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GRP/FRP Mita Flex Installation Guidelines

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General information

Scope

This document contains relevant technical information related to the below listed FRP/ GRP Mita FLEX product ranges:

- → Cable Ladder system: MODELS: LM / MP / LH
- → Cable Tray system MODELS: CT50 & CT80

Installation Guidelines

The correct installation of cable ladders and cable trays is important to help maximize the safe working load as defined by our published load tables and to minimize deflection. Typically, installation guidelines will also depend on the project specification required by the client, but this will generally conform to IEC 61537 “Cable Management Systems, Cable trays and Cable Ladder systems” and NEMA FG1. (UL568-Nonmetallic cable trays).

WARNING

FRP Cable Trays and Cable Ladders should not be used as a walkway, ladder or any type of support for personnel. Our cable tray and calbe ladders are designed to be used only as a mechanical support solution for cables.

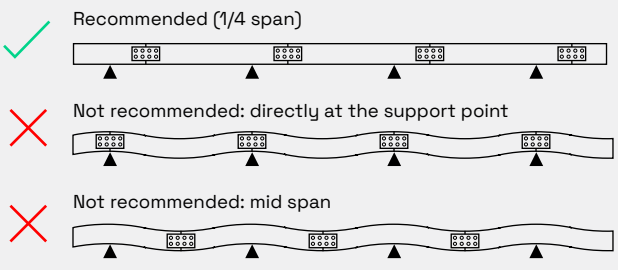
It is important to only use only Mita Flex systems original accessories such as Fittings, Splice Connectors, Fixing Clamps and Fasteners to maintain the quality and integrity of the system installation and to avoid performance and warranties issues.

Mita Flex systems can be combined with numerous fittings and accessories to build a complete installation in buildings, Industrial locations, etc.; Bends, Tee’s, Crossovers, Risers are available to allow containment of complex cable routings. Bolted couplers are used to connect lengths and fittings together, all couplers use M10 Flange nuts/bolts.

Full Height Splice for both tray and ladder provide robust connection points for jointing the system together.

It is best practice to ensure joints on horizontal installations are placed in the correct position in relation to the supporting structure. This will help to maintain the structural integrity of the cable support system.

Full Height Splice connectors for cable ladder and trays



The recommended installation is to have joints at approx. 1/4 point of the span between supports

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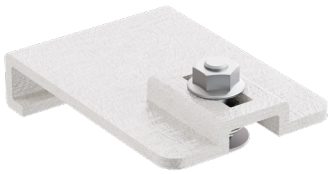
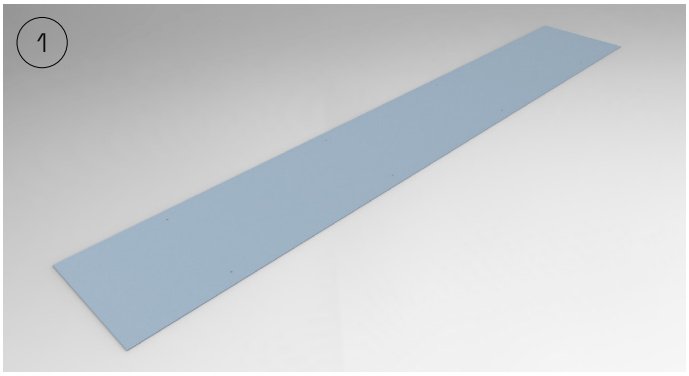
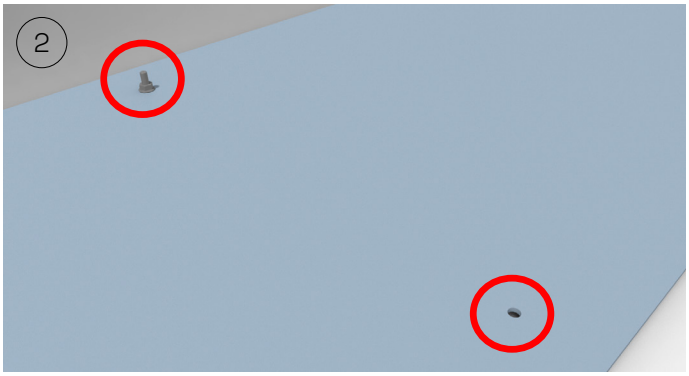
Cable Ladder Cover Fixing Clamps used for indoor and outdoor applications in Horizontal plane



