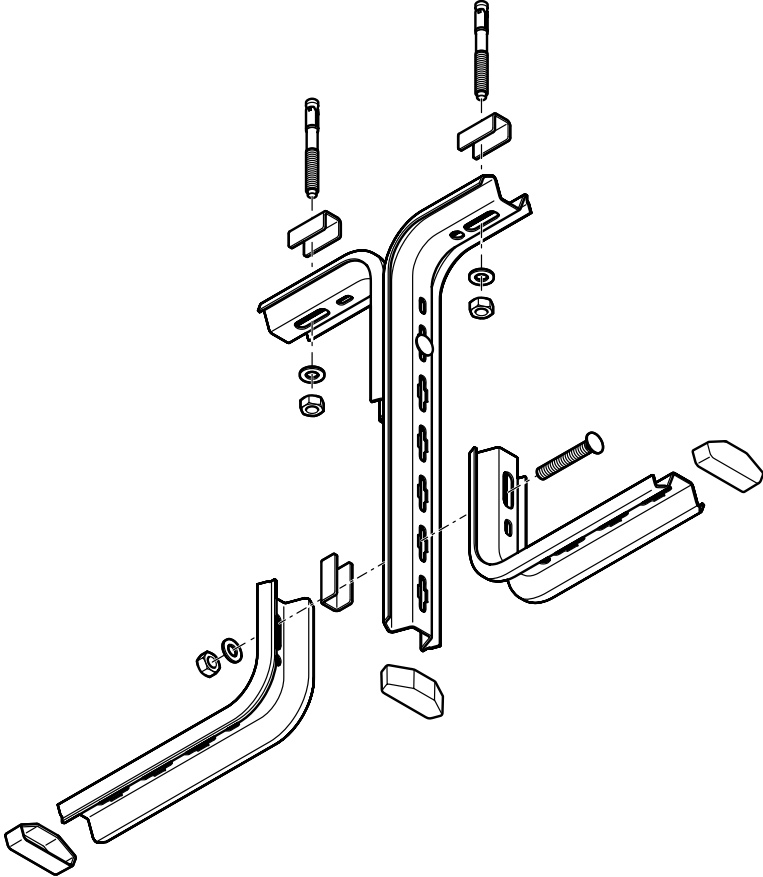


TP support systems
Mounting instructions



TP support systems

Mounting instructions

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1 About these instructions

1.1 Target group

These mounting instructions are intended for:

- Engineers and architects charged with the planning of mounting systems.
- Electrically trained specialists charged with installing mounting systems.

1.2 Relevance of these instructions

- These instructions are based on the standards valid at the time of compilation (October 2019).
- Please read the instructions carefully before starting installation. We will not accept any warranty claims for damage caused through non-observance of these instructions.
- Any images are intended merely as examples. Mounting results may look different.

1.3 Types of warning information



WARNING

Type of risk!

Shows a possibly risky situation. If the situation is not avoided, then death or serious injury may result.

Note!

Indicates important information or assistance!

2 Correct use

The TP support system is used for supporting and routing all types of cable trays and cable ladders. Depending on the material and surface design, it can be used indoors and outdoors.

The TP support system is suitable for use at ambient temperatures of -20 °C to $+120\text{ °C}$. At temperatures below -20 °C , the material will become brittle and may not be processed further.

The mounting system is not designed for any other purpose than the one described here. If the mounting system is used for another purpose, any liability, warranty or damage claims shall be rendered null and void.

2.1 Basic standards

The mounting system fulfils the requirements of IEC 61537:2006 – Cable management – Cable tray systems and cable ladder systems.

3 Safety

3.1 General safety information

Observe the following general safety information on handling the mounting system:

- Follow applicable working, accident and environmental protection regulations.
- The mounting system should be included in the protective measures and the equipotential bonding.
- Have the inclusion in the equipotential bonding of the overall system performed by specialist personnel.
- Design the support system according to the loads to be expected.
- Do not exceed the maximum support load of the mounting system.
- During mounting, take the structure of the wall and ceiling into account.

