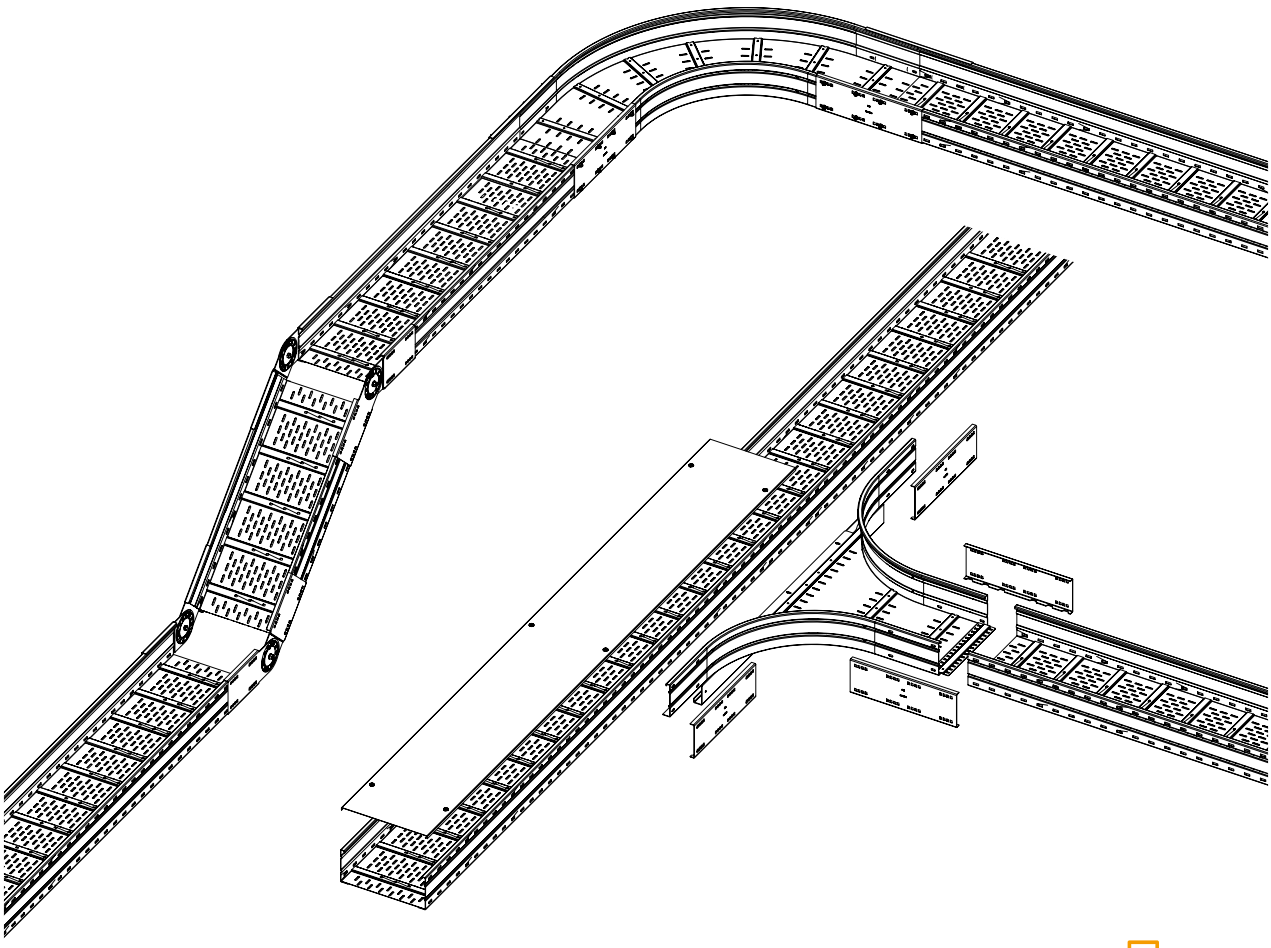


Mounting instructions

Wide span cable tray system

OBO BETTERMANN

Wide span cable tray system
Mounting instructions

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1 About these instructions

1.1 Target group

These mounting instructions are intended for the following target group:



– Engineers and architects charged with the planning of wide span systems.

– Specialists trained in electrical engineering and charged with the mounting of wide span systems.

1.2 Relevance of these instructions

These instructions are based on the standards valid at the time of compilation (September 2026).

Please read the instructions carefully before starting mounting. We will not accept any warranty claims for damage and liability caused through non-observance of these instructions.

Any images are intended merely as examples. Mounting results may look different.

In these instructions, cables and lines are referred to simply as cables.

1.3 Types of warning information

WARNING

Type of risk!!
Shows a risky situation. If the safety instruction is not observed, then serious or fatal injuries may occur.

CAUTION

Type of risk!!
Shows a risky situation. If the safety instruction is not observed, then medium or minor injuries may occur.

ATTENTION

Type of risk!
Shows a hazardous situation. If the safety instruction is not observed, then damage to the product or the surroundings may occur.

Note! *Indicates important information or assistance.*

1.4 Depiction conventions

To simplify legibility, the term “Ladder” will be used during the rest of these instructions for the term “Wide span cable ladder”.

The mounting of connectors and fittings shown in the graphics is identical for the 110 and 160 mm side heights. Only the components of one height are shown as an example.

1.5 Basic standards and regulations

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

The cable tray systems shall be installed in accordance with NEMA BI 50016 or as recommended by the manufacturer.

1.6 Applicable documents

The declarations of conformity are linked to the products at www.obo.de.

Mounting instructions for different support structures:

– U support systems
www.obo.de/out/media/04-150_MA_U_support_systems.pdf

– I support systems,
www.obo.de/out/media/04-150_MA_I_support_systems.pdf

– Clamp fastenings
www.obo.de/out/media/04-150_MA_Clamp_fastening_systems.pdf

2 Intended use

The wide span cable tray system is used to support and route all kinds of cables, taking the approved load values into account. Spans of up to 8 metres can be implemented with the wide span cable tray system. Depending on the corrosion protection used, it can be mounted both indoors and outdoors. The wide span cable tray system is not designed to support people.

The wide span cable tray system is suitable for use at ambient temperatures of –20 °C to + 120 °C. At temperatures below –20 °C, the material will become brittle and may not be processed further.

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

3 Safety

3.1 General safety information

Observe the following general safety information:

– Only have electrical work carried out by specialist personnel with electrical training.

– Risk of cutting from plate edges. Wear protective gloves.

– Lay out the wide span cable ladder system according to the loads to be expected.

– If necessary, include the wide span cable ladder system in the equipotential bonding.

3.2 Personal protective equipment

List of personal protective equipment to be used:



Use hand protection



Wear eye protection



Wear eye protection

3.3 Necessary tools

List of required tools:

– Angle grinder

– Deburring tool

– Drilling machine, metall drill

– Torque spanner

– Screwdriver

– Folding yardstick

– Pencil

– Tool to draw on angles

4 Systemoverview

4.1 System description

The wide span cable tray system is used to route cables and is specially designed for high support loads and wide support spacings. The tray and fitting widths range from 200–600 mm. The wide span cable trays are screwed together using connector holes with the appropriate fastening material. The selection of the matching trays is dependent on the area of use and the cable load and volume to be routed.

Along with accessories, countless connectors, covers, fittings such as bends, add-on tees and corner extension pieces are available to match the wide span cable trays.

The trays can be mounted on floors, walls and ceilings on various support systems. The mounting of the support systems is described in separate mounting instructions, see „1.6 Applicable documents“ on page 6.

4.2 Wide span cable trays

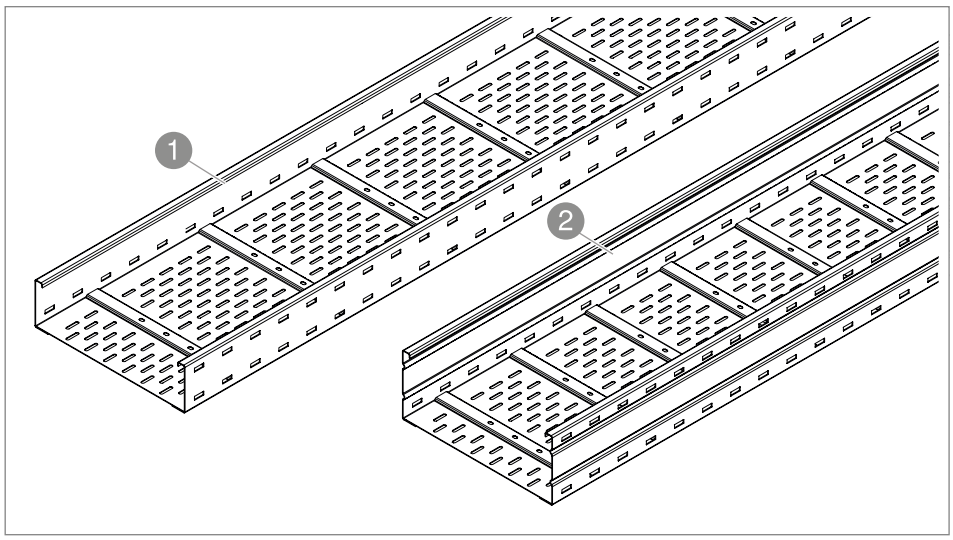


Fig. 1: Wide span cable trays

1 1 Wide span cable tray height 110 mm

2 1 Wide span cable tray height 160 mm

4.3 Connectors

The following parts can be interconnected using connectors:

– Wide span cable tray with wide span cable tray

– Wide span cable tray with fitting

– Fitting with fitting

Straight and adjustable connectors

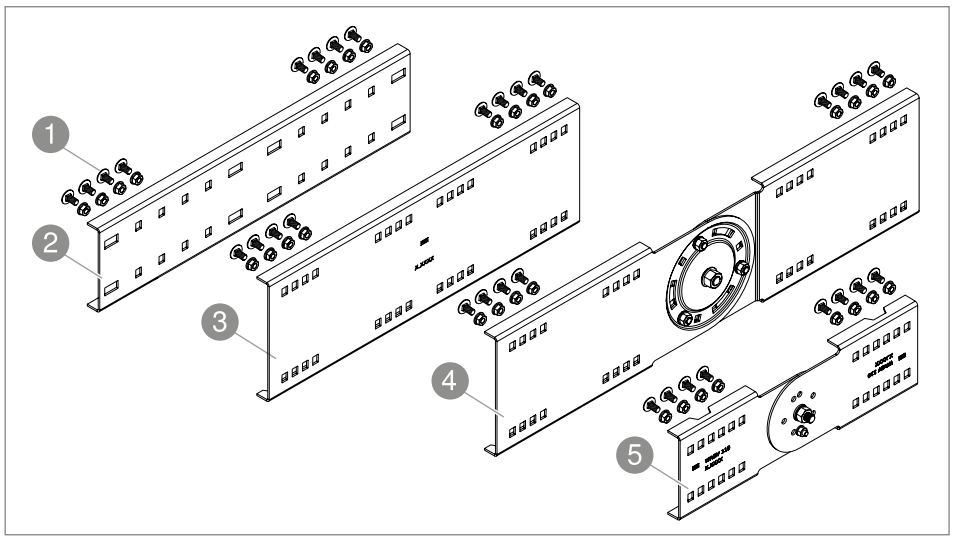


Fig. 2: Straight and adjustable connectors

No.	Designation/type	Function	Side height
1	FRS M8 truss-head bolts with combination nuts	Connector fastening	110/160 mm
2	WRVL 110 straight connector	Screwed-on straight connection	110 mm
3	WRVL 160 straight connector	Screwed-on straight connection	160 mm
4	WRGV 160 adjustable connector	Flexible vertical angle connection	160 mm
5	WRGV 110 adjustable connector	Flexible vertical angle connection	110 mm

Tab. 1: Straight and adjustable connectors

Angle connectors

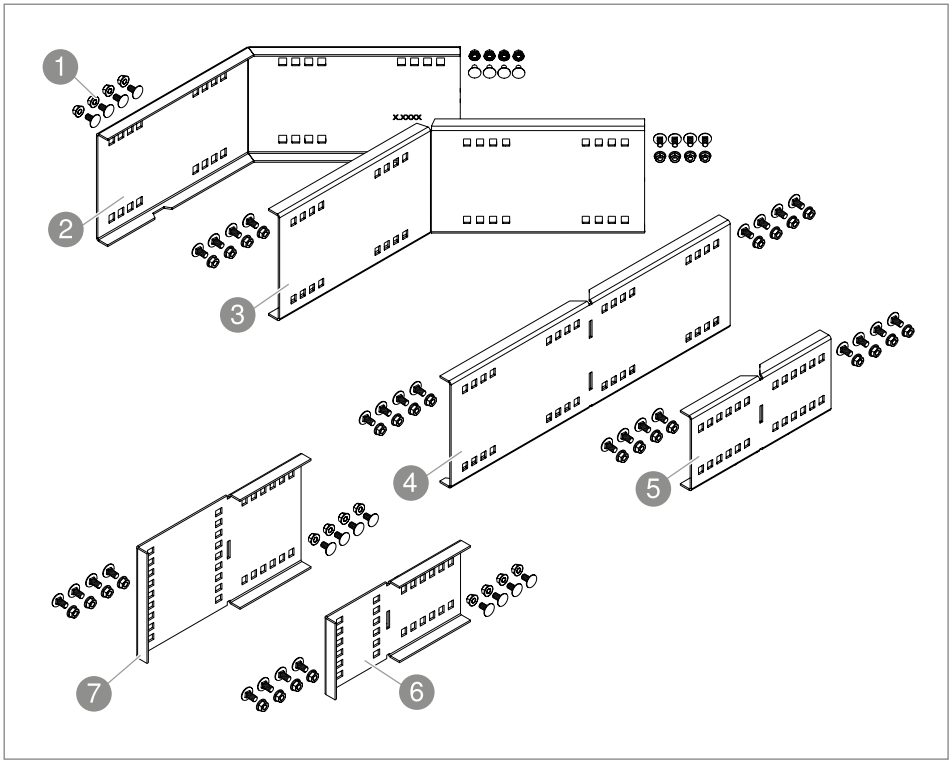


Fig. 3: Angle connectors

No.	Designation/type	Function	Side height
1	FRS M8 truss-head bolts with combination nuts	Connector fastening	110/160 mm
2	WRWV160 A 45° angle connector, outer	45° horizontal angle connection	160 mm
3	WRWV160 I 45° angle connector, inner	45° horizontal angle connection	160 mm
4	WRWVK 160 angle connector	Angled horizontal straight connection, individually adjustable	160 mm
5	WRWVK 110 angle connector vertical	Angled horizontal straight connection, individually adjustable	110 mm
6	WRWVV 110 angle connector vertical	90° vertical angle connection	110 mm
7	WRWVV 160 angle connector vertical	90° vertical angle connection	160 mm

Tab. 2: Overview of angle connectors

4.4 Fittings

90° bends

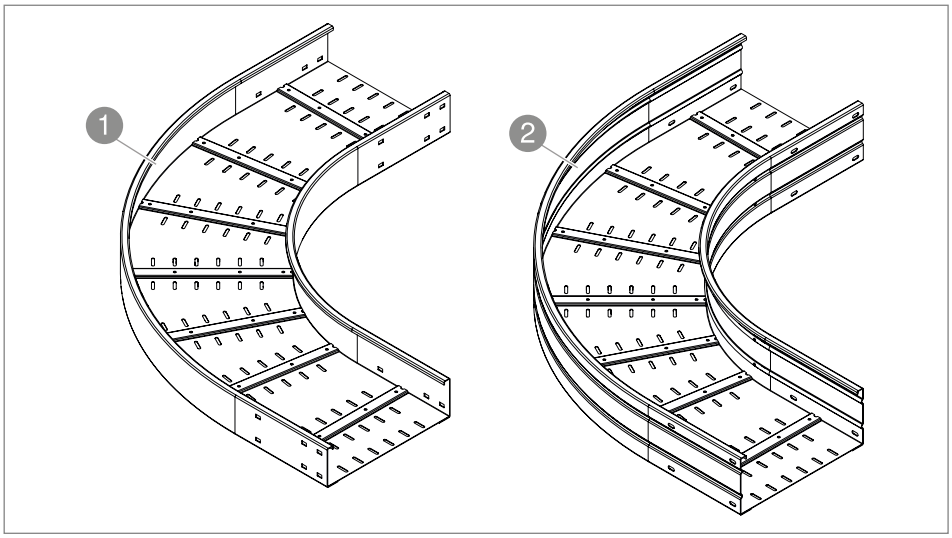


Fig. 4: 90° bends

No.	Designation/type	Function	Side height
1	WLB 90 90° bend	Creation of 90° bend, horizontal	Side height 110 mm
2	WLB 90 90° bend	Creation of 90° bend, horizontal	Side height 160 mm

Tab. 3: Overview, 90° bends

Corner extension pieces

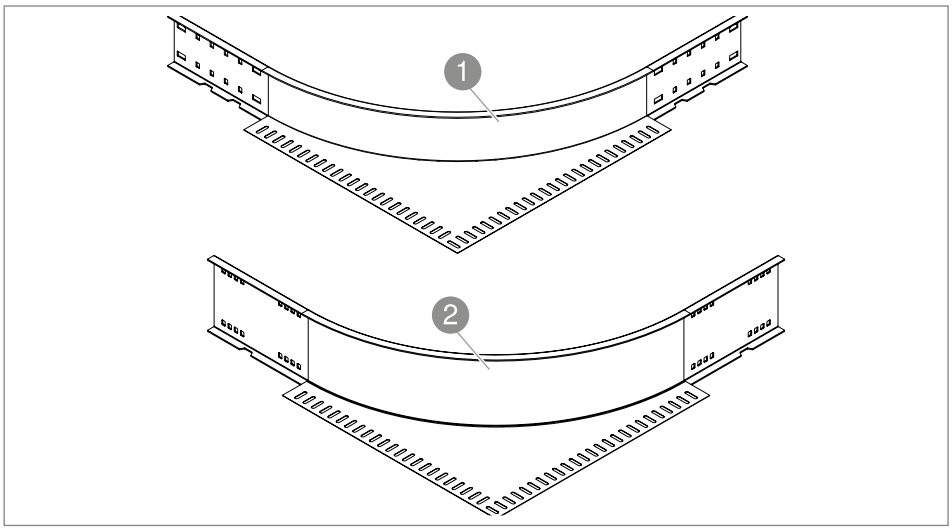


Fig. 5: Corner extension pieces

No.	Designation/type	Function	Side height
1	Corner extension piece	Creation of 90° bend, horizontal	110 mm
2	Corner extension piece	Creation of 90° bend, horizontal	160 mm

Tab. 4: Overview, corner extension pieces

Add-on tees, wide span cable tray

The add-on tee is used for wide span cable ladders and trays.