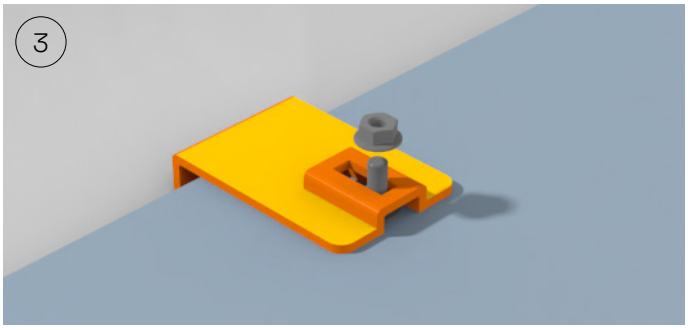
Standard method of fixing ladder covers;
CL Cover Fixing Clamp



The cable ladder cover comes in a standard length of 3000 mm for typical widths.



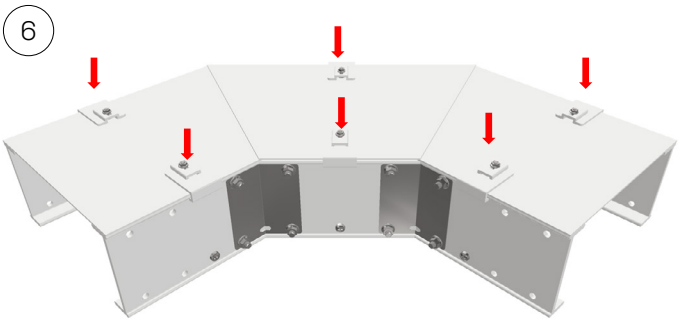
Secure the bolt and nut in the pre-drilled holes on the cover. Recommended Torque 6 Nm



Install the clamp over the bolt at the required positions, add the nut but leave loose.
(Note: Fixing clamp is been highlighted in orange colour for illustration only.)

Align the cover to the cable ladder and secure by sliding the clamp it into the ladder flange and tighten the bolt Recommended Torque 6 Nm

8 pcs of cover clamps are required for a 3 metres long cover.



6 pcs of cover clamps are required on Cable ladder fittings

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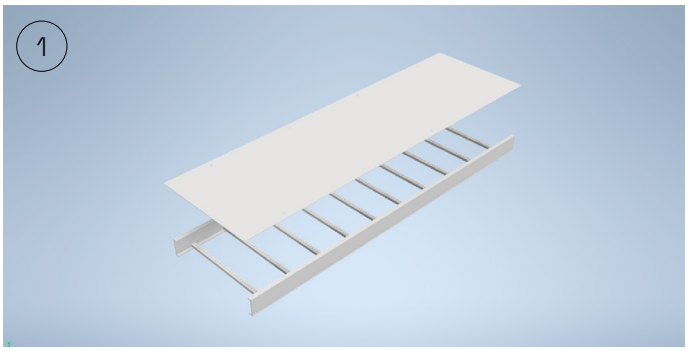
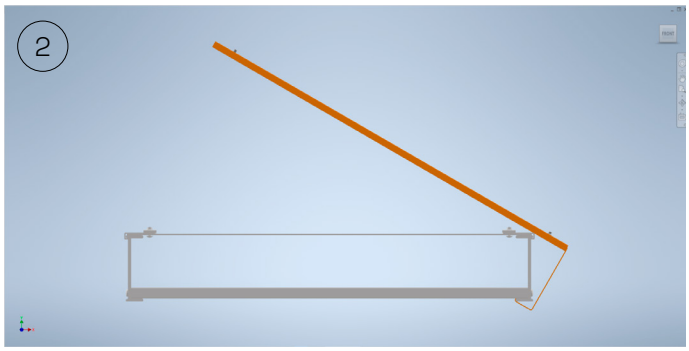
Heavy Duty (HD) Cover Clamp used for wind or vertical applications

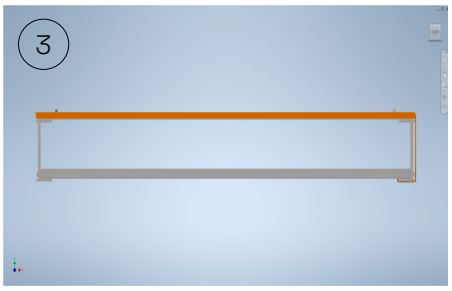
Heavy duty method of fixing ladder covers.
HD Cover clamp

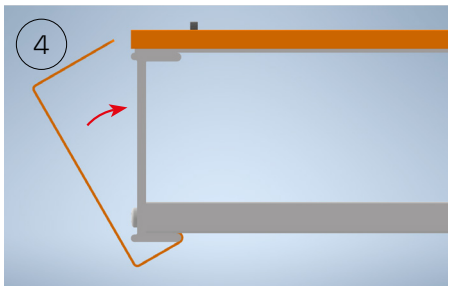


Place the cover on top of the cable ladder.