3.2 Personal protective equipment

- During all mechanical mounting work, wear personal protective equipment:
 - Gloves
 - Eye protection
 - Head protection

4 System description

TP support systems for cable support structures are used for small loads. The systems comprise TP suspended supports and TP supports and wall and support brackets. The system components can be used for direct wall and ceiling mounting.

4.1 System components

Note! *TP support/wall and support brackets and TP wall and ceiling clamps are offered in two variants:*

- Without a clamping lug (to accept cable trays)
- With a clamping lug (to accept mesh cable trays).

These instructions show only the components without clamping lugs. Components with clamping lugs are shown in the mounting instructions for mesh cable trays.

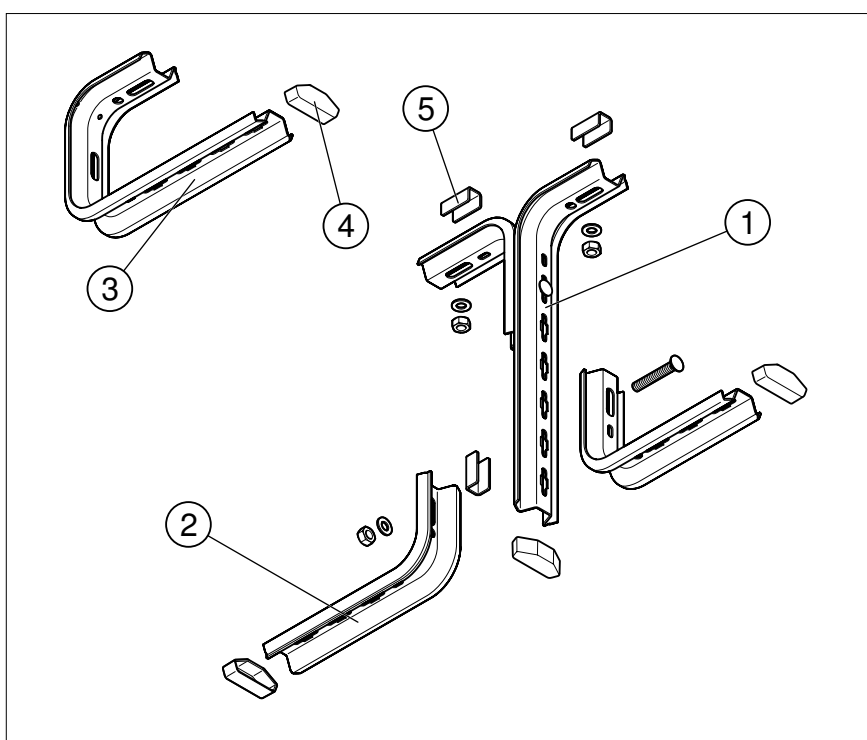


Fig. 1: System components

	Component	Function
①	TP support	Mounting on horizontal concrete ceiling, acceptance of TP support/wall and support brackets
②	TP support/wall and support brackets	Mounting on walls and TP suspended support, support for cable tray/cable ladder
③	TP wall and ceiling bracket	Direct wall or ceiling mounting, support for cable tray/cable ladder
④	End cap	End cover of TP suspended support and TP support
⑤	Spacer	Stabilisation of the profiles

Tab. 1: System components

4.2 Accessories

4.2.1 Earthing terminal

Depending on the mounting situation, equipotential bonding with the overall system may be required, see IEC 61537:2006.