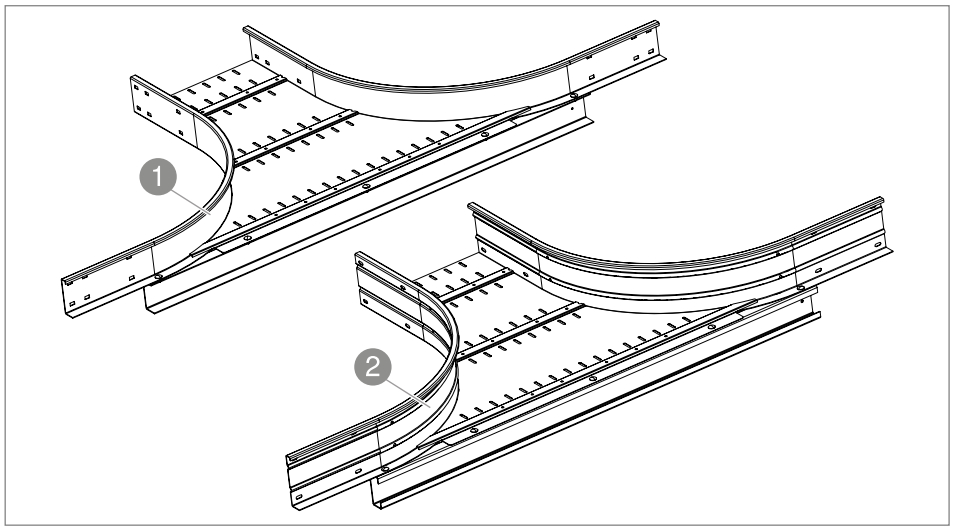


Fig. 6: Add-on tees

No.	Designation/type	Function	Side height
1	WRAA add-on tee	Creation of 90° branch and cross-over	110 mm
2	WRAA add-on tee	Creation of 90° branch and cross-over	160 mm

Tab. 5: Overview, add-on tees

4.5 Covers

4.5.1 Covers for wide span cable trays

Covers protect the routed cables against dirt and moisture. Depending on the routing situation, roof-shaped covers, covers with turn buckles and predrilled covers for mounting with spacers are available for the wide span cable trays. Covers can be mounted on trays with the heights 110 and 160 mm. They are fastened to trays using panel screws, pre-mounted turn buckles or spacers.

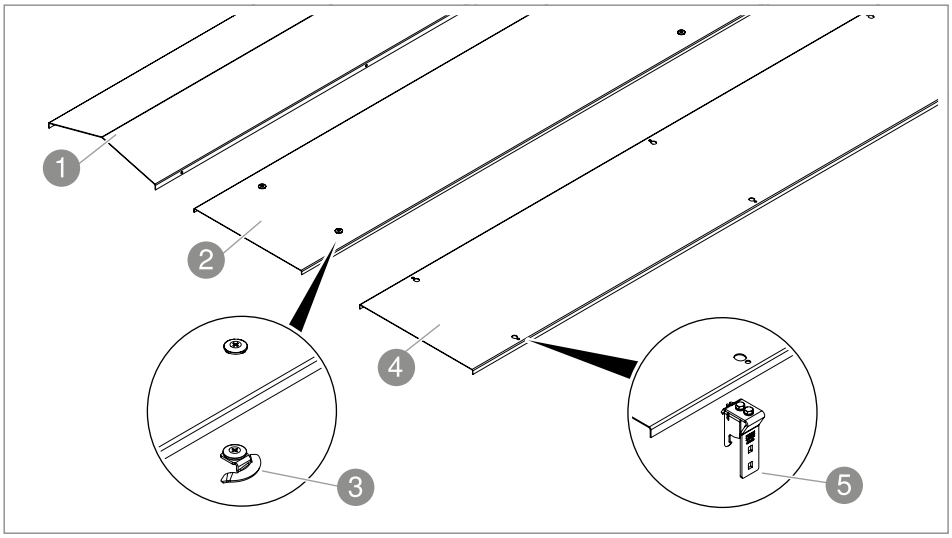


Fig. 7: Cover with fastening material

No.	Designation/type	Function	for side height
1	WDRLU DF cover in roof shape	Protection against weathering and dirt	110/160 mm
2	WDRL cover with turn buckle	Protection against weathering and dirt	110/160 mm
3	DRLH turn buckle	Cover fastening, mounting on the cover with clamps	110/160 mm
4	DRL FAM cover for stand-off mounting	Protection against weathering and dirt	110/160 mm
5	AH spacer	Cover fastening, mounting on the cover with screws	110/160 mm

Tab. 6: Overview, covers and fastening material

4.5.2 Covers for fittings

Covers are available for the add-on tee and 90° bend fittings. The fitting covers are fastened to the cable tray with the turn buckles pre-mounted at the factory.

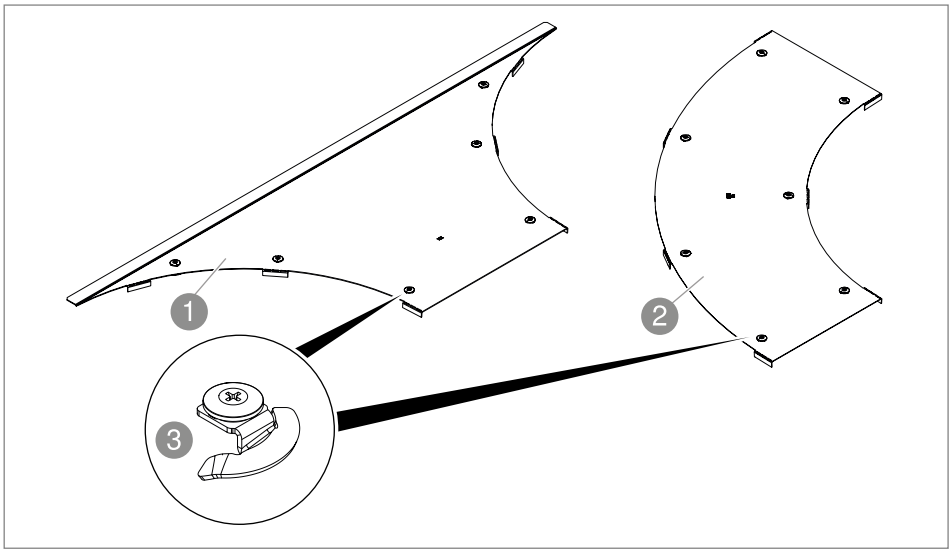


Fig. 8: Covers for fittings

No.	Designation/type	Function	For side height
1	Cover for WAAD add-on tee	Protection against weathering and dirt	110/160 mm
2	Cover for WDBRL 90 90° bend	Protection against weathering and dirt	110/160 mm
3	Turn buckle, pre-assembled	Cover fastening, mounting on the cover with clamps	110/160 mm

Tab. 7: Overview, covers for fittings

4.6 Accessories for wide span cable trays

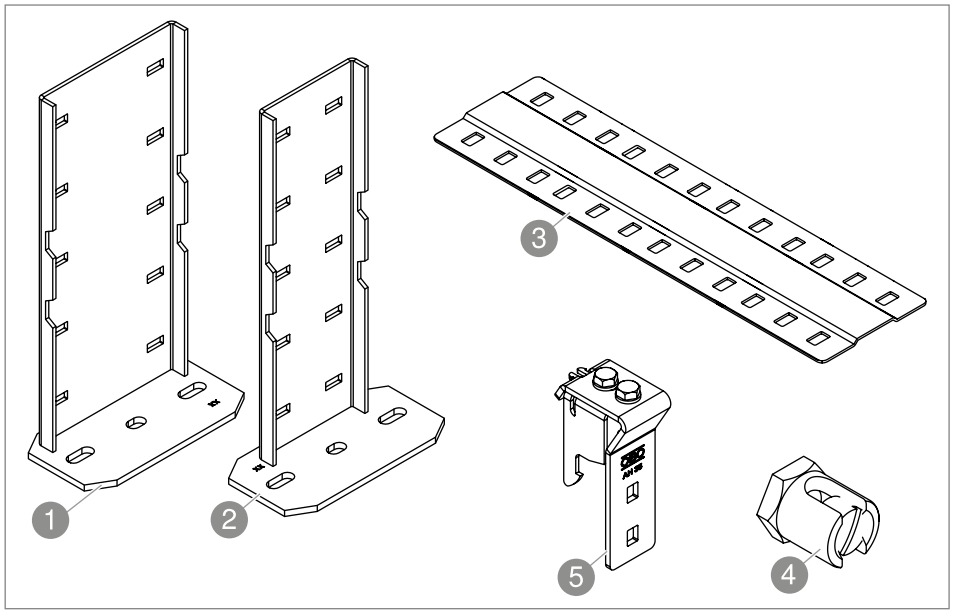


Fig. 9: Accessories

No.	Designation/type	Function	Application
1	WFP 160 base plate	Vertical mounting of wide span cable trays	160 mm
2	WFP 110 base plate	Vertical mounting of wide span cable trays	110 mm
3	SSLB joint plate	Connection of trays at the butt of the bases	All wide span cable tray types
4	Spacer	Stand-off cover mounting	All wide span cable tray types
5	Earthing terminal	Creation of equipotential bonding	All wide span cable tray types

Tab. 8: Overview of accessories

5 Mounting of wide span cable trays

5.1 Cutting trays

Cut the trays according to the local circumstances.

CAUTION

Risk of cutting!
During cutting work, metal chips or sharp cut edges can cause injuries to eyes and hands!
- Wear protective glasses and gloves.
- Deburr cut edges.

3. Cut the cable trays, e.g. with an angle grinder.

4. Deburr cut edges.

Note! *In the case of wide span cable trays for use outdoors, the corrosion protection at the cut edges must be renewed with zinc spray or paint after cutting, e.g. type ZSF zinc touch-up spray, item no. 2362970 or type ZABF zinc touch-up paint, item no. 2362979.*

5.2 Connecting trays lengthwise

Trays are connected lengthwise or at an angle with different connectors. Straight connectors connect trays along their length. Angle connectors are used to create corners or route trays at horizontal or vertical angles. Adjustable connectors create rises or drops.

ATTENTION

Risk of damage!
Screws can damage cables. Always pass fastening screws through the rail from the inner side of the wide span cable tray and secure with combination nuts on the outer side of the rail.

5.2.1 Creating a straight connection with the WRVL straight connector

The WRVL straight connector is used with the tray heights 110 and 160 mm. The connector is screwed on with FRS M8 truss-head bolts and combination nuts.

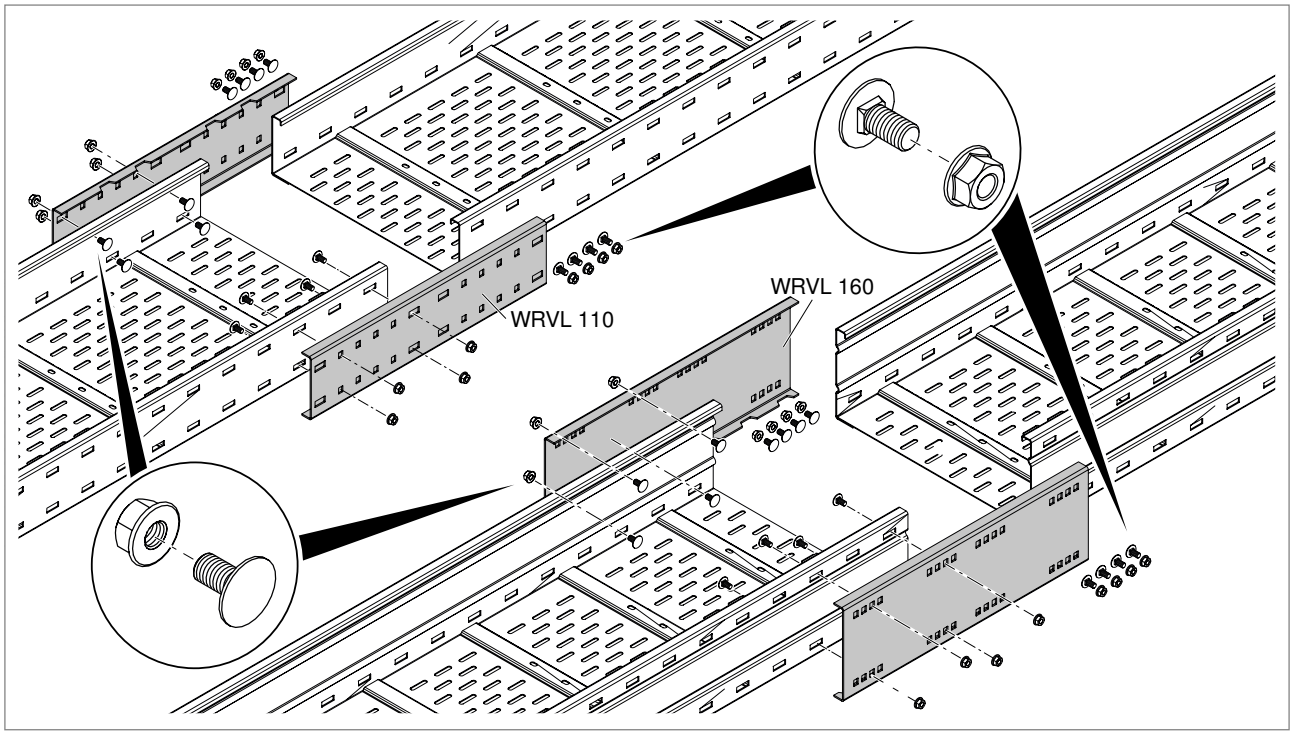


Fig. 10: Applying the WRVL 110 and 160 straight connectors

1. Apply the straight connectors to the outer sides of the rail.

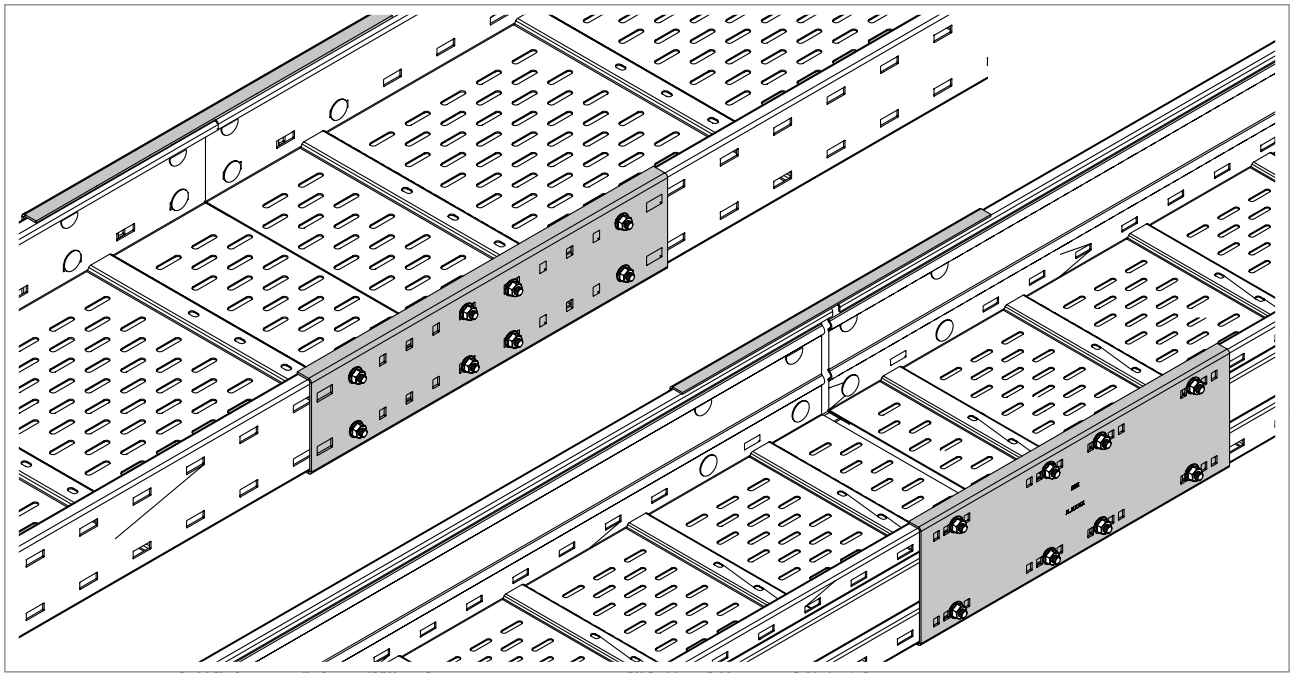


Fig. 11: Screw on the WRVL straight connector

2. Screw on the straight connector.

5.2.2 Mounting the joint plate

From wide span cable tray widths of 400 mm, a joint plate must be mounted, irrespective of the height of the tray, as stabilisation in the joint area of trays connected lengthwise or when mounting fittings.

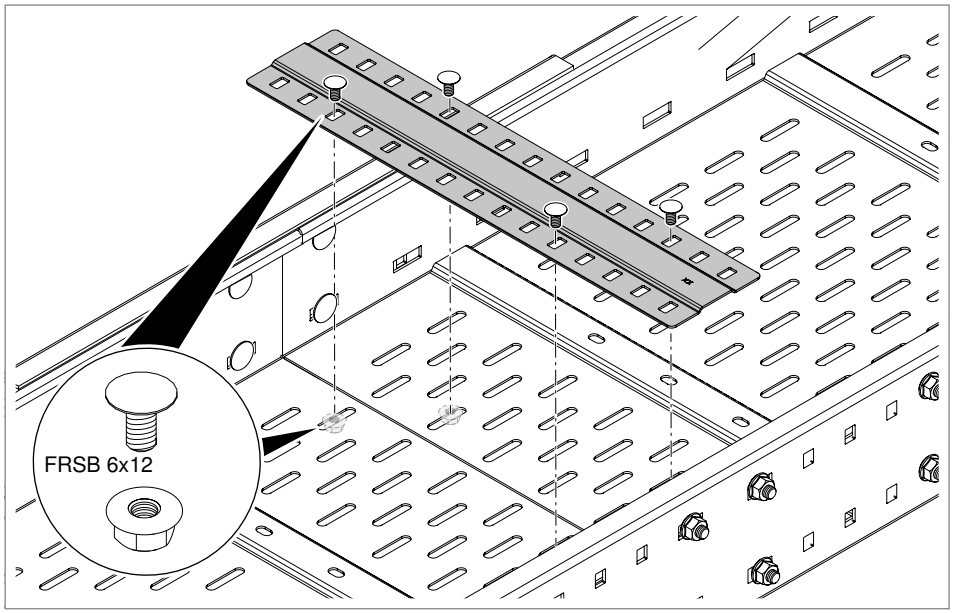


Fig. 12: Mounting the joint plate

1. Place the joint plate at the joint of the two trays.
2. From above, push M6 truss-head bolts through the joint plate and secure with combined nuts from the under side of the tray.

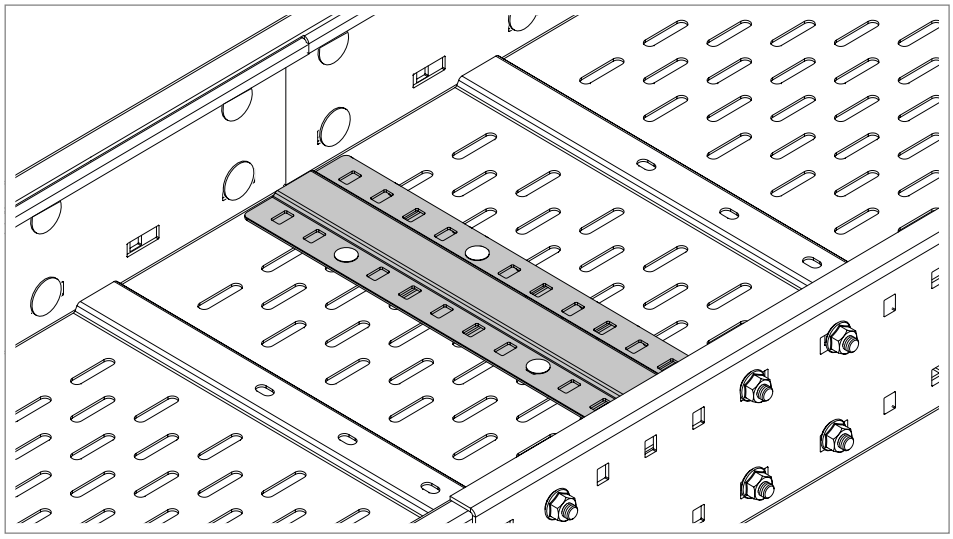


Fig. 13: Mounted joint plate

5.3 Connecting trays at an angle

5.3.1 Creating a 45° angle connection with the WRWV angle connector

45° angles are created using the WRWV angle connector. The connector is available in an inner and outer version. It is used for the 160 mm tray height. The connector is screwed on with FRS M8 truss-head bolts and combination nuts.