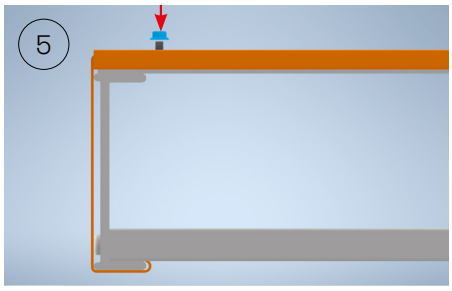


Place the 1 side of HD cover clamp and another side with bolt intact to the channel clamp.

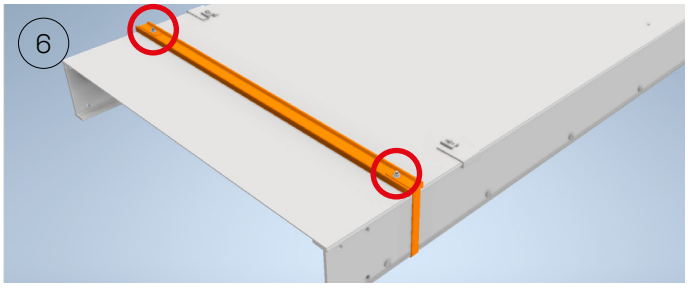




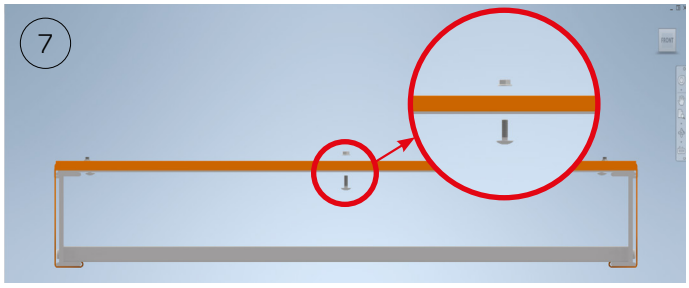
Place the left side of the cover clamp into the channel



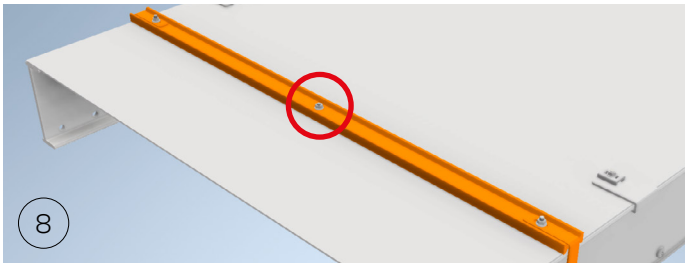
Once the clamp already place to the channel and the bolt, place the nut and tighten it together.



Once everything in place, tighten both bolt and the nuts from both sides with recommended torque 6 Nm.



For cable ladder width 600 mm and above, we recommend to add 1 more bolt at the centre of the HD Cover Clamp by using M6x20 bolt.