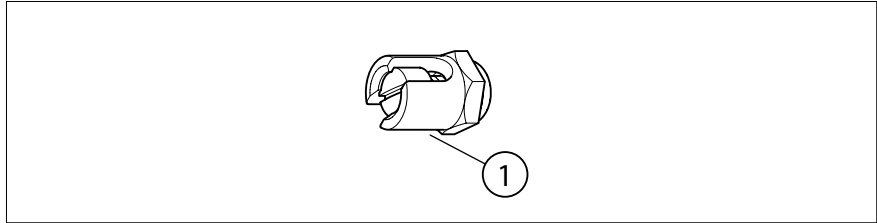


Fig. 2: Earthing terminal

① Earthing terminal

4.2.2 Fastening material

Depending on the structure of the mounting substrate, use suitable fastening materials in the wall or ceiling.

OBO offers the following fastening systems:

Substrate	Fastening material type
Concrete	N, N-K, BZ, BZ-U, BZ-IG, SZ-B, ES, Easy, MMS-plus
Masonry	MMS-plus, HMS-KS, injection tie

The characteristic load values for the fastening anchors can be found in the appropriate tables and the approved load capacity of the individual system components in the appropriate load diagrams in the current catalogue.

<https://obo-bettermann.com/en-wo/support/3804.html>

5 Mounting system components



WARNING

Danger due to high working height!

When installing at height, there is a risk of falling and/or that parts may fall. Falls and/or falling components can cause serious injuries.

- Do not work alone.
- Use fall protection as required.
- Secure the area below the installation against access.
- Wear safety shoes and a helmet.

Note! *Tighten bolts and nuts with the torque to be complied with.
Torques and tightness classes of the supplied screws:
<https://obo-bettermann.com/en-wo/support/3804.html>*

5.1 Mounting fastening material

In these mounting instructions, only one system with bolt tie, washer and nut will be shown with regard to wall and ceiling mounting. A combination nut can be used as an alternative to the washer and nut.

Note! *To prevent loosening of screw connections through vibrations, screw locks can be attached. Possible screw locks are nuts with an internal plastic ring or a screw locking adhesive, e.g. Loctite (item no. 2362940).*

1. Drill the anchor hole.
2. Blow out the anchor hole.
3. Knock in the bolt tie.
4. Push the system onto the bolt thread and fix with washers and nuts or combination nuts.

Note! *If the profiles are fastened directly to the ceiling or wall or the profiles are screwed together, then, for reasons of stability, always use the spacer, type DS 4.*

5.2 Mounting the TP suspended support

5.2.1 Mounting the suspended support with a one-sided bracket

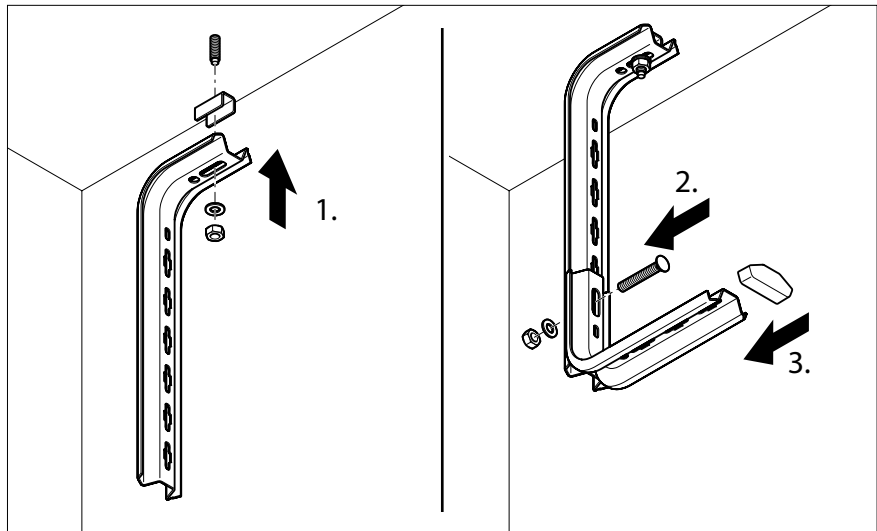


Fig. 3: Mounting the suspended support with a one-sided bracket

1. Place the spacer and TP suspended support on the bolt thread and screw tight with a washer and nut.
2. Place the TP support/wall and support bracket on the TP suspended support and screw tight with a hexagonal bolt, washer and nut.
3. Attach the end caps.