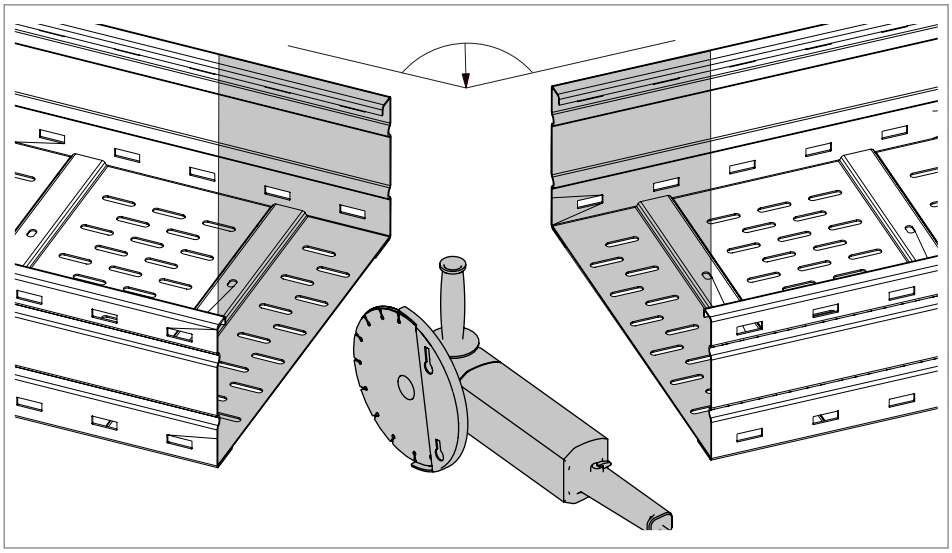


Fig. 14: Cutting the trays to create angles

1. Measure the angle and draw it onto the cable trays accordingly.
2. Cut the cable trays with an angle grinder.
3. Deburr cut edges.

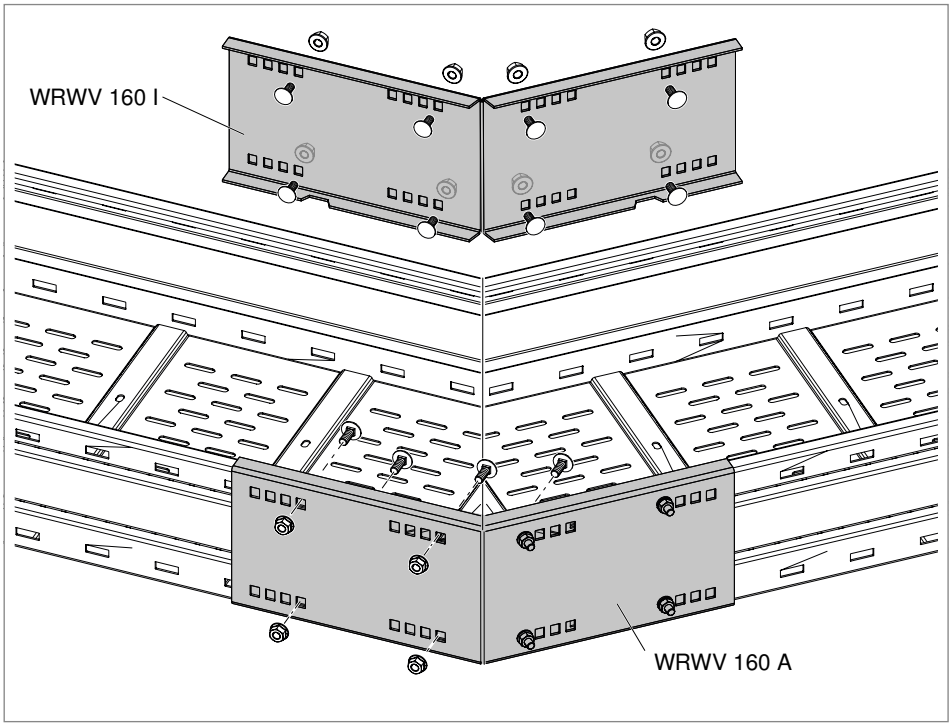


Fig. 15: Screwing on the WRWV angle connector to the inner and outer angle

4. Apply the angle connectors to the outer sides of the rail.
5. Screw on the angle connector.

5.3.2 Creating an angle connection with the WRWVK angle connector

Individual angles between 0–90° are created using the WRWVK angle connector. The angle connector connects the inner and outer angles of two abutting trays. It is used for the 110 and 160 mm tray heights. The connector is screwed on with FRS M8 truss-head bolts and combination nuts.

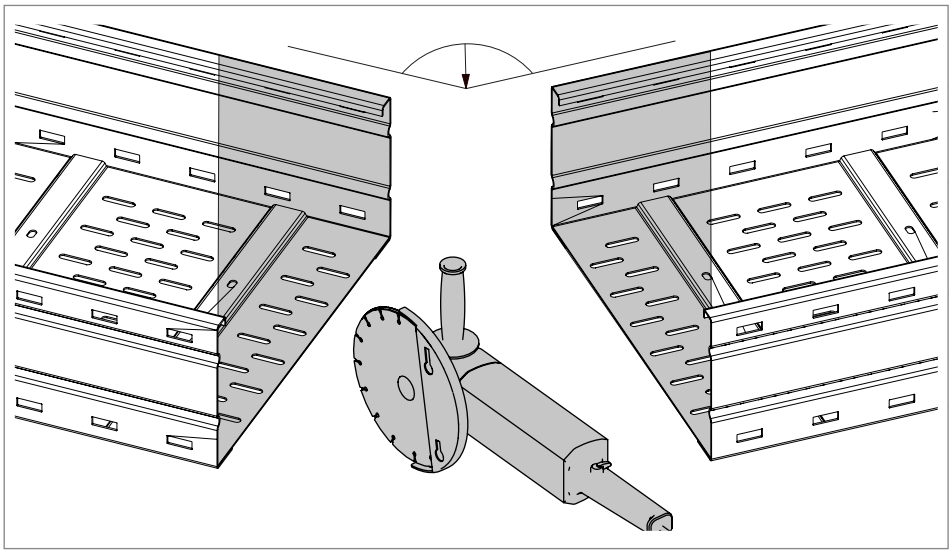


Fig. 16: Cutting the trays to create angles

1. Measure the angle and draw it onto the cable trays accordingly.
2. Cut the cable trays with an angle grinder.
3. Deburr cut edges.

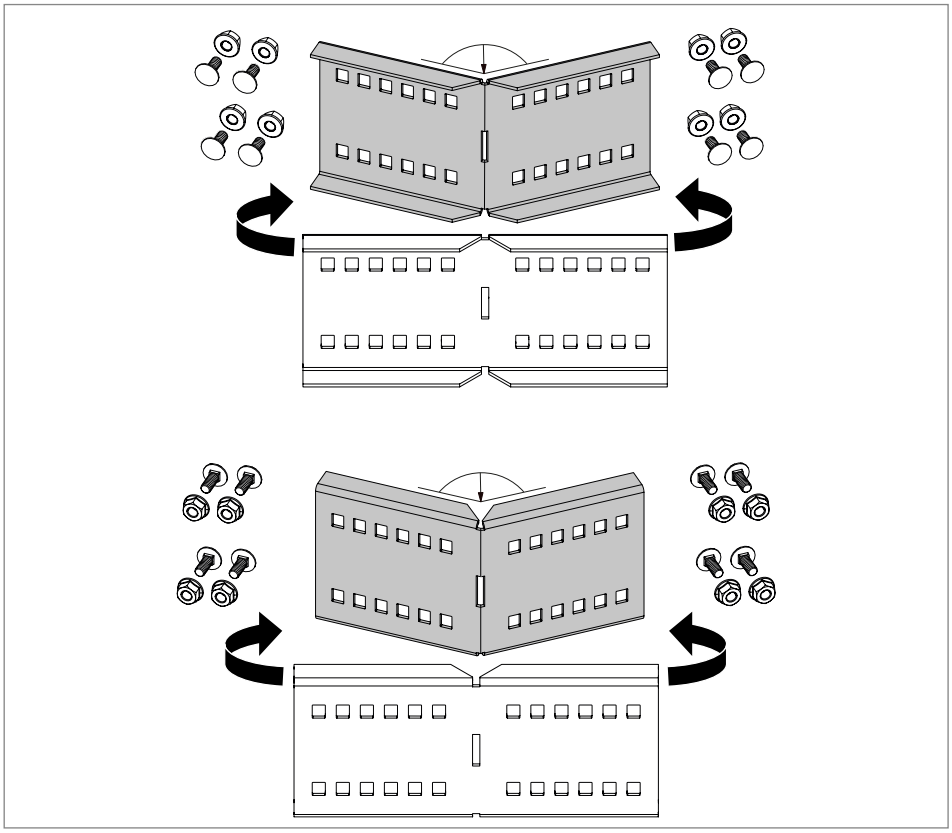


Fig. 17: Bending the WRWVK angle connector for inner and outer angles

4. Bend the angle connector for inner and outer angles to the desired angle (0–90°).

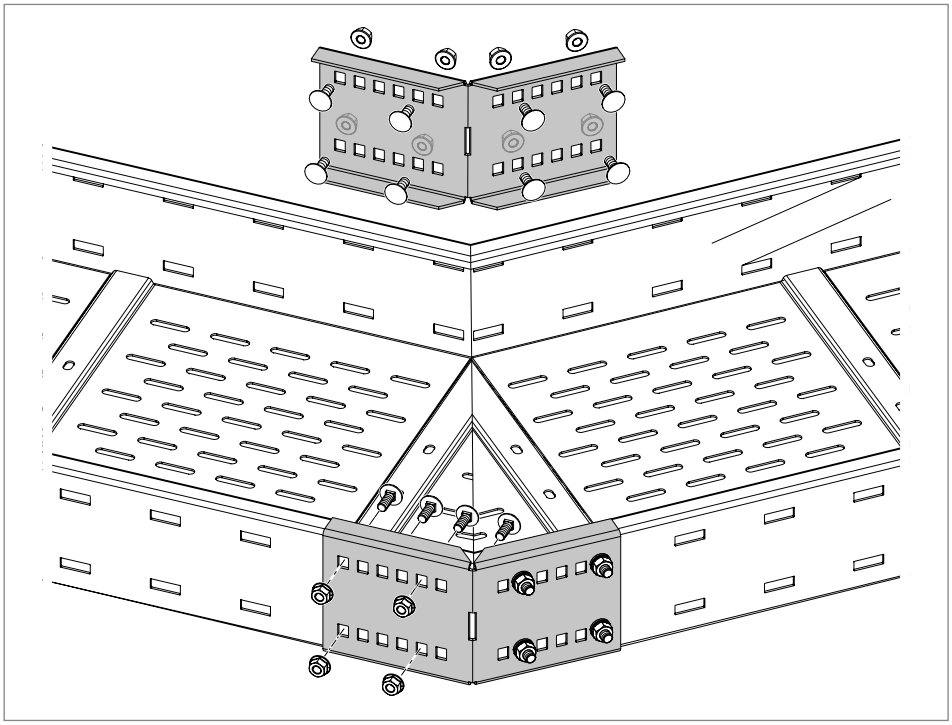


Fig. 18: Screwing on the WRWV angle connector to the inner and outer angle

5. Apply the angle connectors to the outer sides of the rail.

6. Screw on the angle connector.

5.3.3 Creating a vertical angle connection with the WRWVV angle connector

A horizontal tray is connected to a vertical tray at a 90° angle using the WRWVV angle connector. It is used for the 110 and 160 mm tray height. The connector is screwed on with FRS M8 truss-head bolts and combination nuts.

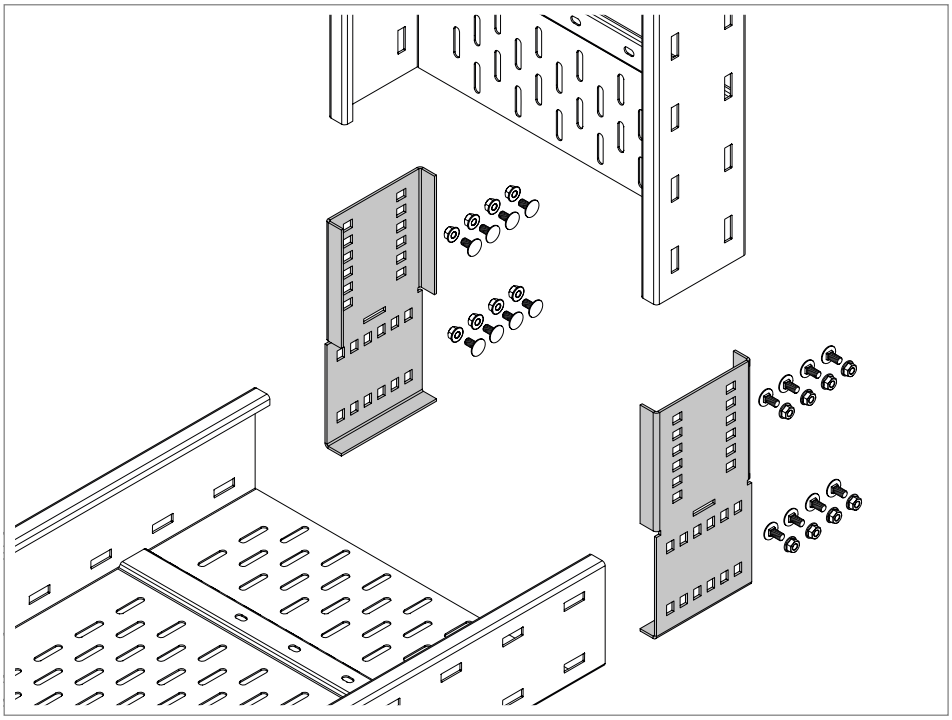


Fig. 19: WRWVV vertical angle connector

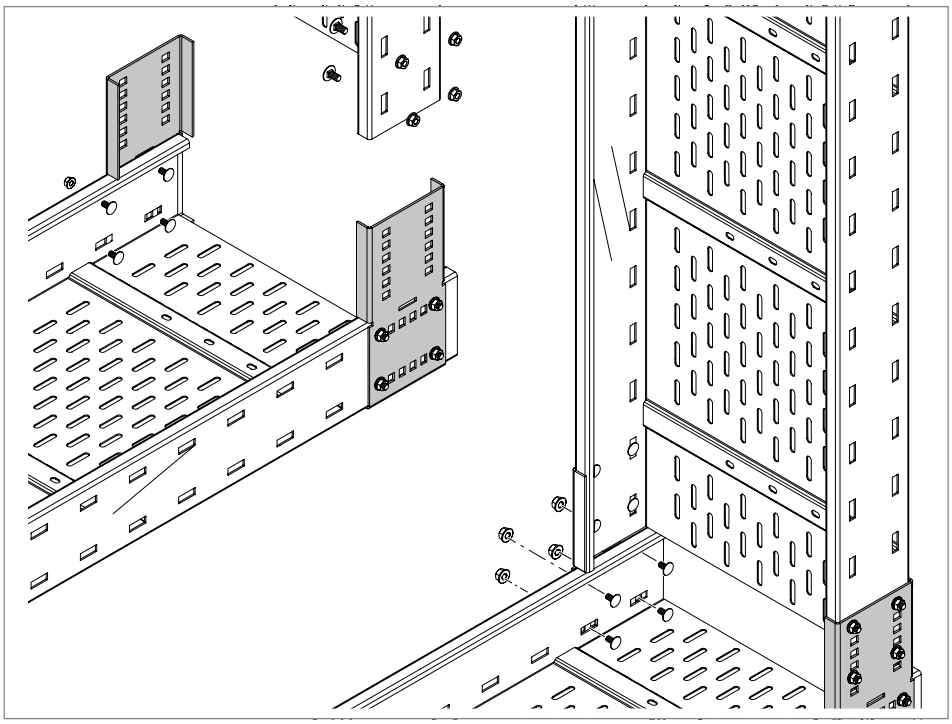


Fig. 20: Screwing on the WRWVV angle connector

1. Apply the angle connectors to the outer sides of the rail.
2. Screw on the angle connectors.

5.3.4 Creating a rise or drop with the WRGV adjustable connector

Angles of up to 90° for rises and drops are created using the WRGV adjustable connector. It is used with the tray heights 110 and 160 mm. The connector is screwed on with FRS M8 truss-head bolts and combination nuts.