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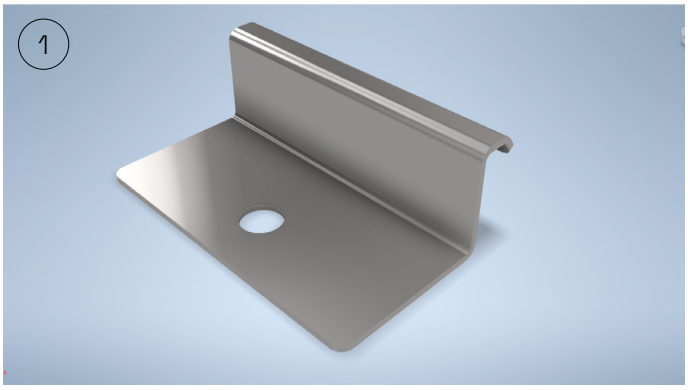
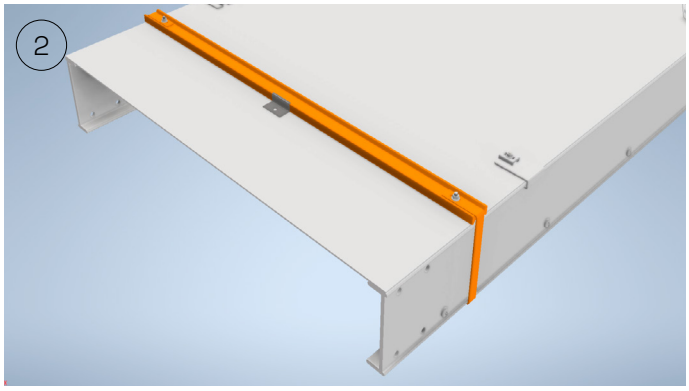
Anti Sag Clamp (under development)

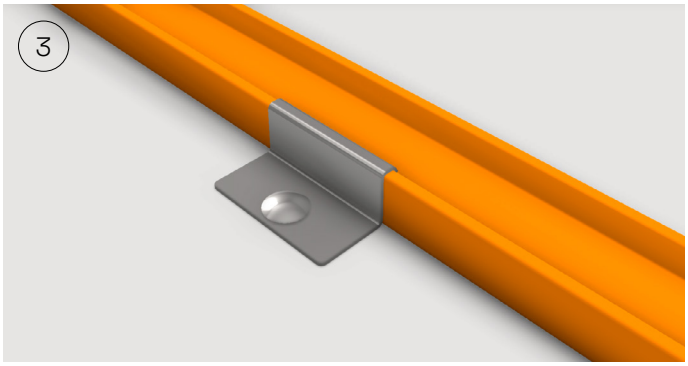
For cable ladder cover widths of 600 mm and above, we recommend to use our anti sag clamp that fixes to our HD Cover Clamp and secured with a 6 mm Stainless steel truss head rivet



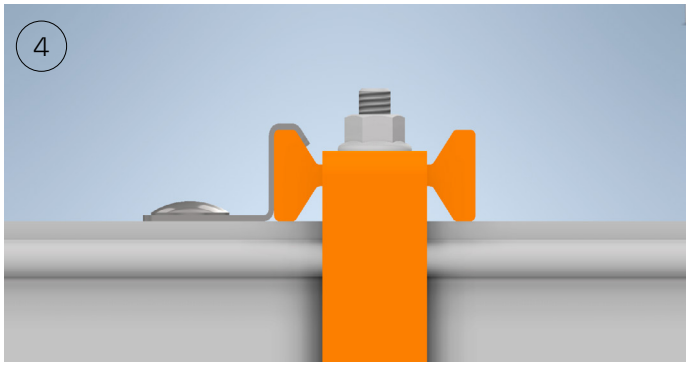
Anti sag clamp is used together with HD cover clamp for cable ladder size 600 mm and above.



Place the clamp at the centre of the HD cover clamp channel.



Drill the hole accordingly and use pop rivet to fix both cover and HD cover clamp together.



Alternative method

1. Loosely position Cover and Cover Clamps onto ladder (3 Cover Clamps recommended for 3 metre ladder), and drill through center of Clamps and through cover with 6 mm drill.
2. Remove Clamps and lid taking care to keep Clamps in order.
3. Push a M6x25 bolt through hole from underneath the Cover, fit M6 nut to outside of Cover and tighten.
4. Replace Cover, replace Cover Clamp making sure M6 bolt goes through previously drilled hole in Cover Clamp. Fit M6 washer and nut to M6 bolt that is protruding from through Cover Clamp and tighten.