5.2.2 Mounting the suspended support with a double-sided bracket

A head reinforcement is mounted on a TP suspended support with brackets on both side.

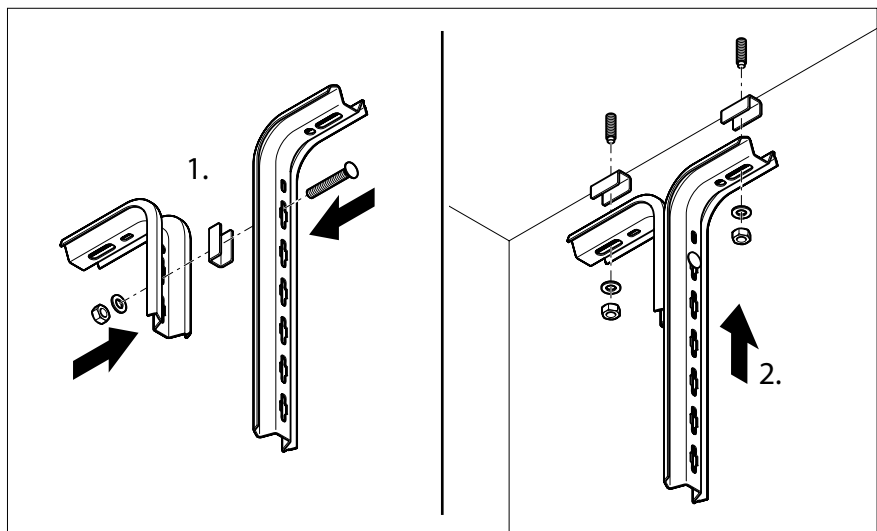


Fig. 4: Mounting the TP suspended support with head reinforcement

1. Screw the head reinforcement, spacer and TP suspended support together with a hexagonal bolt, washer and nut.
2. Place the mounted unit with spacers on the bolt thread and screw together with washers and nuts.

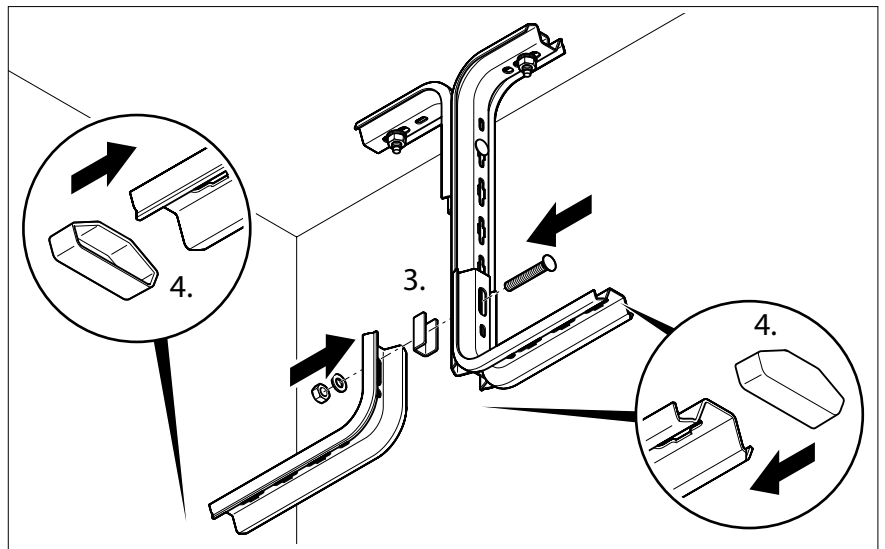


Fig. 5: Mounting the suspended support with a double-sided bracket

3. Screw together the spacer and TP support/wall and support bracket, TP suspended support and TP support/wall and support bracket with washer and nut.
4. Attach the end caps.