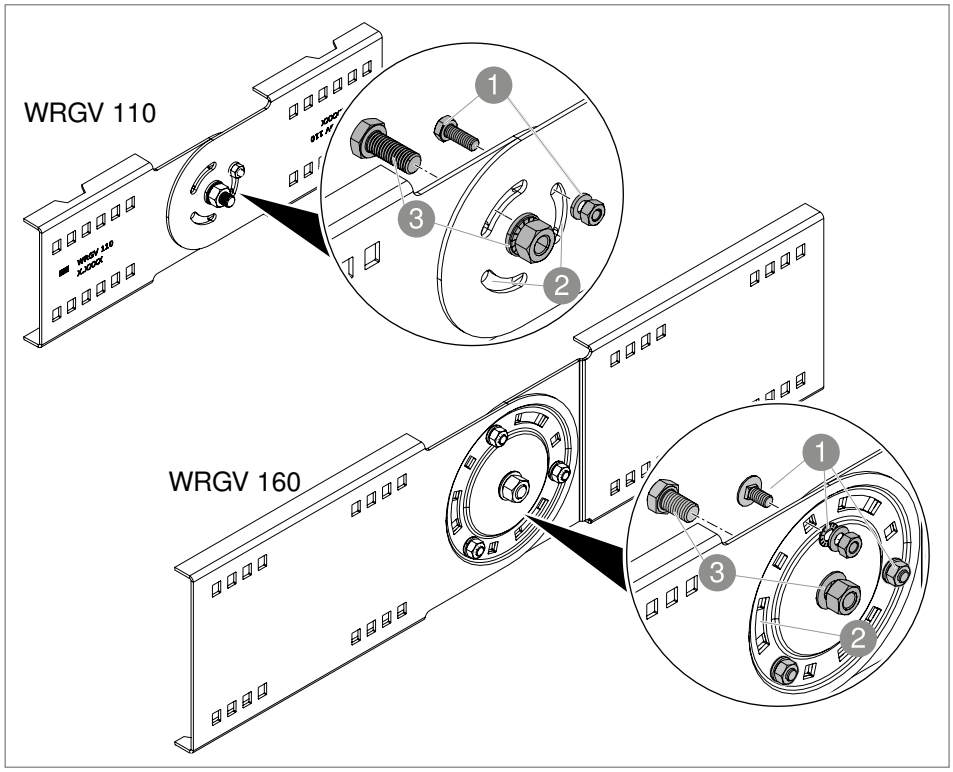


Fig. 21: Overview, WRGV adjustable connector

1 1 Locking screws

2 1 Slots

3 1 Hinge screw

WRGV 110 adjustable connector

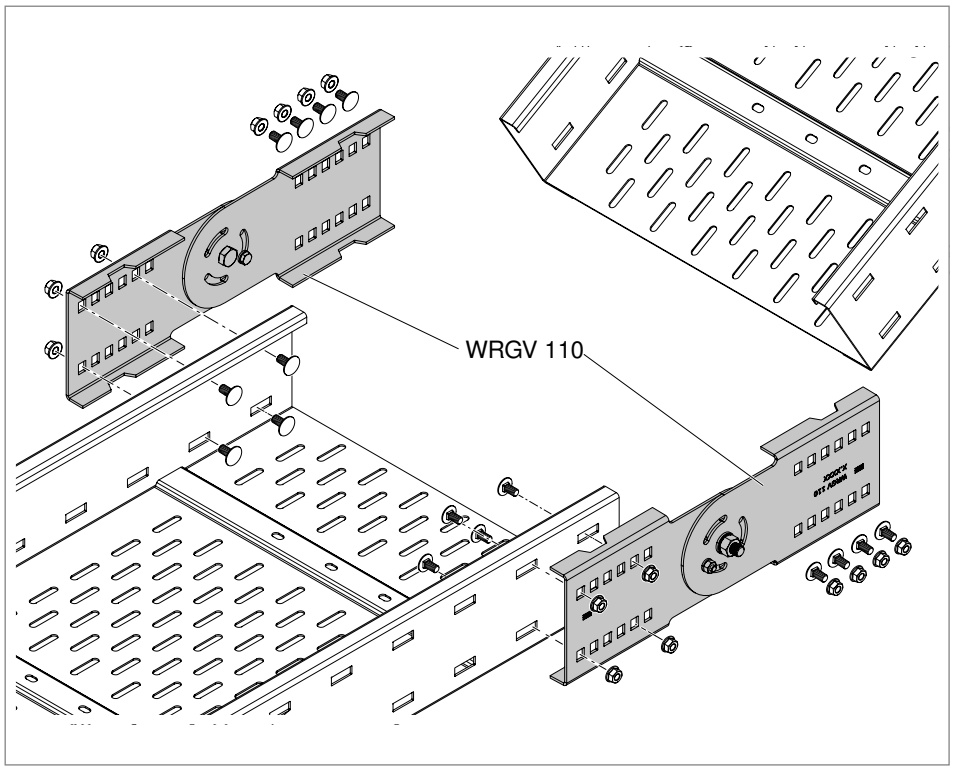


Fig. 22: Applying the adjustable connector

1. Apply the adjustable connector to the outer sides of the rail of the horizontal tray.

2. Screw the adjustable connector to the horizontal tray.

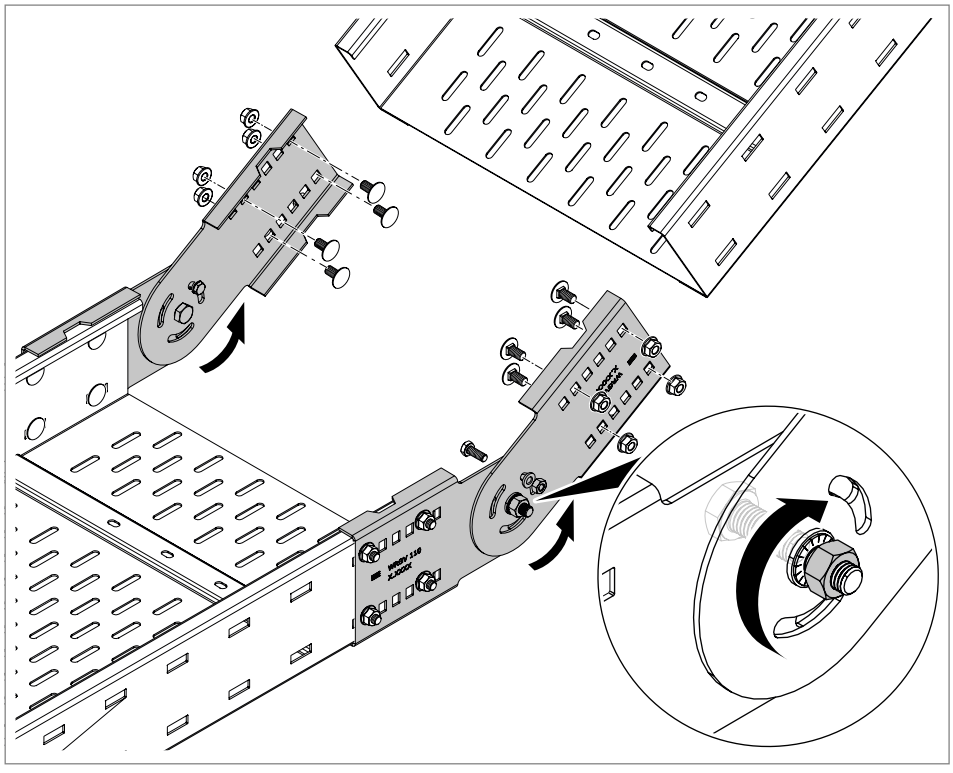


Fig. 23: Adjusting the angle

3. Dismantle the locking screw and loosen the hinge screw.
4. Adjust the desired angle on the adjustable connector.
5. Tighten the hinge screw.

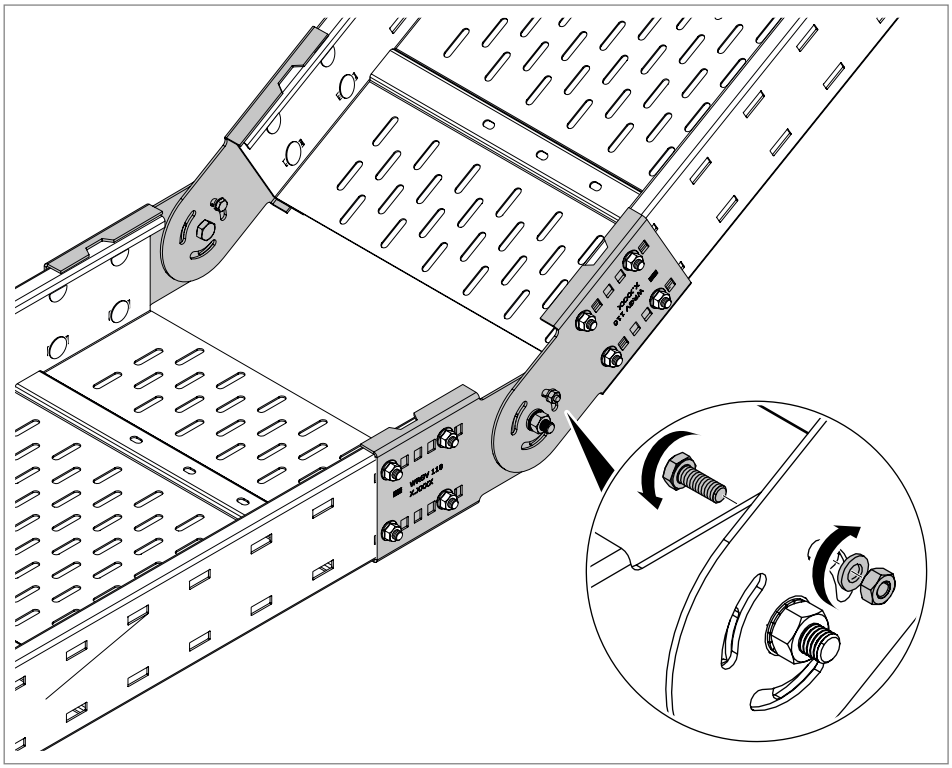


Fig. 24: Mounting the rising tray

6. Screw the adjustable connector to the rising tray.
7. Secure the angle adjustment with the locking screw in the slot.

WRGV 160 adjustable connector

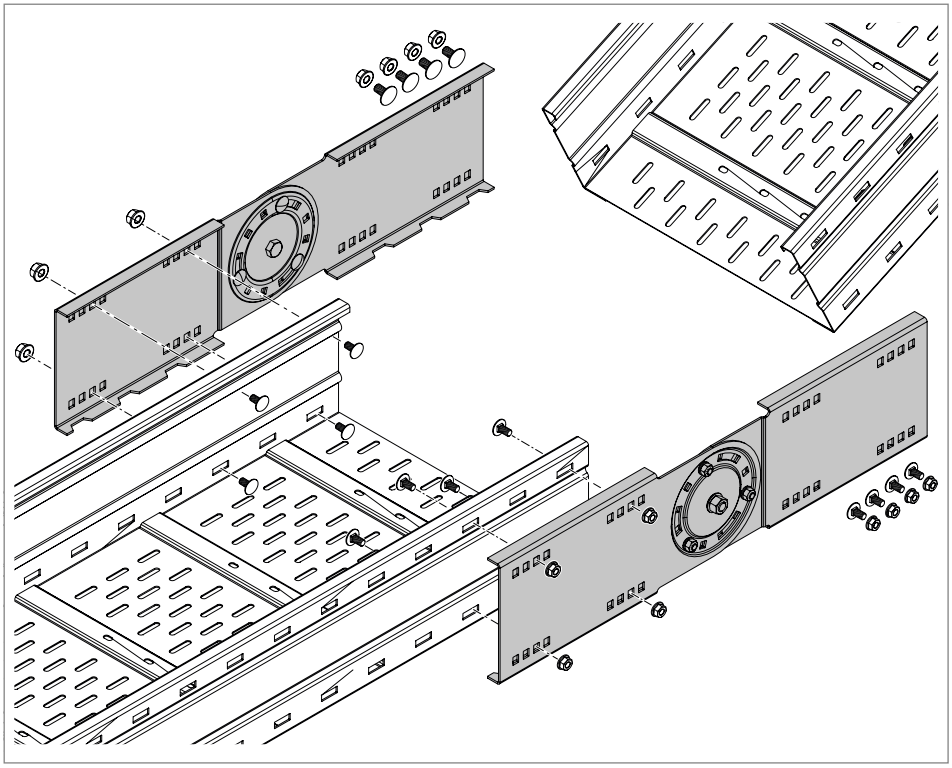


Fig. 25: Applying the adjustable connector

1. Apply the adjustable connector to the outer sides of the rail of the horizontal tray.

2. Screw the adjustable connector to the horizontal tray.

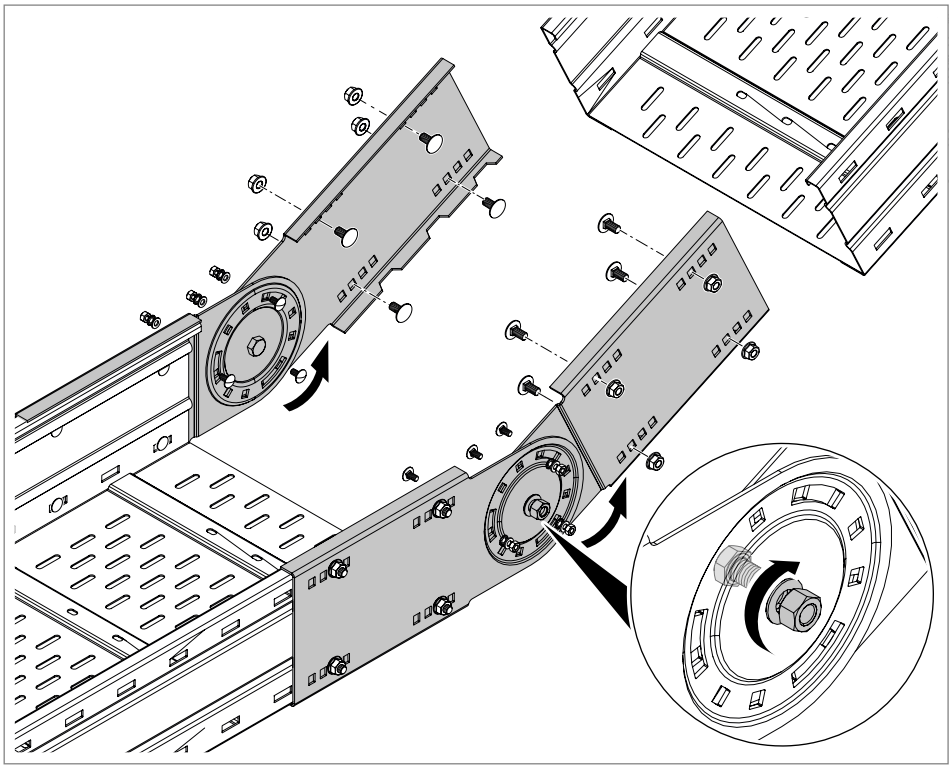


Fig. 26: Adjusting the angle

3. Dismantle the three locking screws and loosen the hinge screw.
4. Adjust the desired angle on the adjustable connector.
5. Tighten the hinge screw.

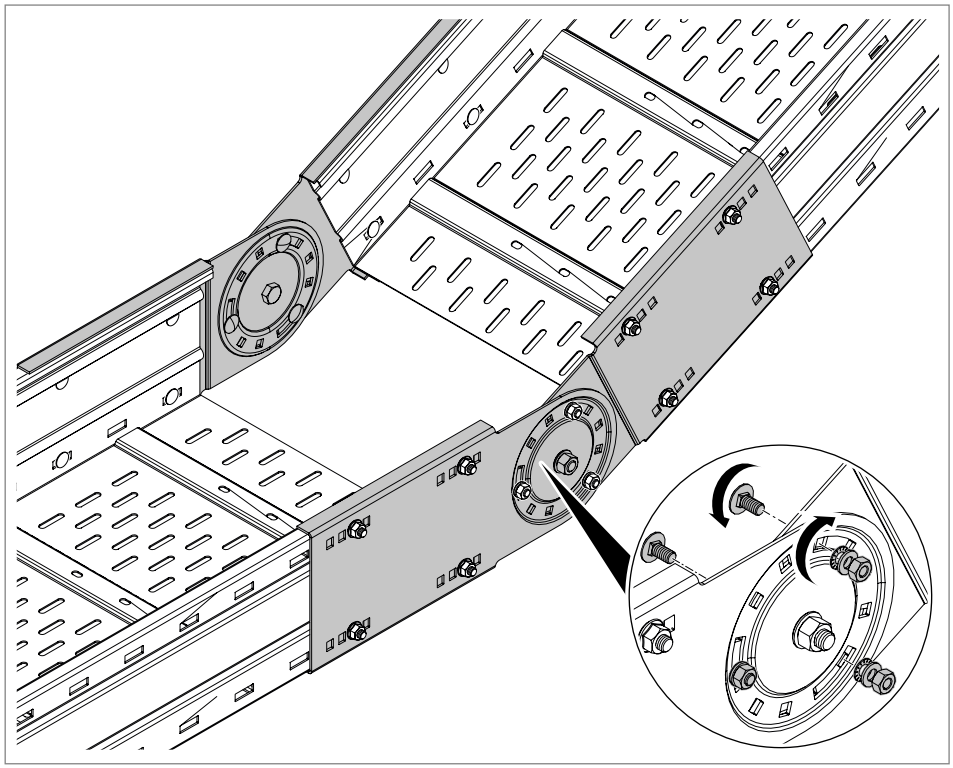


Fig. 27: Mounting the rising tray

6. Screw the adjustable connector to the rising tray.
7. Secure the angle adjustment with the three locking screws in the slots.

5.4 Mounting a wide span cable tray with base plate

Wide span cable trays are fastened vertically on the floor with the base plate WFP. The base plate is used for trays with the 110 and 160 mm side height. The base plate is screwed to the tray using FRS M8 truss-head bolts and combination nuts.

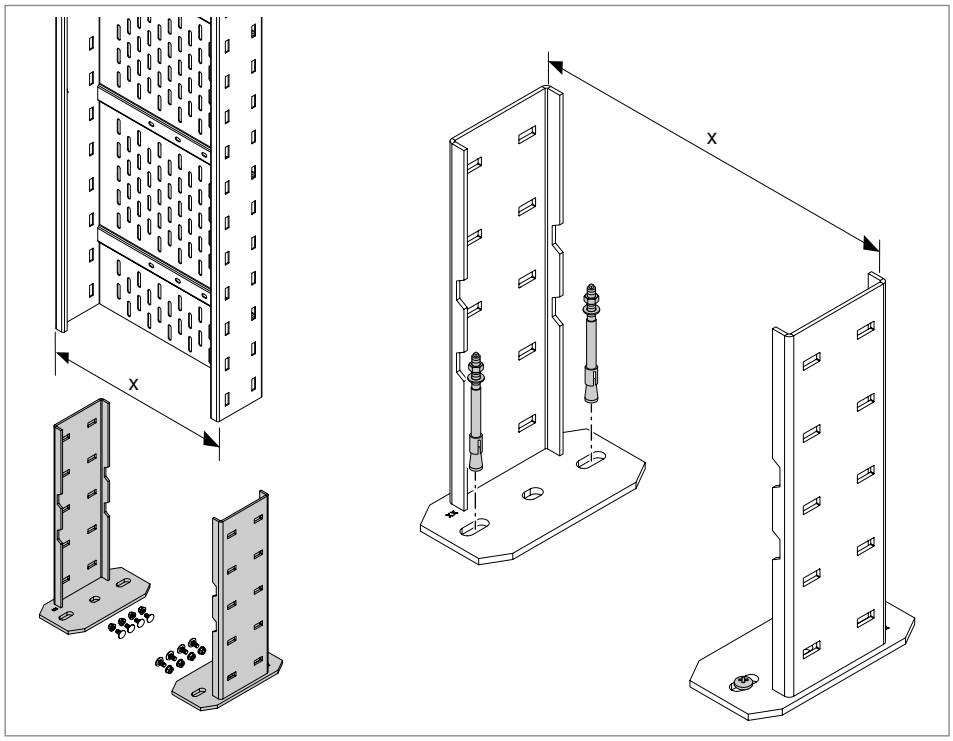


Fig. 28: WFP base plate

1. Anchor the base plate to the base.

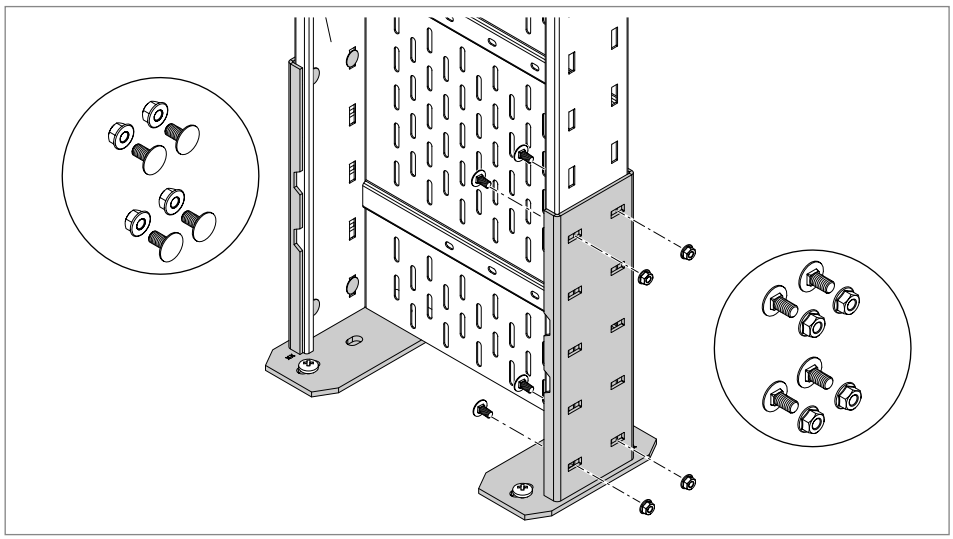


Fig. 29: Screwing the tray to the base plate

2. Screw the wide span cable tray to the base plate.

5.5 Mounting fittings

Using fittings for wide span cable trays, it is possible to create changes of direction in the form of bends for large bend radii, as well as T branches and cross-overs.

5.5.1 Supporting fittings

Fittings must always be supported by the support system. The mounting of the different support systems is shown in special mounting instructions, see „1.6 Applicable documents“ on page 6.