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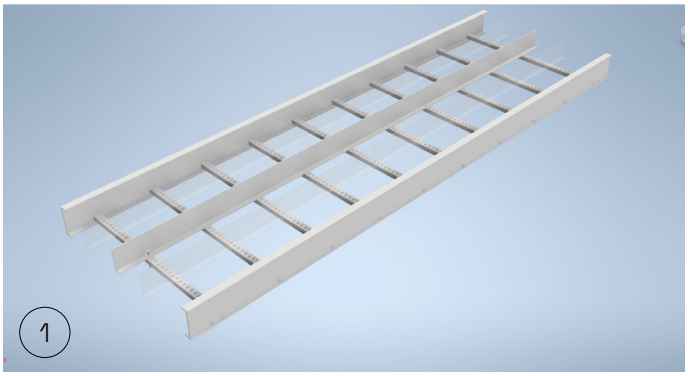
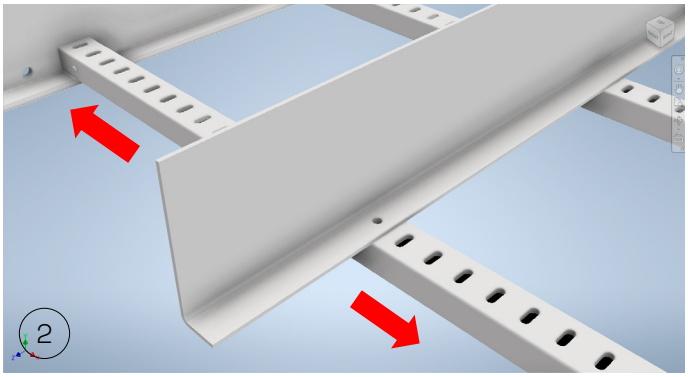
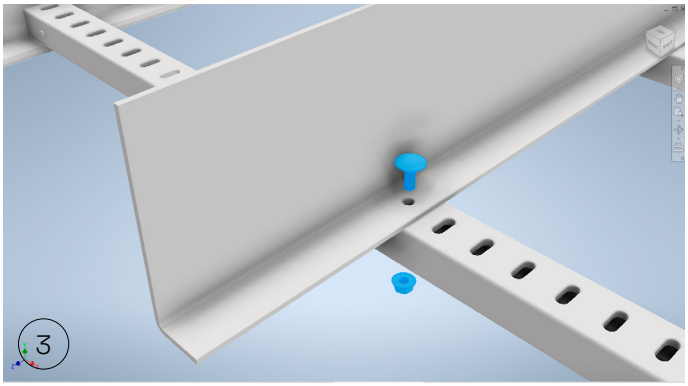
Cable Ladder Divider



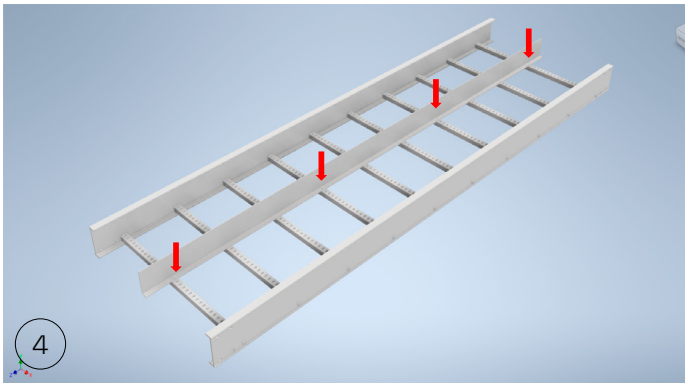
First, place the divider on top of the rung. The placement of the rung can be adjusted according to required width.



Remember to always place the hole of the divider at the rung hole for easier installation. The divider can be moved to any position along the rung, you can install multiple dividers as required.



Once the required position is decided, place the M6x16 bolt through channel and rung and tighten the nut from under side of rung using socket.



The distance between the holes is 900 mm. Secured at 4 locations along the divider.