5.2.3 Mounting a TP wall and ceiling bracket

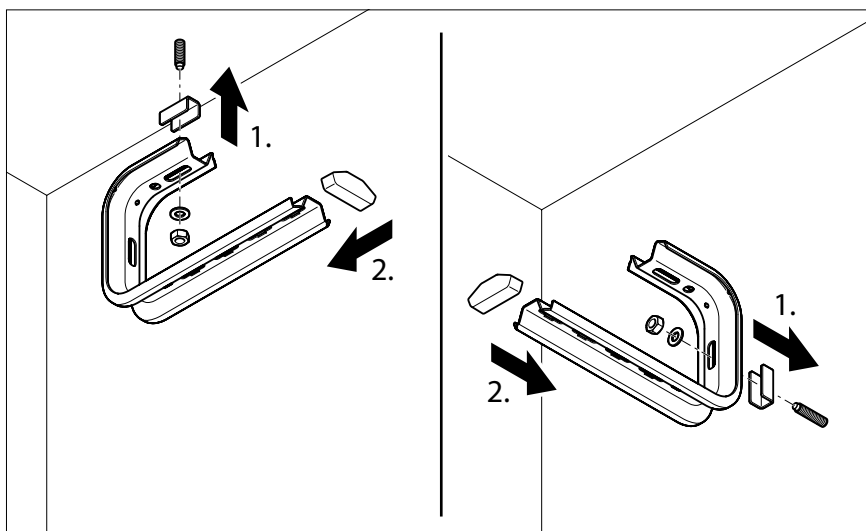


Fig. 6: Mounting a TP wall and ceiling bracket

1. Place the spacer and TP wall and ceiling bracket on the bolt thread and screw together with a washer and nut.
2. Attach the end caps.

6 Creating equipotential bonding



Risk of electric shock!

A lack of equipotential bonding can, in cases of damage, mean that parts of the mounting system may be energised. If contact creates a conductive connection, this can lead to fatal injuries.

- Creating equipotential bonding.

The equipotential bonding is created on the cable tray or cable ladder mounted on the support structure.

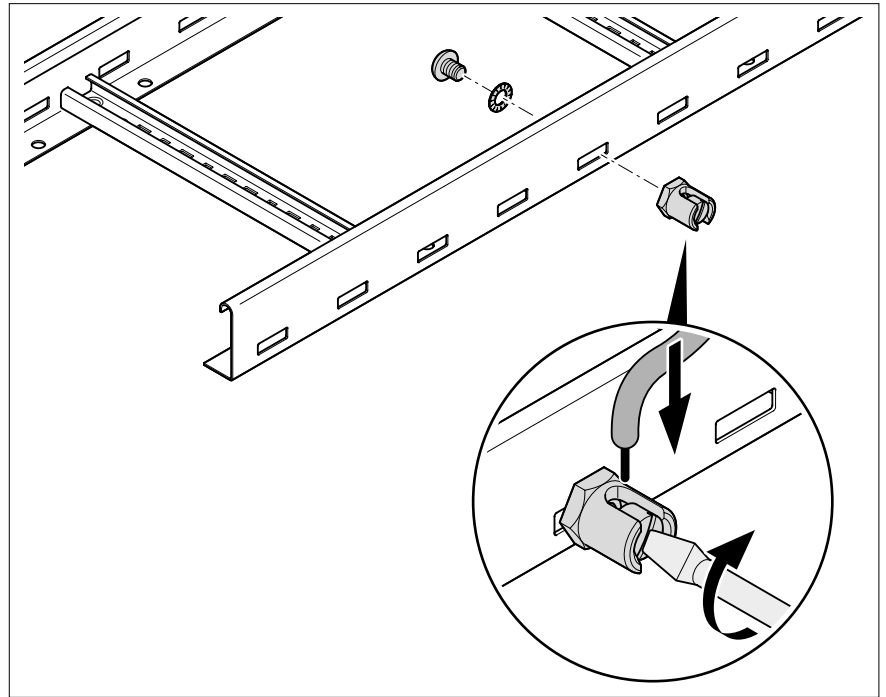


Fig. 7: Mounting the earthing terminal

1. Screw the earthing terminal to the component.
2. Electrically connect the earthing terminal to the overall equipotential bonding.