WARNING

Risk of the support system falling!
If fittings are not supported, cable loads can become too heavy, destabilising the entire support system. There is a risk of the support system falling. Support the fittings with an additional support element.

Support of fitting up to 300 mm width

At a width of up to 300 mm, one tray support at a spacing of 250–300 mm from the joint edge of the fitting is sufficient.

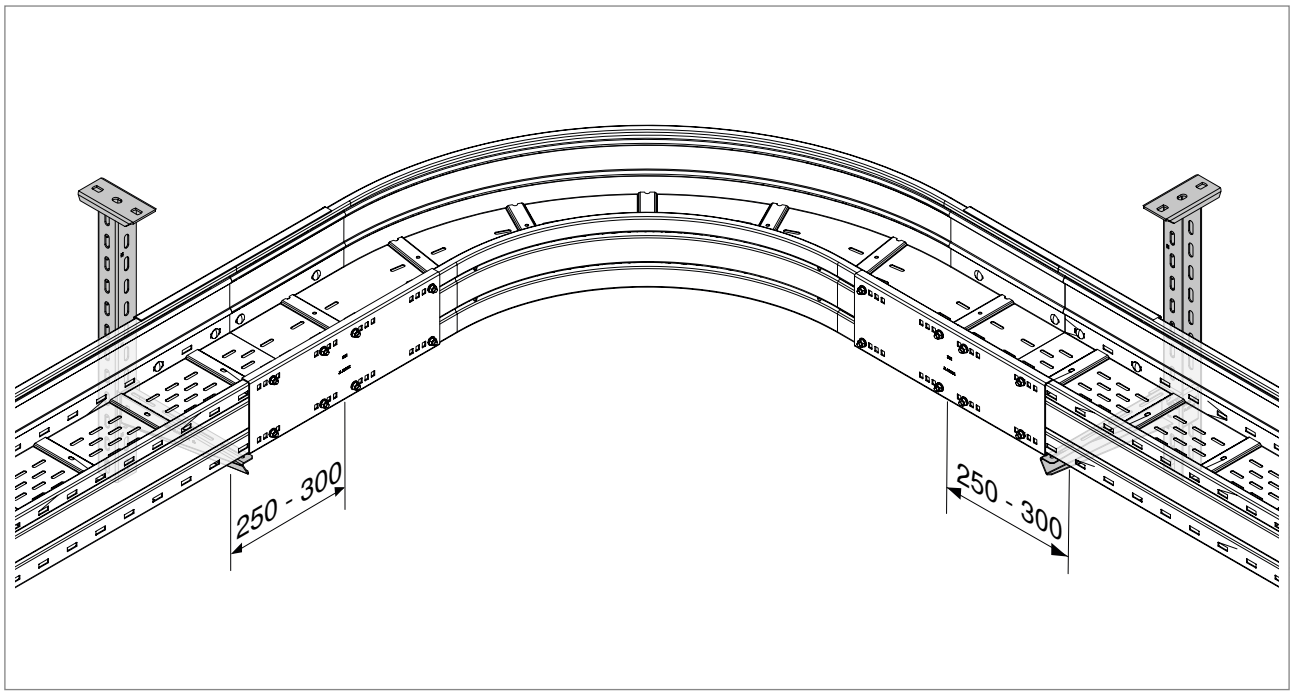


Fig. 30: Example of 90° bend fitting support with 300 mm width

1. Support the fitting with a support structure at a distance of 250–300 mm from the edge.

Support of fitting from 400 mm width

At a width of 400 mm or more, one tray support is mounted at a spacing of 250–300 mm from the joint edge of the fitting. In addition, a further support element must be mounted under the fitting.

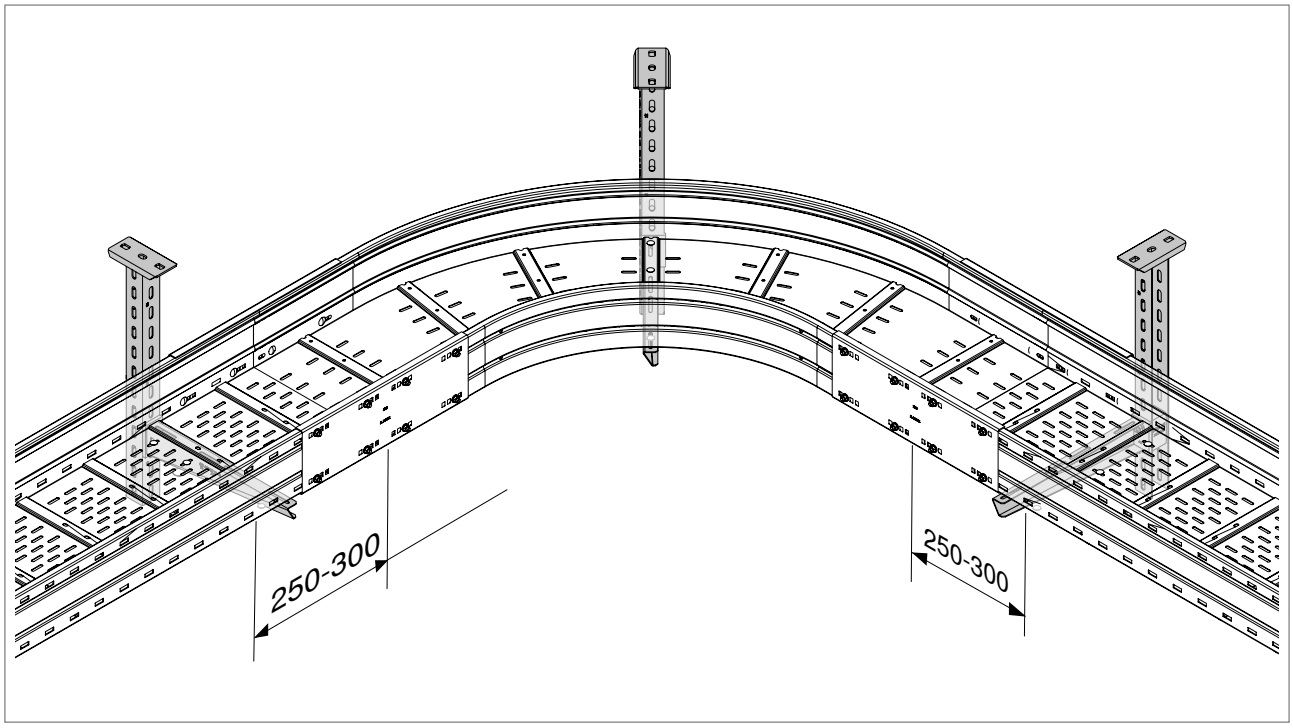


Fig. 31: Example of 90° bend fitting support with 400 mm width

1. Support the fitting with a support structure at a distance of 250–300 mm from the edge.

2. Mount an additional support element under the fitting.

5.5.2 Mounting the WRB 90 90° bend

90° changes of direction are created with the WRB 90 bend. The bend is used with the tray heights 110 and 160 mm and is mounted with the WRVL straight connector. The connector is screwed on with FRS M8 truss-head bolts and combination nuts.

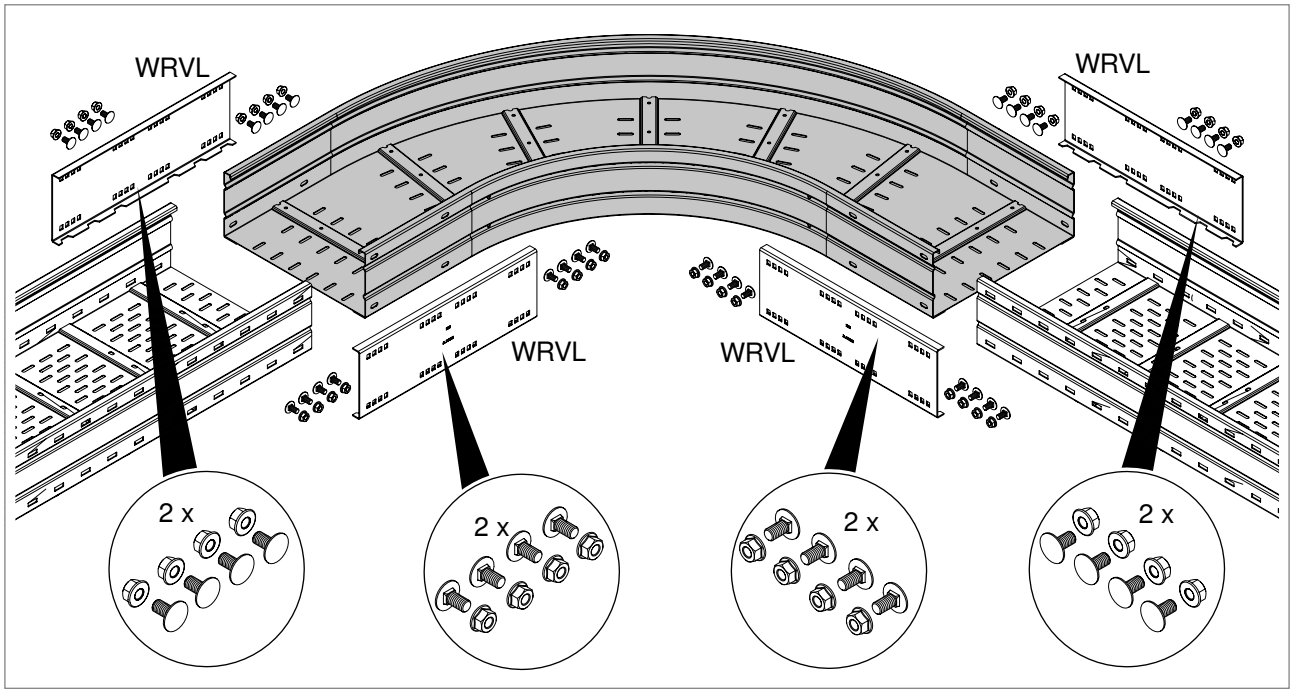


Fig. 32: Components for mounting the 90° bend with 160 mm side height

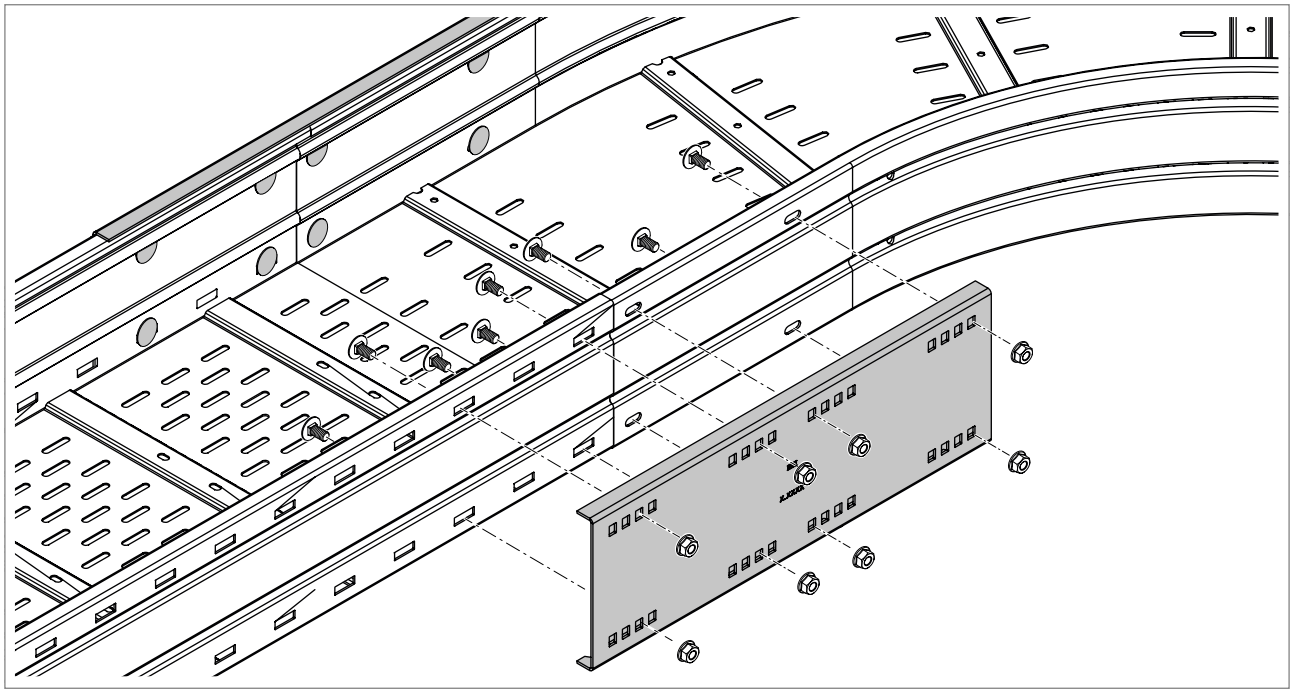


Fig. 33: Screwing on connectors

1. Apply the WRVL straight connectors to the outer sides of the rail in the area of the joints.

2. Screw on the straight connector.

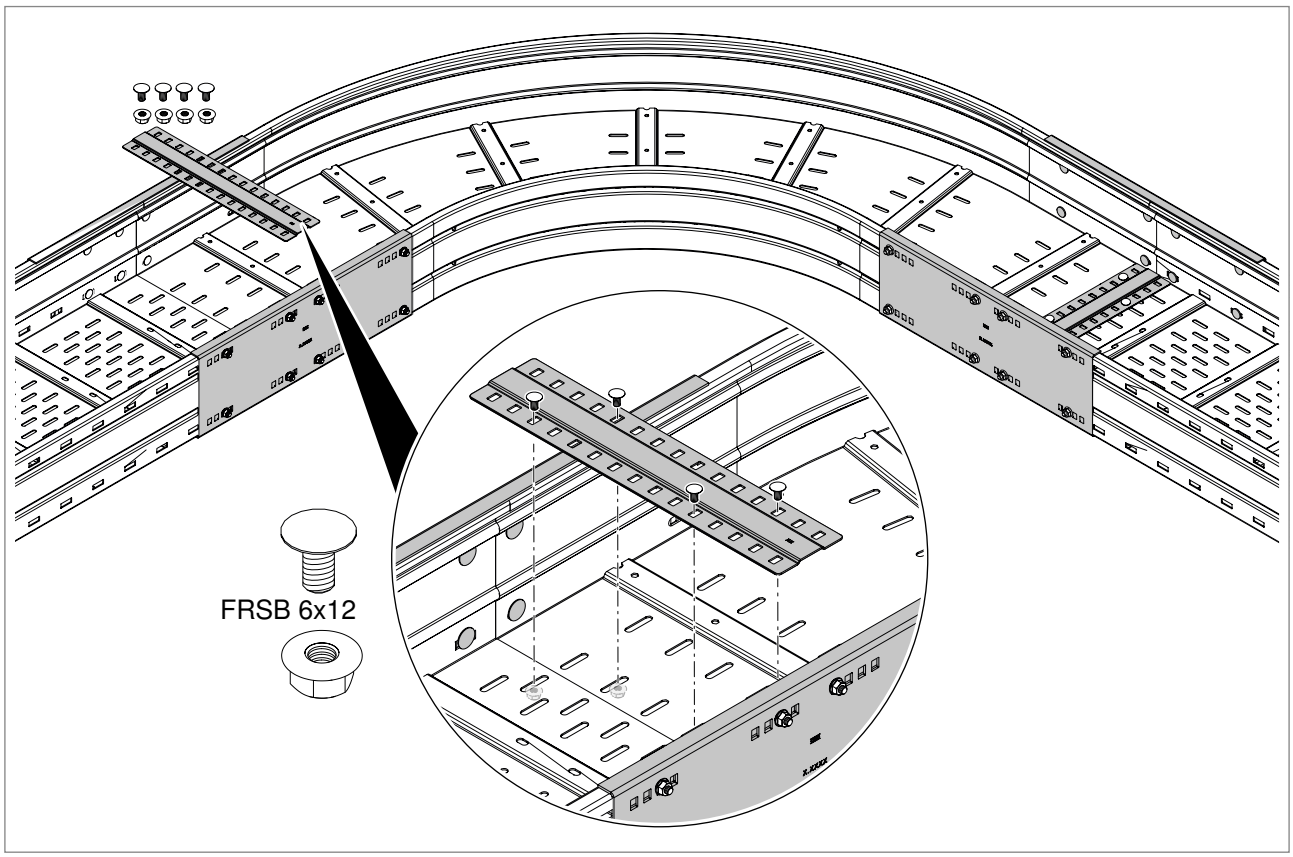


Fig. 34: Screwing on the joint plate

3. From a tray width of 400 mm, screw on a joint plate in joint areas of the tray and fitting.

5.5.3 Mounting the WRAA add-on tee

The WRAA add-on tee allows the creation of horizontal T branches and cross-overs. The add-on tee is used with the tray heights 110 and 160 mm and is mounted with the WRVL straight connector. The connector is screwed on with FRS M8 truss-head bolts and combination nuts.