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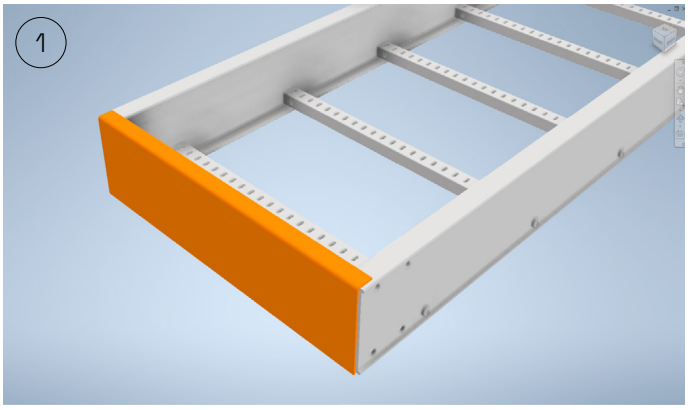
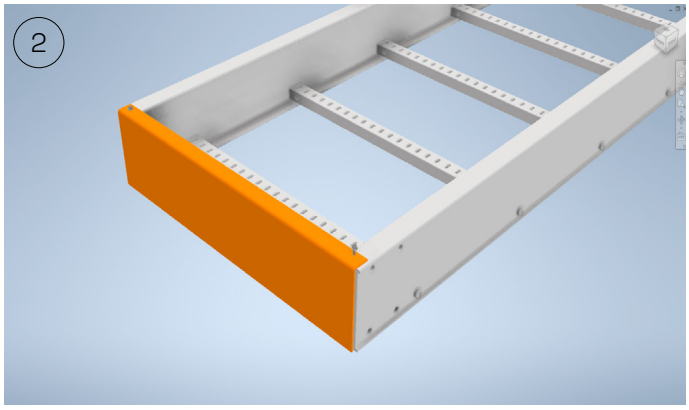
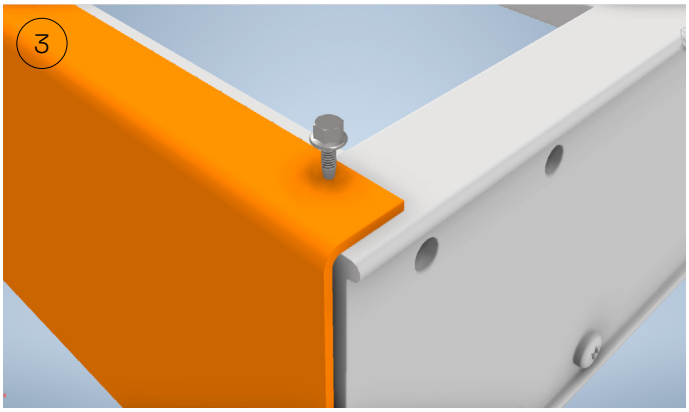
Cable Ladder End Plate



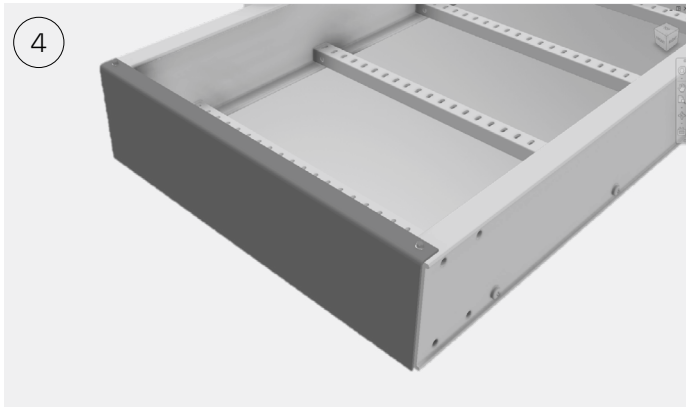
Place the end plate into the end of cable ladder.



Once location is confirmed, use fixing holes in end plate as guides to drill 3 mm diameter holes into ladder. Fix with M4 self-tapping screws



Fix the end plate by self-tapping screw.



Fix the end plate by self-tapping screw at the side rail of the cable ladder for both sides.

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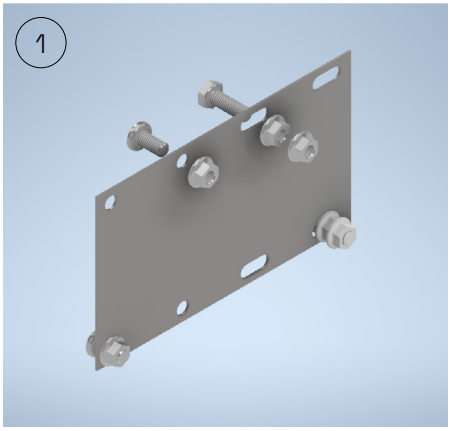
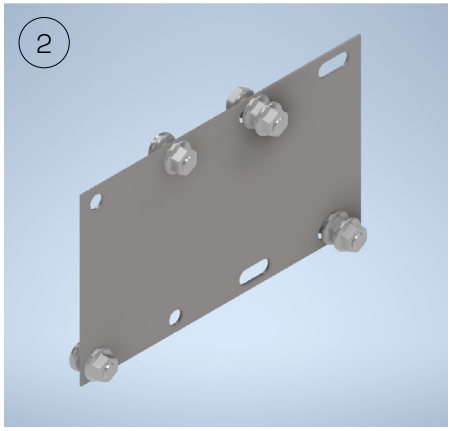
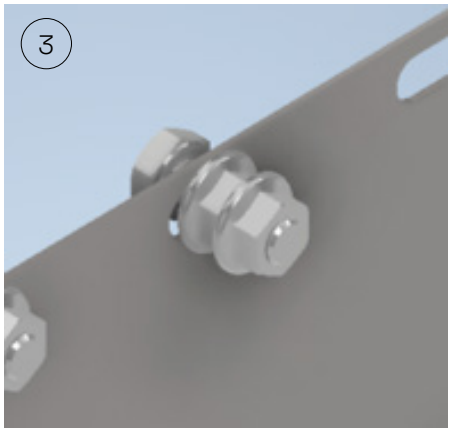
Cable Ladder Expansion Splice Plate Options