7 Maintaining mounting systems

The stability and function of the mounting systems can be impaired by external influences, such as damage or machine vibrations.

Tighten loose connection elements and, if necessary, apply a screw lock using nuts with an internal plastic ring or a screw locking adhesive. Replace damaged parts. Check regularly to see if the connection to the overall equipotential bonding is still intact.

8 Dismantling mounting systems



Danger due to high working height!

When installing at height, there is a risk of falling and/or that parts may fall. Falls and/or falling components can cause serious injuries.

- Do not work alone.
 - Use fall protection as required.
 - Secure the area below the installation against access.
 - Wear safety shoes and a helmet.
-

Dismantling of all the elements of the mounting systems takes place in the reverse order to mounting.

9 Disposing of mounting systems

- Residual metal: As scrap metal
- Packaging: As household waste

Comply with the local waste disposal regulations.

10 Technical data

Designation	Type	Dimensions, mm	Material	Item no.
TP wall and ceiling bracket	TPD 145 FS	145 x 175 x 60	FS	6363806
TP wall and ceiling bracket	TPD 245 FS	245 x 175 x 60	FS	6363814
TP wall and ceiling bracket	TPD 345 FS	345 x 175 x 60	FS	6363822
TP wall and ceiling bracket	TPD 445 FS	445 x 175 x 60	FS	6363826
TP wall and ceiling bracket	TPD 545 FS	545 x 175 x 60	FS	6363829
TP wall and ceiling bracket	TPD 145 FT	145 x 175 x 60	FT	6363861
TP wall and ceiling bracket	TPD 245 FT	245 x 175 x 60	FT	6363865
TP wall and ceiling bracket	TPD 345 FT	345 x 175 x 60	FT	6363869
TP support	TPS 445 FS	120 x 445 x 60	FS	6364322
TP support	TPS 545 FS	120 x 545 x 60	FS	6364349
TP support	TPS 645 FS	120 x 645 x 60	FS	6364365
TP support	TPS 445 FT	120 x 445 x 60	FT	6364403
TP support	TPS 545 FT	120 x 545 x 60	FT	6364500
TP support	TPS 645 FT	120 x 645 x 60	FT	6364608
TP support/wall and support brackets	TPSA 145 FS	145 x 120 x 60	FS	6364101
TP support/wall and support brackets	TPSA 245 FS	245 x 120 x 60	FS	6364209
TP support/wall and support brackets	TPSA 345 FS	345 x 120 x 60	FS	6364306
TP support/wall and support brackets	TPSA 145 FT	145 x 120 x 60	FT	6364659
TP support/wall and support brackets	TPSA 195 FT	195 x 120 x 60	FT	6364683
TP support/wall and support brackets	TPSA 245 FT	245 x 120 x 60	FT	6364667
TP support/wall and support brackets	TPSA 345 FT	345 x 120 x 60	FT	6364675
TP profile	TPS 3000 FS	3,000 x 60	FS	6364802
End cap	TPS KS OR	19 x 23.6	PE	6364625
Spacer	DS 4 FS	40 x 20 x 18	FS	6416551
Spacer	DS 4 FT	40 x 20 x 18	FT	6416586
Truss-head bolt	FRS 10x25 TPS F	M10 x 25	F	6407536

Legend

- G = Electrogalvanised
- FS = Hot galvanised
- FS = Strip galvanised
- FT = Hot-dip galvanised
- PE = Polyethylene

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