Note! *To create an cross-over, two opposing add-on tees are mounted on a wide span cable tray.*

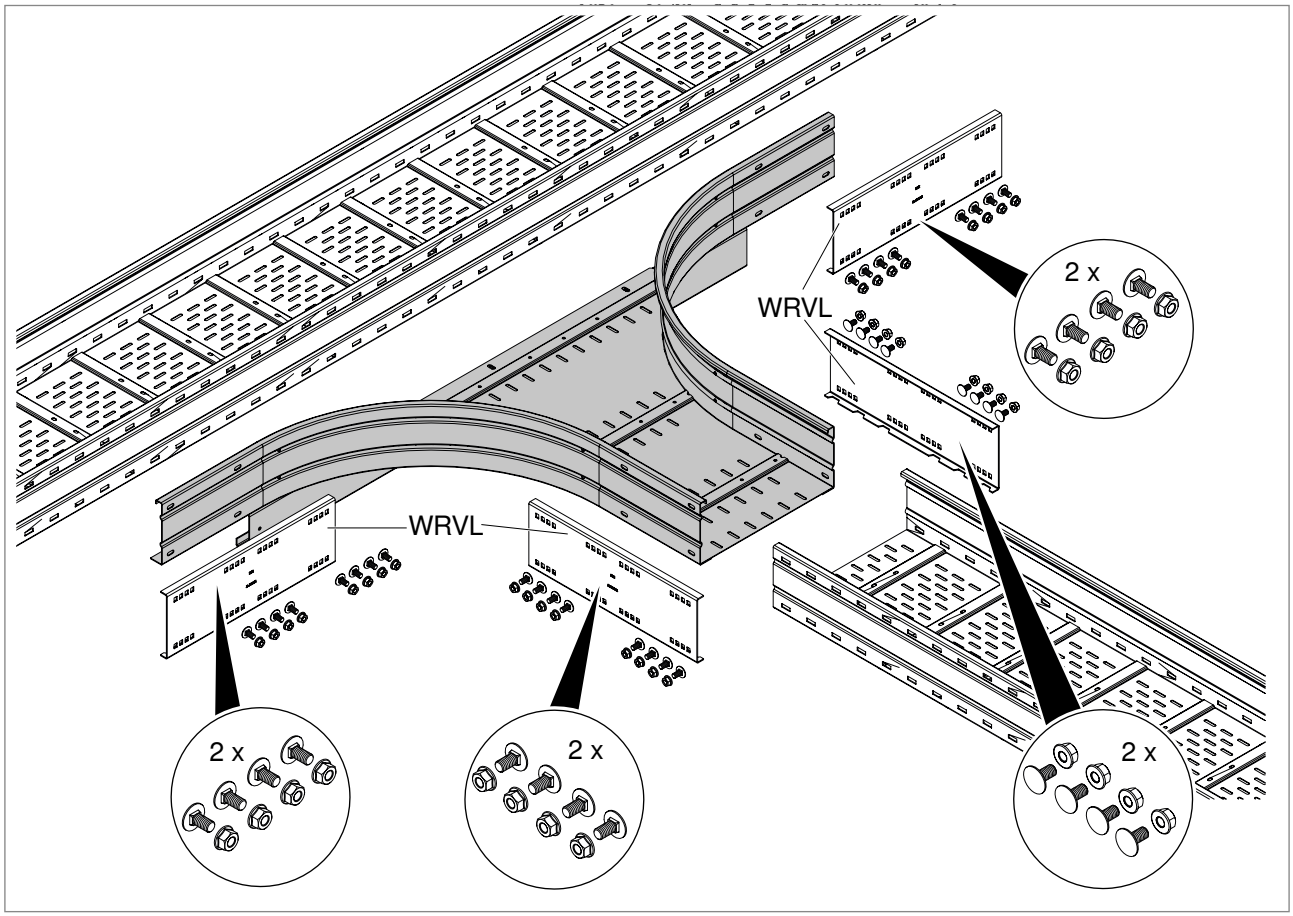


Fig. 35: Components for the mounting of an add-on tee

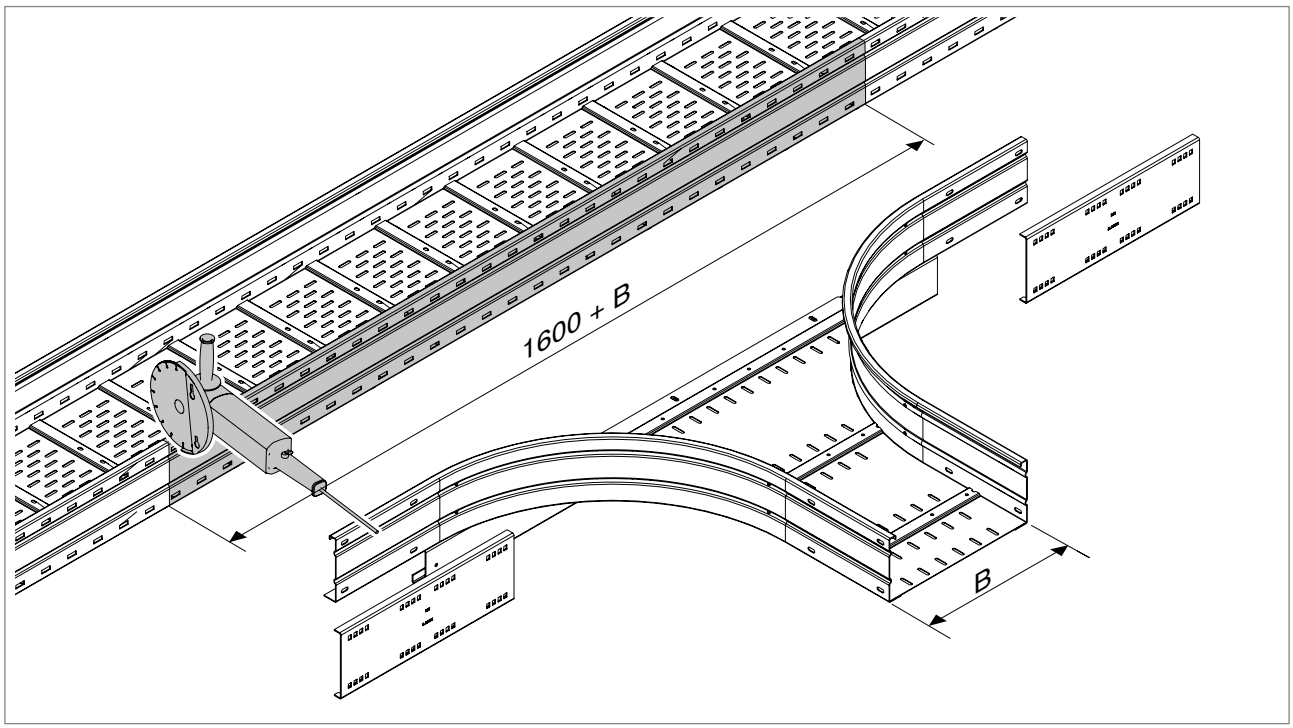


Fig. 36: Notching out the rail

1. Notch out the rail and bottom chord of the rail with the dimension 1,600 mm + B.

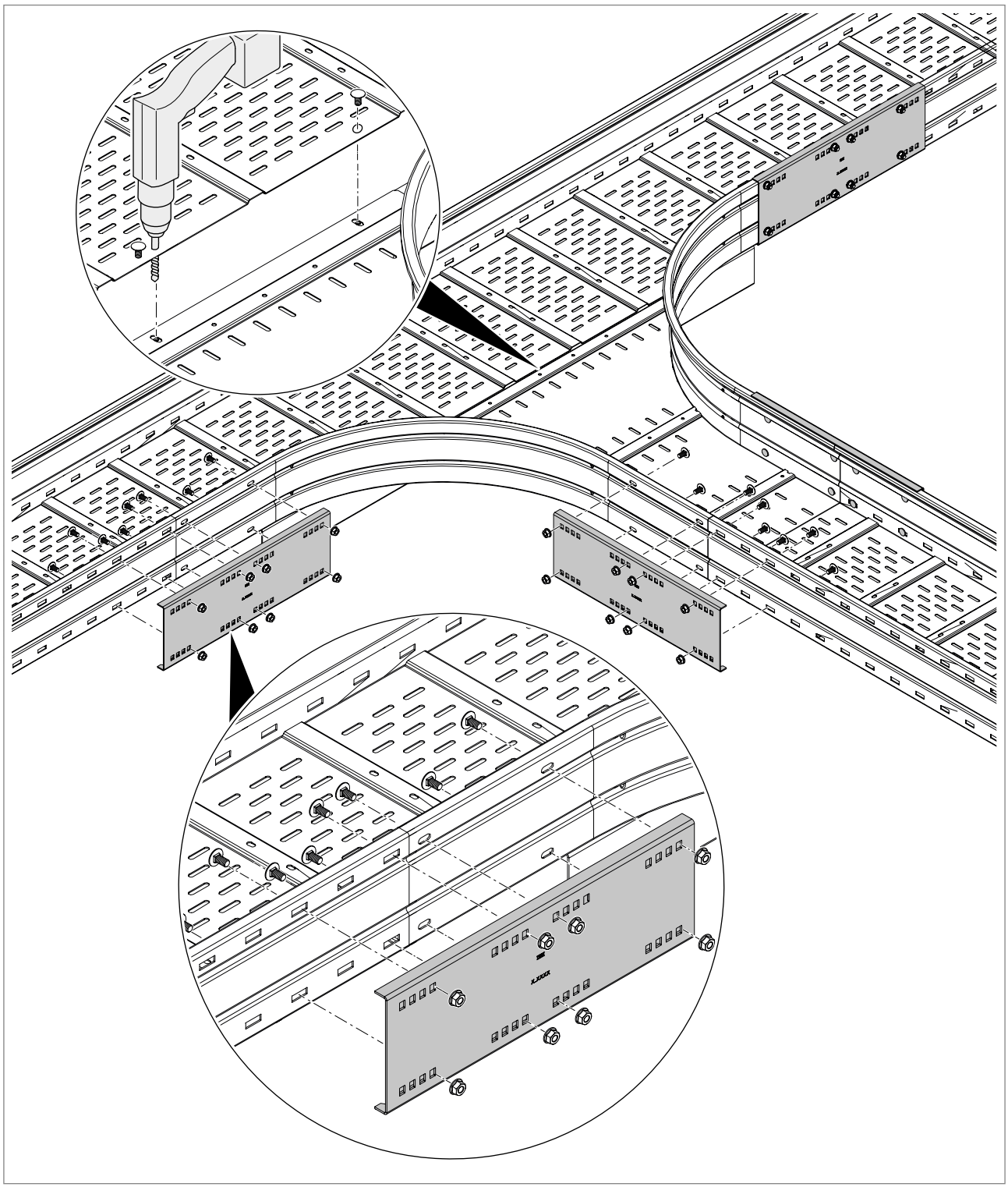


Fig. 37: Screwing on the straight connector

2. Predrill the notched out tray in the area of the joint. In so doing, use the drill holes of the worked on joint plate of the add-on tee as a drilling template.

3. Apply the WRVL straight connectors to the outer sides of the rail in the area of the joints.

4. Screw on the straight connector.

5. Screw the worked on joint plate of the add-on tee to the notched out tray.

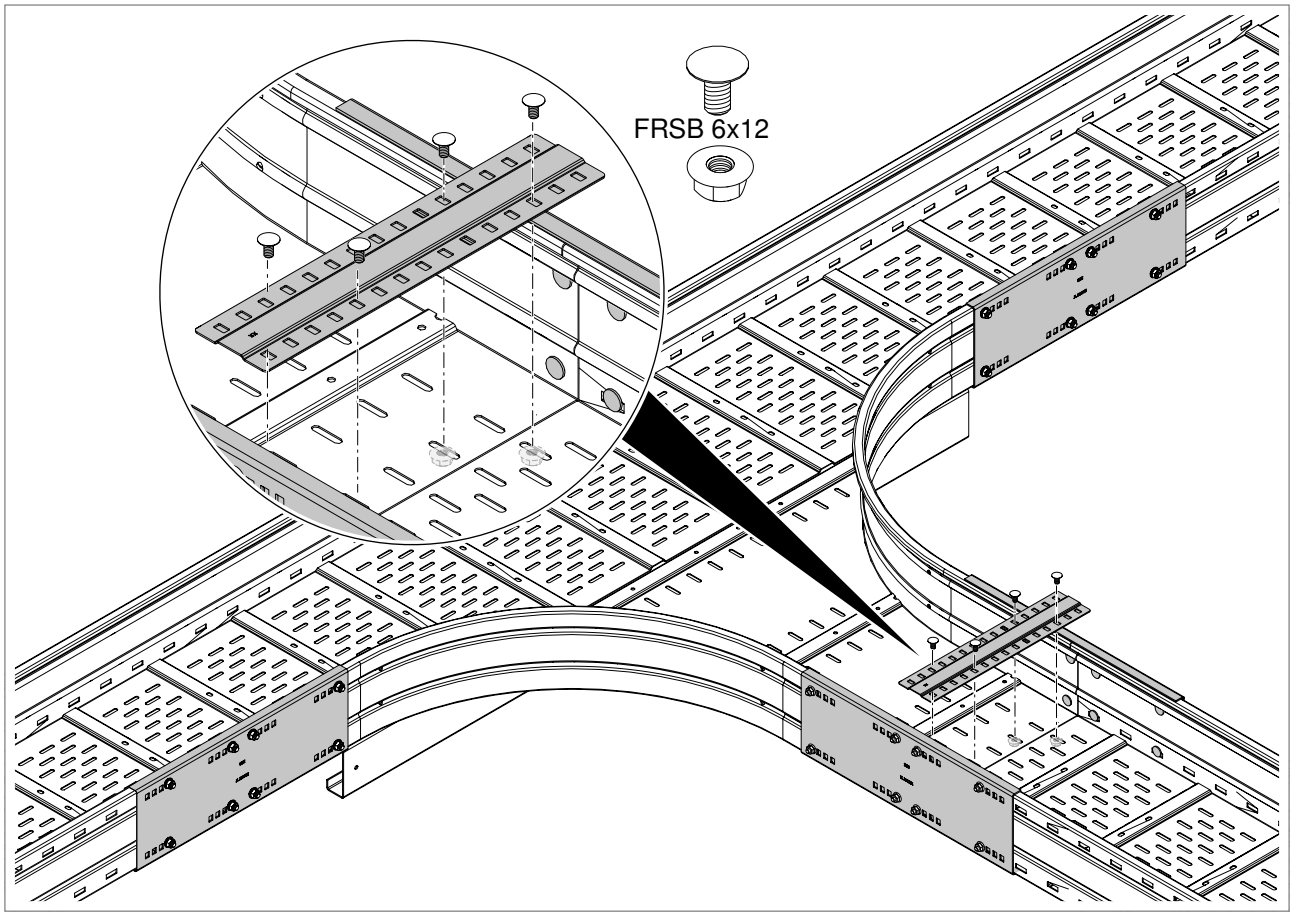


Fig. 38: Screwing on the joint plate

6. From a tray width of 400 mm, screw on a joint plate in the joint area of the second tray and fitting.

5.5.4 Mounting the WEAS corner extension piece

90° internal corners for large bend radii are created using the WEAS corner extension piece. The corner extension piece is used with the tray heights 110 and 160 mm and is mounted with the WRVL straight connector. The connector is screwed on with FRS M8 truss-head bolts and combination nuts. The external corner is connected with the WRWVK angle connector.