The table below compares the thermal contraction and expansion based on temperature differentials for glass fibre. The values shown represent the length of cable tray that will produce a 16 mm (5/8") movement between expansion connectors for the indicated temperature differential. Fiberglass has the least movement and requires the least expansion joints. This simplifies the design and installation and minimizes expansion dynamic forces

Temperature Differential	GRP Materials Ft. (Mts)
25°F (14°C)	417 (126)
50°F (28°C)	208 (63)
75°F (42°C)	138 (42)







To secure the expansion splice plate, add an extra nut after lightly tightening the first nut Fig 1. Recommended torque 35 Nm

Locking the two nuts together ensuring there is enough gap for the expansion plate to expand. Fig 3.

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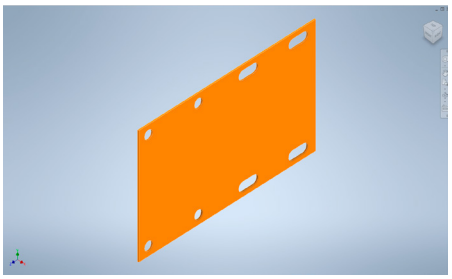
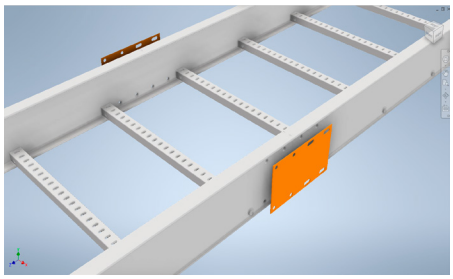
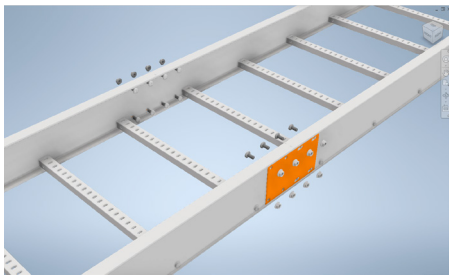
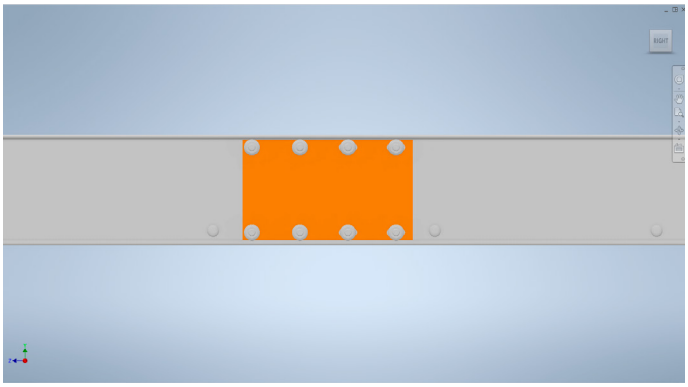
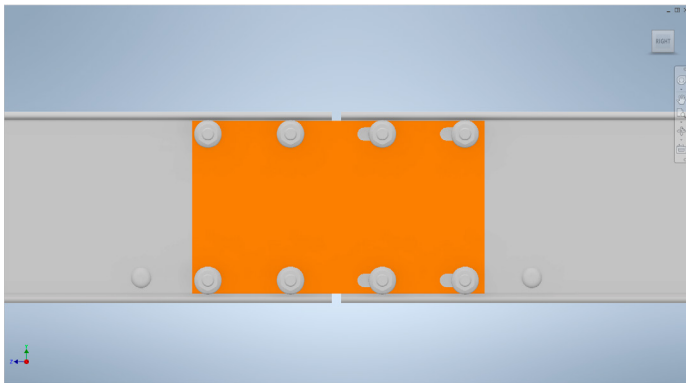
Cable Ladder Expansion Splice Plate Options