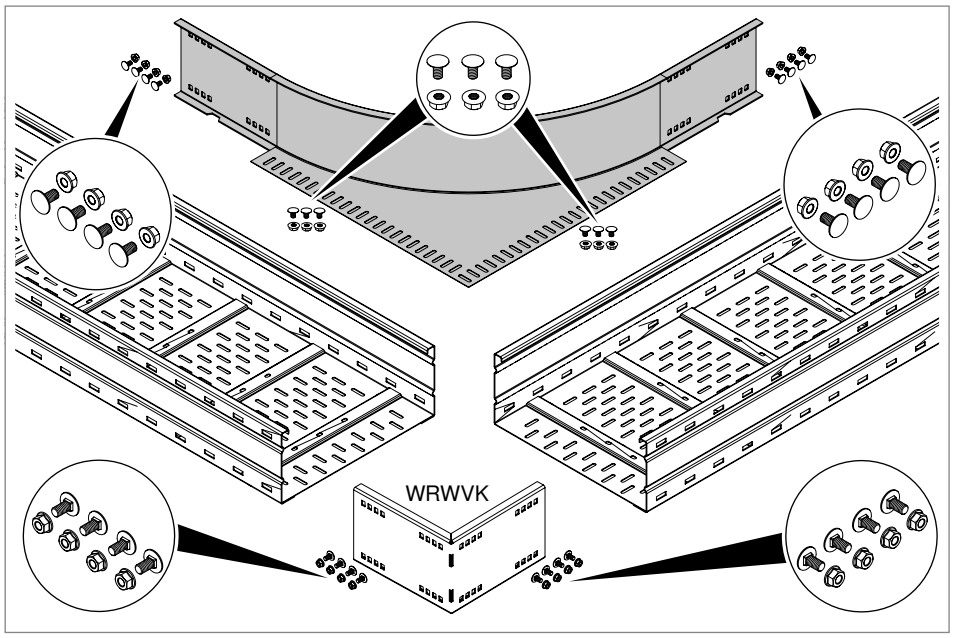


Fig. 39: Components for mounting the WEAS corner extension piece

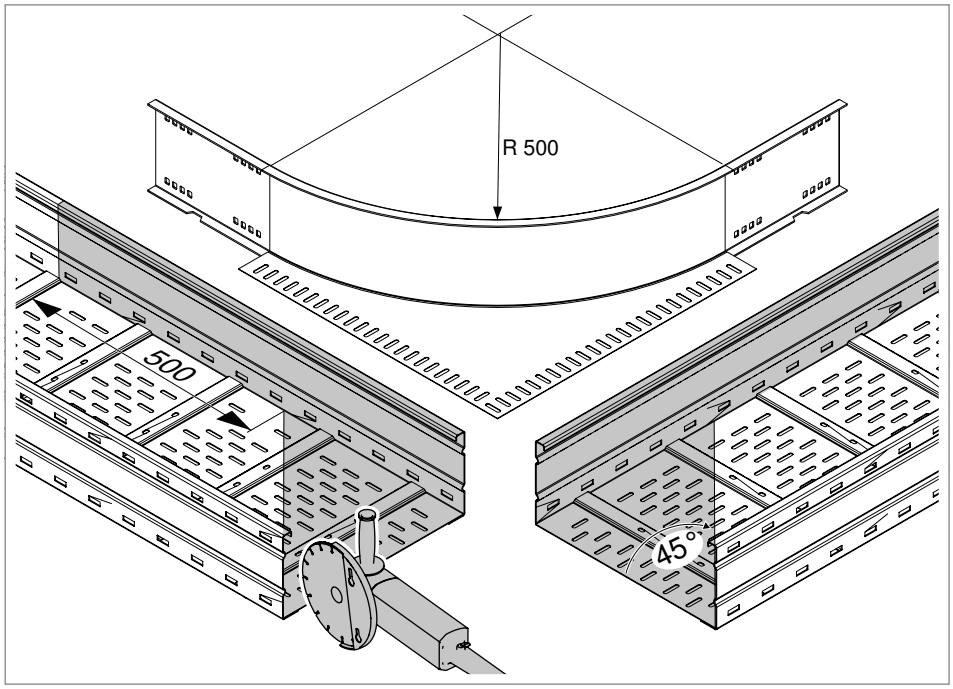


Fig. 40: Cutting the wide span cable tray for a corner extension piece

1. Cut the tray at a 45° angle.
2. Notch out the rail with a dimension of 500 mm.

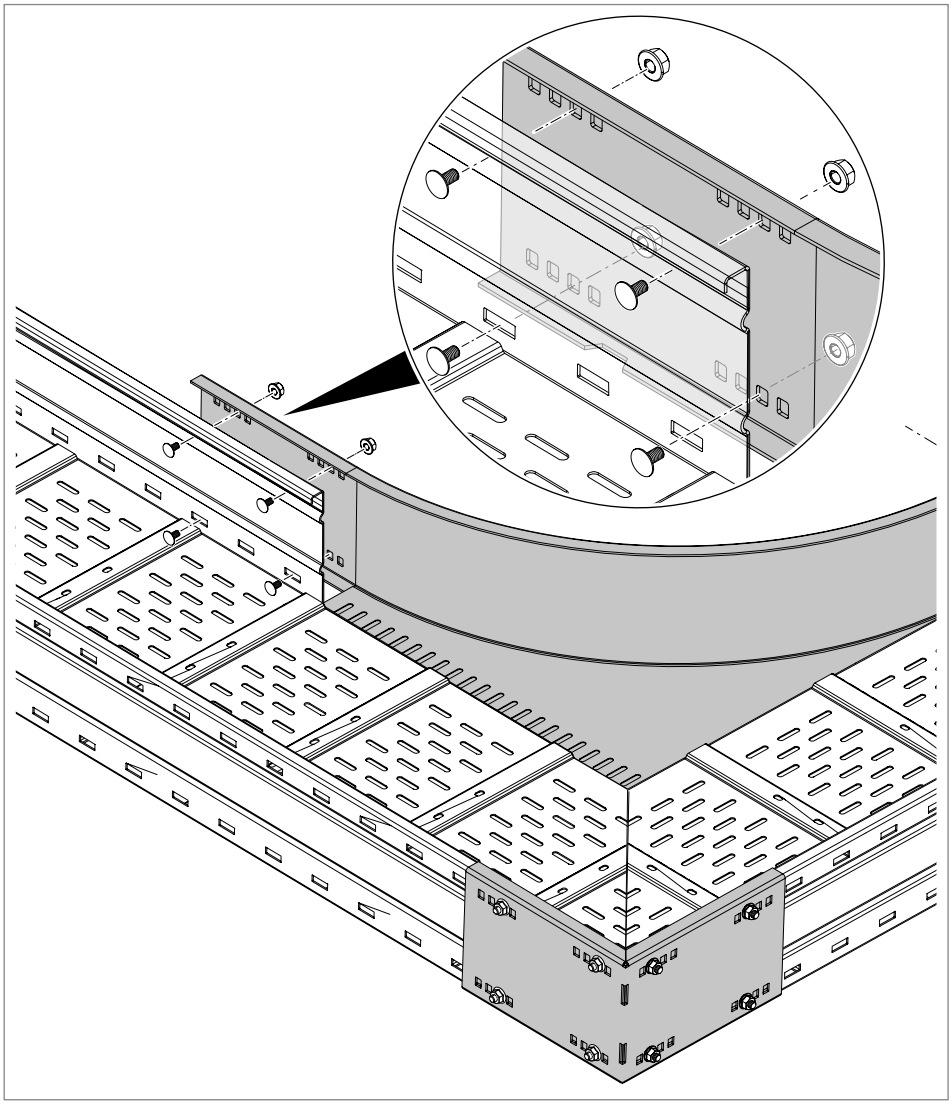


Fig. 41: Screwing on the corner extension piece and angle connector

3. From outside, place the corner extension piece on the rail in the area of the notched out tray.

4. Screw on the corner extension piece.

5. Bend the WRWVK angle connector and screw to the external corner.

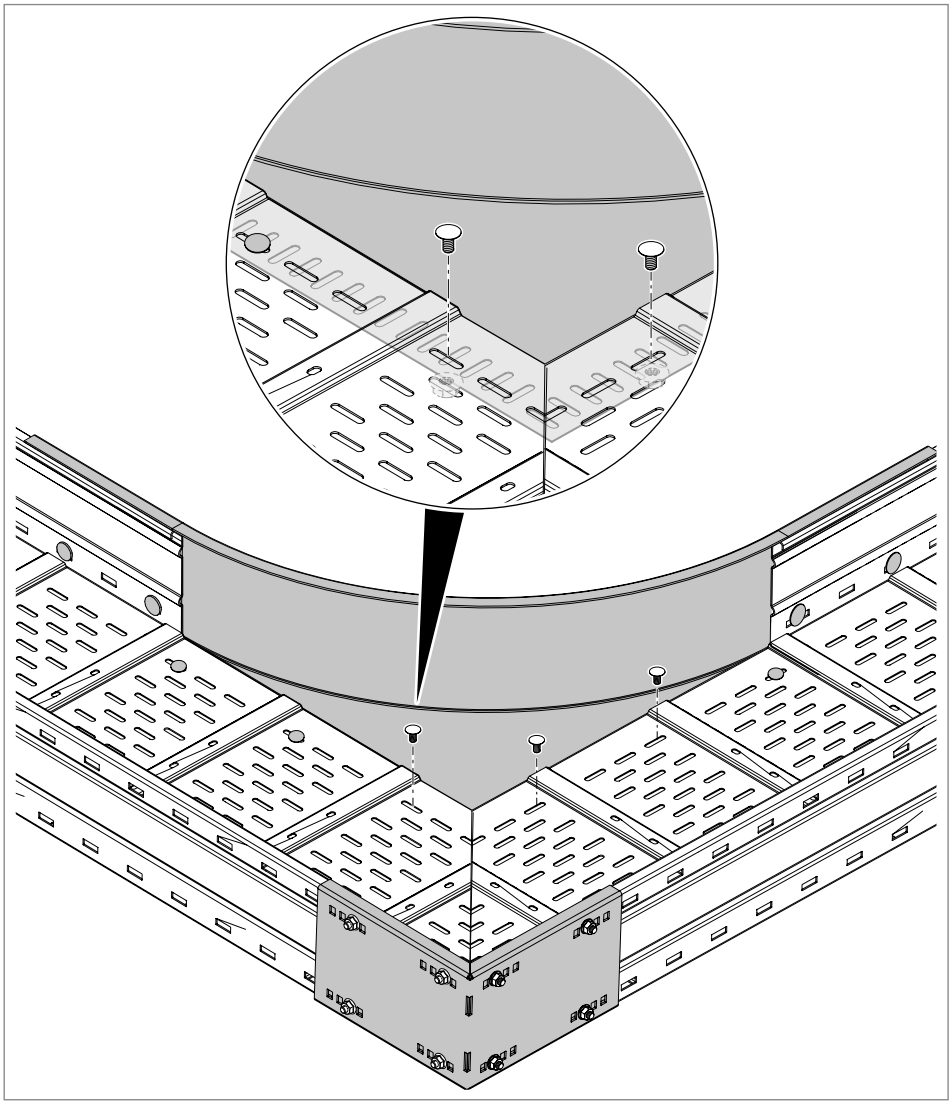


Fig. 42: Screwing on the joint plate

6. Screw the worked on joint plate of the corner extension piece to the tray base.

5.6 Mounting covers

ATTENTION

Risk of damage!
Screws can damage cables if the screw points point into the routing space. Select the length of the drilling screws for mounting the cover, so that the inner edge of the rail is not drilled through.

5.6.1 Mounting a cover in the WDRLU DF roof shape

Roof-shaped covers of type WDRLU DF allow a better run-off of water and improved cable ventilation. The cover is used for trays with the 110 and 160 mm side heights. It is screwed on with self-tapping drilling screws (e.g. 4.2 x 16 mm).

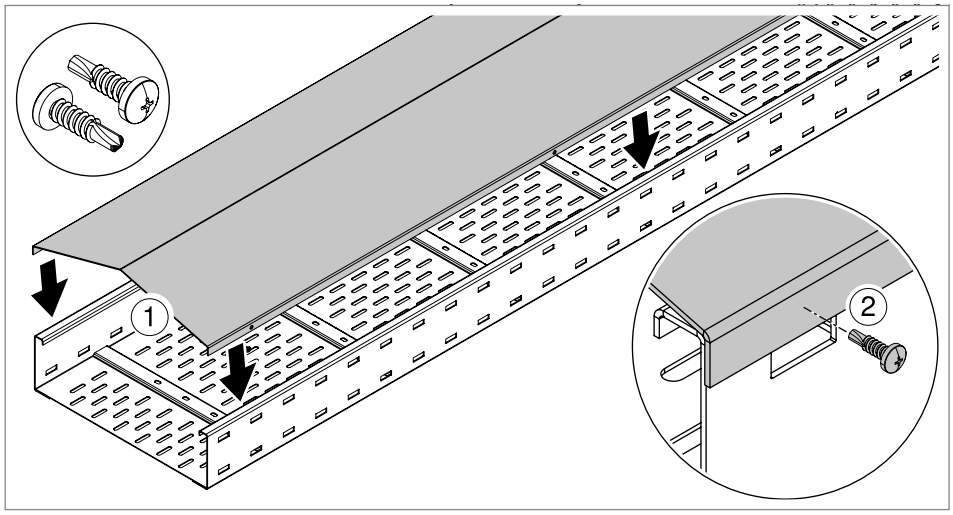


Fig. 43: Place the WDRLU DF cover on the wide span cable tray

1. Place the cover on the tray.
2. Screw on the cover with self-tapping drilling screws.

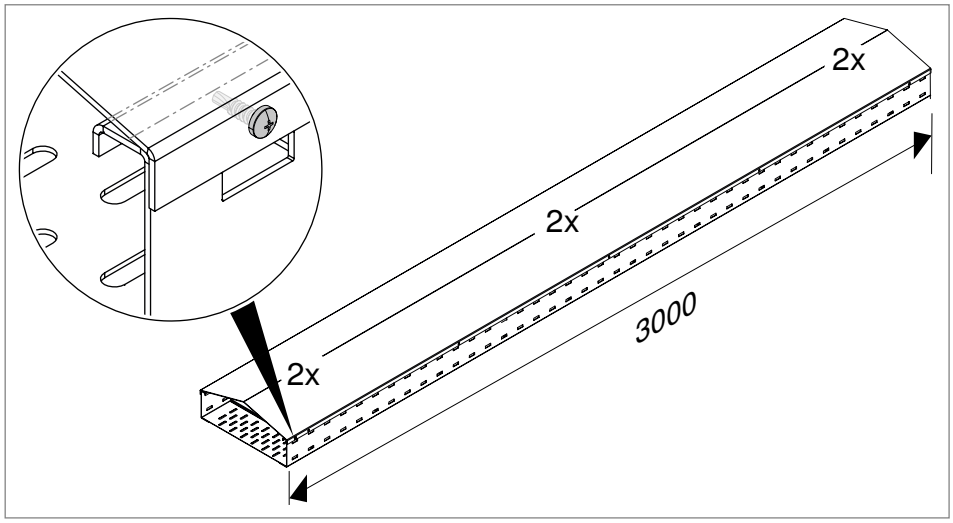


Fig. 44: Screwing on the cover at at least 6 points

3. Screw on at least 3x 2 drilling screws per 3,000 mm of cover length.

5.6.2 Mounting the WDRL cover with turn buckle

Covers of type WDRL have pre-mounted turn buckles. The cover is used for trays with the 110 and 160 mm side heights.

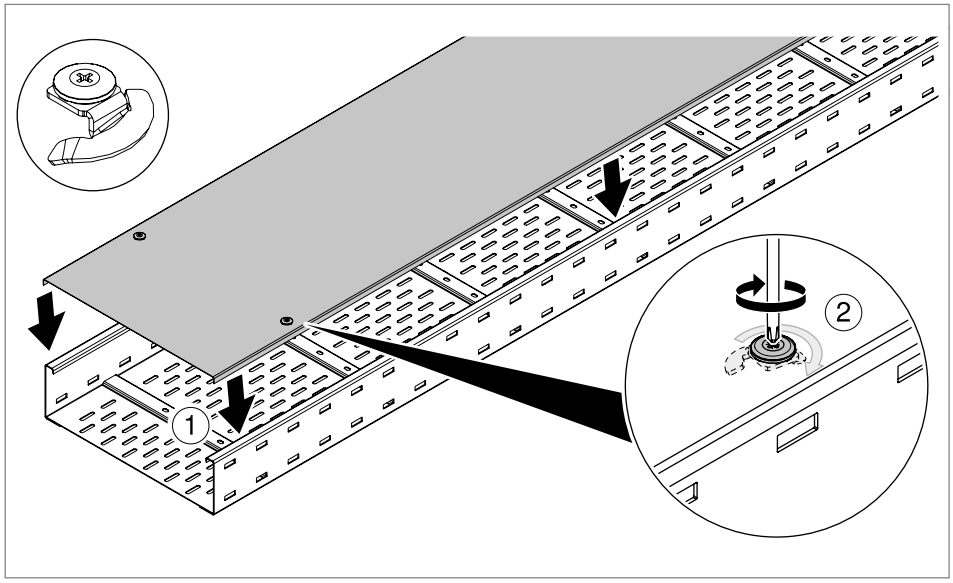


Fig. 45: Placing the WDRL cover on the wide span cable tray

1. Place the cover on the tray.
2. Screw on the cover with pre-mounted turn buckles.

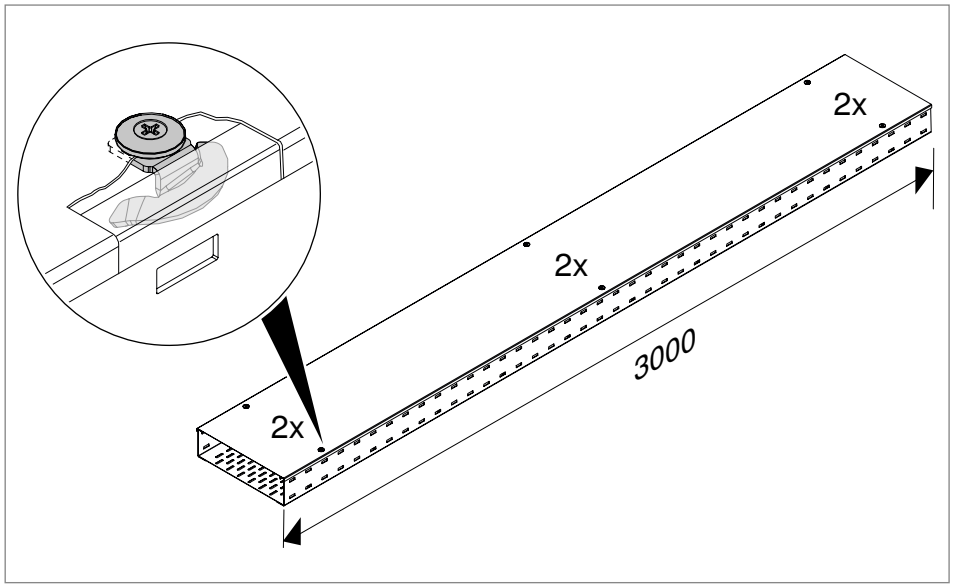


Fig. 46: Mounted cover with pre-mounted turn buckles

5.6.3 Mounting the DRL FAM cover with spacer

Covers of type DRL FAM are mounted with spacers, in order to guarantee improved ventilation of the routed cables. The cover is used for trays with the 110 and 160 mm side heights. The cover has predrilled holes to mount spacers.

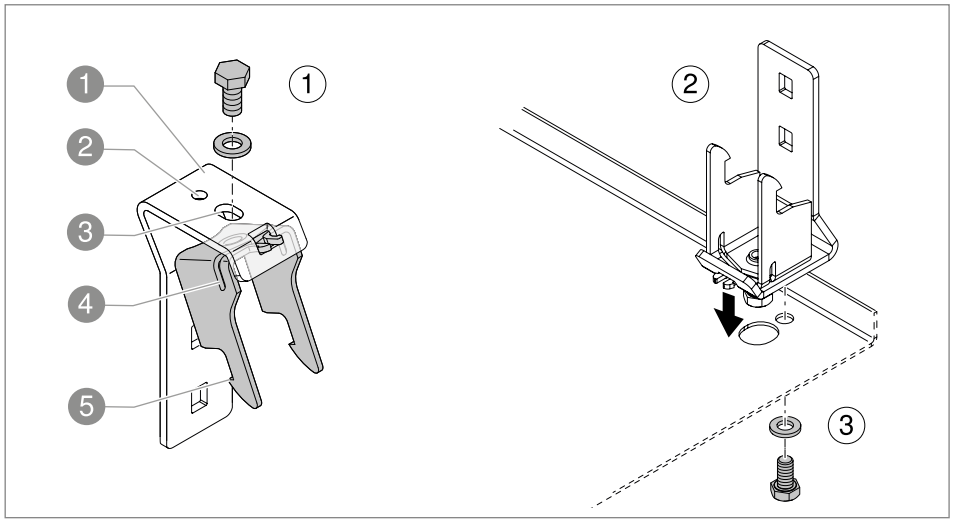


Fig. 47: Mounting spacers on covers

1 1 Cover holder
2 1 Round hole for second screw
3 1 Slot for first screw
4 1 Cover clamp
5 1 Hook

1. Insert the cover clamp in the cover holder, screw through the slot with the screw and washer, so that the cover clamp can still be moved fully.

2. Place the space on the drill holes on the underside of the cover, so that the first screw is located in the larger drill hole.

3. Fasten the spacer through the round hole on the cover using the second screw and washer.

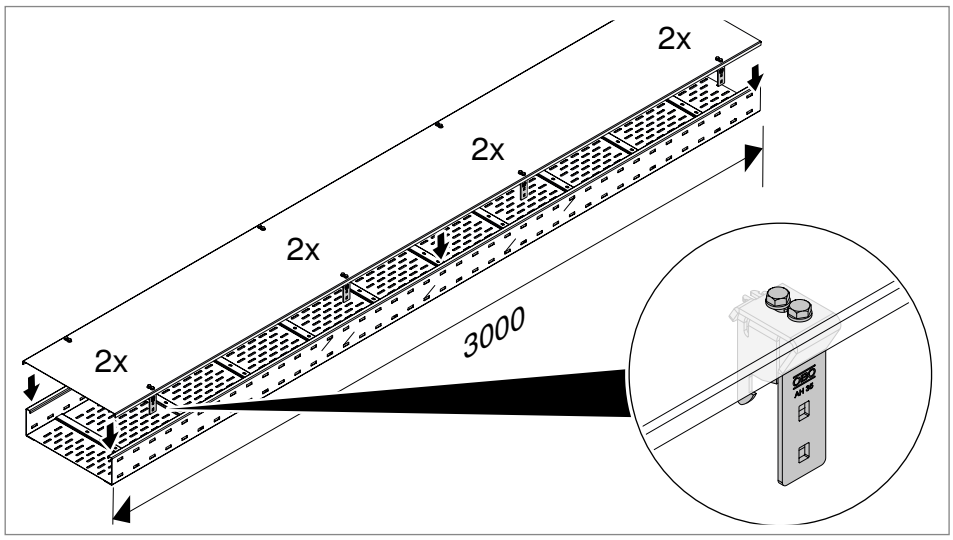


Fig. 48: Mounted spacer on DRL FAM cover

4. Screw on 4x 2 spacers for every 3,000 mm of cover length.

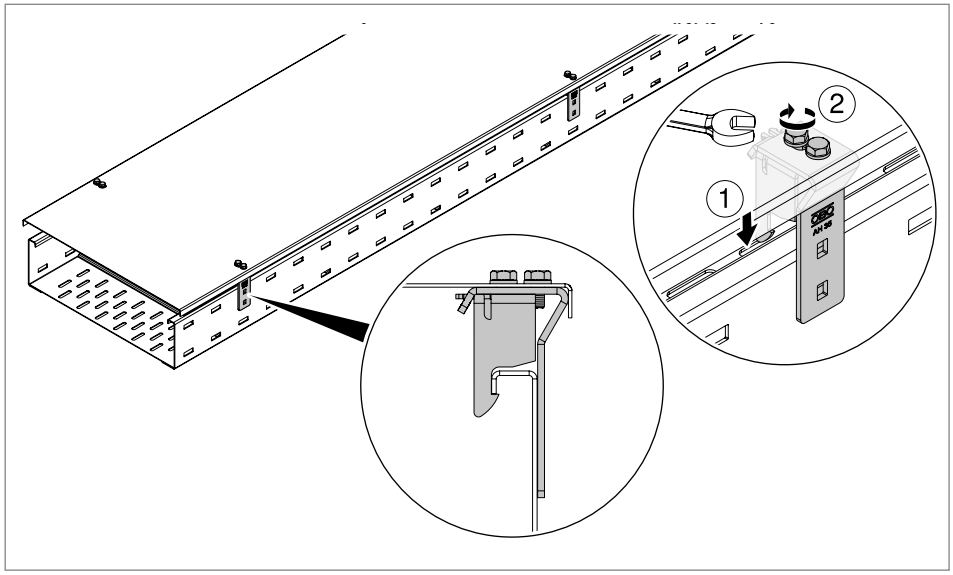


Fig. 49: Mounting the cover on the tray

5. Place the cover with spacers on the tray until the hooks engage under the rail edge.

6. Tighten all the first screws.

5.6.4 Mounting a fitting cover

The fitting covers are supplied with pre-mounted turn buckles. The mounting is the same as the mounting of the lengthwise cover, see „5.6.2 Mounting the WDRL cover with turn buckle“ on page 42.

5.7 Creating equipotential bonding

The equipotential bonding is created using an earthing terminal.

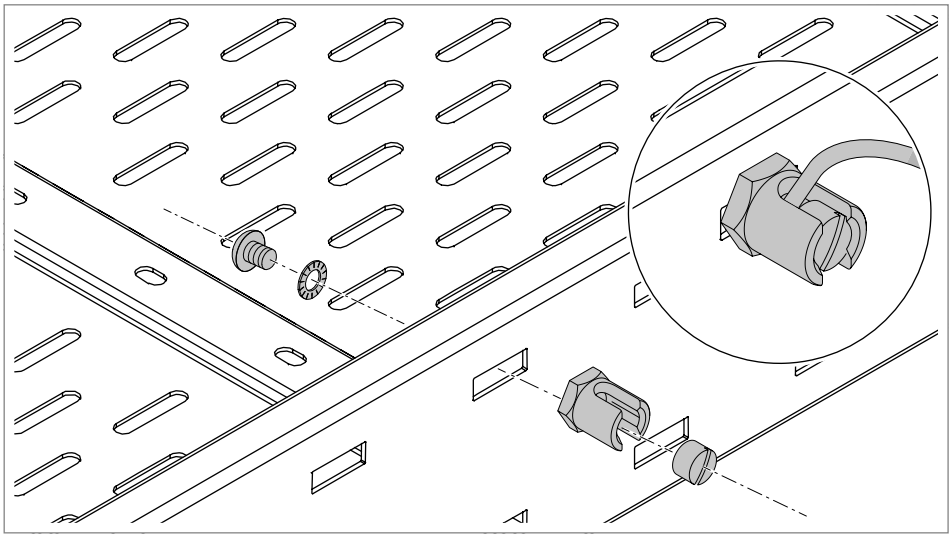


Fig. 50: Mounting the earthing terminal

1. Screw the earthing terminal to the rail of the tray.
2. Electrically connect the earthing terminal to the overall equipotential bonding.

6 Maintaining the system

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

Loose connection elements must be retightened and damaged parts replaced. The connection to the overall equipotential bonding must be continually intact and thus checked regularly.

7 Dismantling the system

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

8 Disposing of the system

Comply with the local waste disposal regulations.

– Metal: As scrap metal

– Plastic parts: As plastic

– Packaging: As household waste/as metal (depending on packaging type)

9 Technical data

Legend:

G = Electrogalvanised	DD = Hot-dip galvanised, Double Dip
FS = Strip galvanised	A2 = Stainless steel 1.4301
FT = Hot-dip galvanised	A4 = Stainless steel 1.4571
FT SO = Hot-dip galvanised, special layer thickness	

Wide span cable trays, length 6,000 mm

Designation	Type	Side height mm	Width mm	Surface	Item no.
Wide span cable tray	WKSG 120 FS	110	200	FS	6098111
Wide span cable tray	WKSG 130 FS	110	300	FS	6098115
Wide span cable tray	WKSG 140 FS	110	400	FS	6098119
Wide span cable tray	WKSG 150 FS	110	500	FS	6098123
Wide span cable tray	WKSG 160 FS	110	600	FS	6098127
Wide span cable tray	WKSG 120 FT	110	200	FT	6098141
Wide span cable tray	WKSG 130 FT	110	300	FT	6098145
Wide span cable tray	WKSG 140 FT	110	400	FT	6098149
Wide span cable tray	WKSG 150 FT	110	500	FT	6098153
Wide span cable tray	WKSG 160 FT	110	600	FT	6098157
Wide span cable tray	WKSG 120 A2	110	200	A2	6098161
Wide span cable tray	WKSG 130 A2	110	300	A2	6098165
Wide span cable tray	WKSG 140 A2	110	400	A2	6098169
Wide span cable tray	WKSG 150 A2	110	500	A2	6098173
Wide span cable tray	WKSG 160 A2	110	600	A2	6098177
Wide span cable tray	WKSG 162 FS	160	200	FS	6098501
Wide span cable tray	WKSG 163 FS	160	300	FS	6098505
Wide span cable tray	WKSG 164 FS	160	400	FS	6098509
Wide span cable tray	WKSG 165 FS	160	500	FS	6098513
Wide span cable tray	WKSG 166 FS	160	600	FS	6098517
Wide span cable tray	WKSG 162 FT	160	200	FT	6098550
Wide span cable tray	WKSG 163 FT	160	300	FT	6098554
Wide span cable tray	WKSG 164 FT	160	400	FT	6098558
Wide span cable tray	WKSG 165 FT	160	500	FT	6098562
Wide span cable tray	WKSG 166 FT	160	600	FT	6098566
Wide span cable tray	WKSG 162 A2	160	200	A2	6098571
Wide span cable tray	WKSG 163 A2	160	300	A2	6098573
Wide span cable tray	WKSG 164 A2	160	400	A2	6098575
Wide span cable tray	WKSG 165 A2	160	500	A2	6098577
Wide span cable tray	WKSG 166 A2	160	600	A2	6098579

Fittings

Designation	Type	Side height mm	Width mm	Surface	Item no.
90° bend	WRB 90 120 FS	110	200	FS	6098304
90° bend	WRB 90 130 FS	110	300	FS	6098308
90° bend	WRB 90 140 FS	110	400	FS	6098312
90° bend	WRB 90 150 FS	110	500	FS	6098316
90° bend	WRB 90 160 FS	110	600	FS	6098320
90° bend	WRB 90 120 FT	110	200	FT	6098344
90° bend	WRB 90 130 FT	110	300	FT	6098348
90° bend	WRB 90 140 FT	110	400	FT	6098352
90° bend	WRB 90 150 FT	110	500	FT	6098356
90° bend	WRB 90 160 FT	110	600	FT	6098360
90° bend	WRB 90 162 FS	160	200	FS	6098703
90° bend	WRB 90 163 FS	160	300	FS	6098707
90° bend	WRB 90 164 FS	160	400	FS	6098711
90° bend	WRB 90 165 FS	160	500	FS	6098715
90° bend	WRB 90 166 FS	160	600	FS	6098719
90° bend	WRB 90 162 FT	160	200	FT	6098730
90° bend	WRB 90 163 FT	160	300	FT	6098734
90° bend	WRB 90 164 FT	160	400	FT	6098738
90° bend	WRB 90 165 FT	160	500	FT	6098742
90° bend	WRB 90 166 FT	160	600	FT	6098746
Add-on tee	WRAA 120 FS	110	200	FS	6098405
Add-on tee	WRAA 130 FS	110	300	FS	6098409
Add-on tee	WRAA 140 FS	110	400	FS	6098413
Add-on tee	WRAA 150 FS	110	500	FS	6098417
Add-on tee	WRAA 160 FS	110	600	FS	6098421
Add-on tee	WRAA 120 FT	110	200	FT	6098445
Add-on tee	WRAA 130 FT	110	300	FT	6098449
Add-on tee	WRAA 140 FT	110	400	FT	6098453
Add-on tee	WRAA 150 FT	110	500	FT	6098457
Add-on tee	WRAA 160 FT	110	600	FT	6098461
Add-on tee	WRAA 120 FT SO	110	200	FT SO	6091000
Add-on tee	WRAA 130 FT SO	110	300	FT SO	6091001
Add-on tee	WRAA 140 FT SO	110	400	FT SO	6091002
Add-on tee	WRAA 150 FT SO	110	500	FT SO	6091003
Add-on tee	WRAA 160 FT SO	110	600	FT SO	6091004
Add-on tee	WRAA 162 FS	160	200	FS	6098800
Add-on tee	WRAA 163 FS	160	300	FS	6098804
Add-on tee	WRAA 164 FS	160	400	FS	6098808
Add-on tee	WRAA 165 FS	160	500	FS	6098812
Add-on tee	WRAA 166 FS	160	600	FS	6098816

Designation	Type	Side height mm	Width mm	Surface	Item no.
Add-on tee	WRAA 162FT	160	200	FT	6098827
Add-on tee	WRAA 163 FT	160	300	FT	6098831
Add-on tee	WRAA 164 FT	160	400	FT	6098835
Add-on tee	WRAA 165 FT	160	500	FT	6098839
Add-on tee	WRAA 166 FT	160	600	FT	6098843
Add-on tee	WRAA 162 FT SO	160	200	FT SO	7191013
Add-on tee	WRAA 163 FT SO	160	300	FT SO	7191015
Add-on tee	WRAA 164 FT SO	160	400	FT SO	7191016
Add-on tee	WRAA 165 FT SO	160	500	FT SO	7191017
Add-on tee	WRAA 166 FT SO	160	600	FT SO	7191018
Corner extension piece	WEAS 110 FS	110	750	FS	6098475
Corner extension piece	WEAS 110 FT	110	750	FT	6098479
Corner extension piece	WEAS 110 A2	110	750	A2	6098483
Corner extension piece	WEAS 160 FS	160	750	FS	6098860
Corner extension piece	WEAS 160 FT	160	750	FT	6098864
Corner extension piece	WEAS 160 A2	160	750	A2	6098868

Connectors

Designation	Type	Side height mm	Length mm	Width mm	Surface	Item no.
Straight connector	WRVL 110 FS	110	500	20	FS	6091164
Straight connector	WRVL 110 FT	110	500	20	FT	6091180
Straight connector	WRVL 110 A2	110	500	20	A2	6091229
Straight connector	WRVL 110 A4	110	500	20	A4	6091234
Straight connector	WRVL 110 FT SO	110	500	20	FT SO	7189214
Straight connector	WRVL 160 FS	160	500	20	FS	6227708
Straight connector	WRVL 160 FT	160	500	20	FT	6227716
Straight connector	WRVL 160 A2	160	500	20	A2	6227724
Straight connector	WRVL 160 A4	160	500	20	A4	6227730
Straight connector	WRVL 160 FT SO	160	500	20	FT SO	6227732
45° angle connector, inner	WRWV 160 I FS	160	540	20	FS	6227902
45° angle connector, inner	WRWV 160 I FT	160	540	20	FT	6227910
45° angle connector, inner	WRWV 160 I A2	160	540	20	A2	6227914
45° angle connector, outer	WRWV 160 A FS	160	540	20	FS	6227856
45° angle connector, outer	WRWV 160 A FT	160	540	20	FT	6227864
45° angle connector, outer	WRWV 160 A A2	160	540	20	A2	6227868
Angle connector	WRWVK 110 FS	110	250	20	FS	6091377
Angle connector	WRWVK 110 A2	110	250	20	A2	6091393
Angle connector	WRWVK 110 A4	110	250	20	A4	6091397
Angle connector	WRWVK 160 FS	160	500	20	FS	6227832

Designation	Type	Side height mm	Length mm	Width mm	Surface	Item no.
Angle connector	WRWVK 160 A2	160	500	20	A2	6227836
Angle connector	WRWVK 160 A4	160	500	20	A4	6227837
Angle connector, vertical	WRWVV 110 FS	110	283	116	FS	6091379
Angle connector, vertical	WRWVV 160 FT	160	290	167	FT	6227850
Adjustable connector	WRGV 110 FS	110	380	20	FS	6091318
Adjustable connector	WRGV 110 FT	110	380	20	FT	6091334
Adjustable connector	WRGV 110 A2	110	380	20	A2	6091338
Adjustable connector	WRGV 110 A4	110	380	20	A4	6091343
Adjustable connector	WRGV 110 FT SO	110	380	20	FT SO	7189218
Adjustable connector	WRGV 160 FS	160	380	20	FS	6227953
Adjustable connector	WRGV 160 FT	160	380	20	FT	6227961
Adjustable connector	WRGV 160 A2	160	380	20	A2	6227965
Adjustable connector	WRGV 160 A4	160	380	20	A4	6227967
Adjustable connector	WRGV 160 FT SO	160	380	20	FT SO	7189220

Covers

Designation	Type	Length mm	Width mm	Surface	Item no.
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 20 FS	3000	200	FS	6227422
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 30 FS	3000	300	FS	6227430
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 40 FS	3000	400	FS	6227449
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 50 FS	3000	500	FS	6227457
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 60 FS	3000	600	FS	6227465
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 20 DD	3000	200	DD	6227600
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 30 DD	3000	300	DD	6227604
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 40 DD	3000	400	DD	6227608
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 50 DD	3000	500	DD	6227612
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 60 DD	3000	600	DD	6227616
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 20 A2	3000	200	A2	6227360
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 30 A2	3000	300	A2	6227362
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 40 A2	3000	400	A2	6227364
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 50 A2	3000	500	A2	6227366
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 60 A2	3000	600	A2	6227368

Designation	Type	Length mm	Width mm	Surface	Item no.
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 20 A4	3000	200	A4	6227361
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 30 A4	3000	300	A4	6227363
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 40 A4	3000	400	A4	6227365
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 50 A4	3000	500	A4	6227367
Cover with turn buckle, wide span system 110 and 160	WDRL 1116 60 A4	3000	600	A4	6227369
Cover in roof shape, wide span system 110 and 160	WDRLU DF 1116 2 FT	3000	200	FT	6227261
Cover in roof shape, wide span system 110 and 160	WDRLU DF 1116 3 FT	3000	300	FT	6227263
Cover in roof shape, wide span system 110 and 160	WDRLU DF 1116 4 FT	3000	400	FT	6227265
Cover in roof shape, wide span system 110 and 160	WDRLU DF 1116 5 FT	3000	500	FT	6227267
Cover in roof shape, wide span system 110 and 160	WDRLU DF 1116 6 FT	3000	600	FT	6227269
Cover for stand-off mounting	DRL FAM 230 FT	3000	230	FT	6051222
Cover for stand-off mounting	DRL FAM 330 FT	3000	330	FT	6051224
Cover for stand-off mounting	DRL FAM 430 FT	3000	430	FT	6051226
Cover for stand-off mounting	DRL FAM 530 FT	3000	530	FT	6051228
Cover for stand-off mounting	DRL FAM 630 FT	3000	630	FT	6051230
Cover for stand-off mounting	DRL FAM 230 A2	3000	230	A2	6051192
Cover for stand-off mounting	DRL FAM 330 A2	3000	330	A2	6051194
Cover for stand-off mounting	DRL FAM 430 A2	3000	430	A2	6051196
Cover for stand-off mounting	DRL FAM 530 A2	3000	530	A2	6051198
Cover for stand-off mounting	DRL FAM 630 A2	3000	630	A2	6051200
Cover for stand-off mounting	DRL FAM 230 A4	3000	230	A4	6051210
Cover for stand-off mounting	DRL FAM 330 A4	3000	330	A4	6051212
Cover for stand-off mounting	DRL FAM 430 A4	3000	430	A4	6051214
Cover for stand-off mounting	DRL FAM 530 A4	3000	530	A4	6051216
Cover for stand-off mounting	DRL FAM 630 A4	3000	630	A4	6051218

Cover for fittings

Designation	Type	For side height mm	Width mm	Surface	Item no.
Cover, 90° bend, wide span system 110 and 160	WDBRL 90 20 FS	110/160	200	FS	6231462
Cover, 90° bend, wide span system 110 and 160	WDBRL 90 30 FS	110/160	300	FS	6231470
Cover, 90° bend, wide span system 110 and 160	WDBRL 90 40 FS	110/160	400	FS	6231489
Cover, 90° bend, wide span system 110 and 160	WDBRL 90 50 FS	110/160	500	FS	6231497

Designation	Type	For side height mm	Width mm	Surface	Item no.
Cover, 90° bend, wide span system 110 and 160	WDBRL 90 60 FS	110/160	600	FS	6231500
Cover, 90° bend, wide span system 110 and 160	WDBRL 90 20 DD	110/160	200	DD	6231527
Cover, 90° bend, wide span system 110 and 160	WDBRL 90 30 DD	110/160	300	DD	6231535
Cover, 90° bend, wide span system 110 and 160	WDBRL 90 40 DD	110/160	400	DD	6231543
Cover, 90° bend, wide span system 110 and 160	WDBRL 90 50 DD	110/160	500	DD	6231551
Cover, 90° bend, wide span system 110 and 160	WDBRL 90 60 DD	110/160	600	DD	6231578
Cover, T branch piece, wide span system 110 and 160	WDTRL 200 DD	110/160	200	DD	6231667
Cover, T branch piece, wide span system 110 and 160	WDTRL 300 DD	110/160	300	DD	6231675
Cover, T branch piece, wide span system 110 and 160	WDTRL 400 DD	110/160	400	DD	6231683
Cover, T branch piece, wide span system 110 and 160	WDTRL 500 DD	110/160	500	DD	6231691
Cover, T branch piece, wide span system 110 and 160	WDTRL 600 DD	110/160	600	DD	6231705
Cover, add-on tee, wide span system 110 and 160	WAAD 200 FS	110/160	200	FS	6231900
Cover, add-on tee, wide span system 110 and 160	WAAD 300 FS	110/160	300	FS	6231904
Cover, add-on tee, wide span system 110 and 160	WAAD 400 FS	110/160	400	FS	6231908
Cover, add-on tee, wide span system 110 and 160	WAAD 500 FS	110/160	500	FS	6231912
Cover, add-on tee, wide span system 110 and 160	WAAD 600 FS	110/160	600	FS	6231916

Joint plates

Designation	Type	Width mm	Surface	Item no.
Joint plate	Surface		FS	7070213
Joint plate	SSLB 300 FS	300	FS	7070217
Joint plate	SSLB 400 FS	400	FS	7070221
Joint plate	SSLB 500 FS	500	FS	7070225
Joint plate	SSLB 600 FS	600	FS	7070233
Joint plate	SSLB 200 DD	200	DD	7070314
Joint plate	SSLB 300 DD	300	DD	7070318
Joint plate	SSLB 400 DD	400	DD	7070322
Joint plate	SSLB 500 DD	500	DD	7070326
Joint plate	SSLB 600 DD	60	DD	7070334
Joint plate	SSLB 200 A2	200	A2	7070361
Joint plate	SSLB 300 A2	300	A2	7070365
Joint plate	SSLB 400 A2	400	A2	7070369

Designation	Type	Width mm	Surface	Item no.
Joint plate	SSLB 500 A2	500	A2	7070373
Joint plate	SSLB 600 A2	600	A2	7070381
Joint plate	SSLB 200 A4	200	A4	7070392
Joint plate	SSLB 300 A4	300	A4	7070394
Joint plate	SSLB 400 A4	400	A4	7070396
Joint plate	SSLB 500 A4	500	A4	7070398
Joint plate	SSLB 600 A4	600	A4	7070400

Accessories

Designation	Type	Height distance mm	Surface	Item no.
Spacer for cover, wide span systems	AH 35 WS A2	35	A2	6065477

Designation	Type	Dimensions mm	Surface	Art.-Nr.
Base plate	WFP 110 FT	382 x 119 x 20	FT	6232500
Base plate	WFP 160 FT	382 x 169 x 20	FT	6232510

Designation	Type	Conductor cross-sections	Material	Item no.
Earthing terminal with fastening thread M6	EKL 25 M6	4 - 50 mm²	Messing	6404006
Earthing terminal with fastening thread M8	EKL 25 M8	4 - 50 mm²	Messing	6404001
Earthing terminal with fastening thread M6	EKL 35 M6	25 - 70 mm²	Messing	6404014
Earthing terminal with fastening thread M8	EKL 35 M8	25 - 70 mm²	Messing	6404016

Designation	Type	Dimensions mm	Resistance	Surface	Item no.
FRS truss-head bolt with combination nut	FRSB 6x12 G	M6 x 12	5.6	G	6406130
FRS truss-head bolt with combination nut	FRSB 6x12 F	M6 x 12	5.6	F	6406122
FRS truss-head bolt with combination nut	FRSB 6x16 F	M6 x 16	5.6	F	6406157
FRS truss-head bolt with combination nut	FRSB 6x20 F	M6 x 20	5.6	F	6406203
FRS truss-head bolt with combination nut	FRSB 6x30 F	M6 x 30	5.6	F	6406907
FRS truss-head bolt with combination nut	FRSB 6x12 A2	M6 x 12	A2-70	A2	6406138
FRS truss-head bolt with combination nut	FRSB 6x16 A2	M6 x 16	A2-70	A2	6406189
FRS truss-head bolt with combination nut	FRSB 6x20 A2	M6 x 20	A2-70	A2	6406205
FRS truss-head bolt with combination nut	FRSB 6x12 A4	M6 x 12	A4-50	A4	6406142
FRS truss-head bolt with combination nut	FRSB 6x16 A4	M6 x 16	A4-50	A4	6406193
FRS truss-head bolt with combination nut	FRSB 6x20 A4	M6 x 20	A4-50	A4	6406207

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