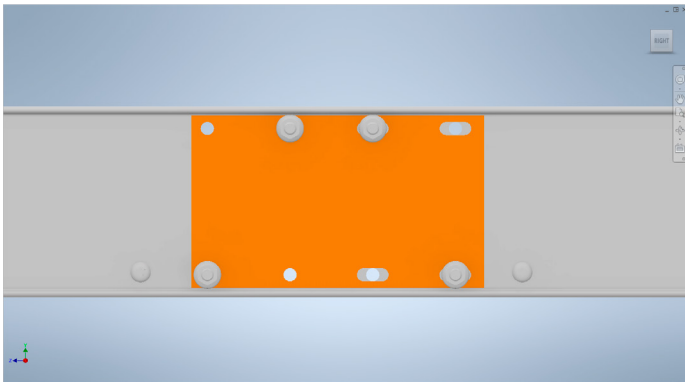
Place the expansion splice plates at the splice location. Fasten with M10 x 20 for stainless steel splice and M10x25 for GRP splice plates. Recommended torque 35 Nm



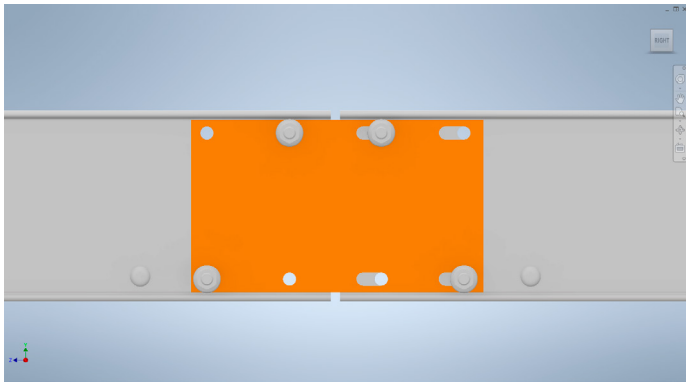
Before expansion using 8 bolts.



During expansion with 8 bolts fasten.



Before expansion using 4 bolts.



During expansion with 4 bolts fasten.

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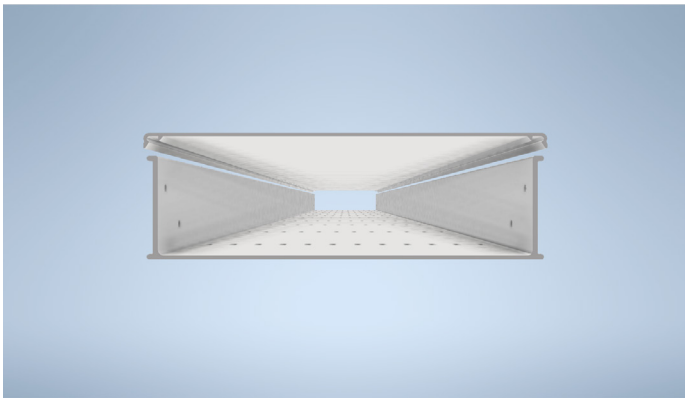
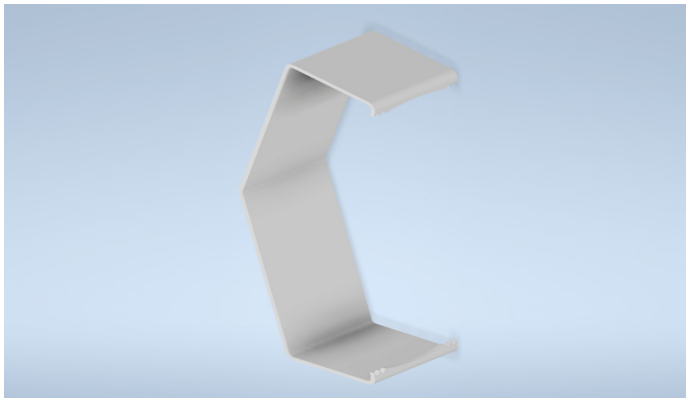
Cable Tray Retracting Spring Grip Clip

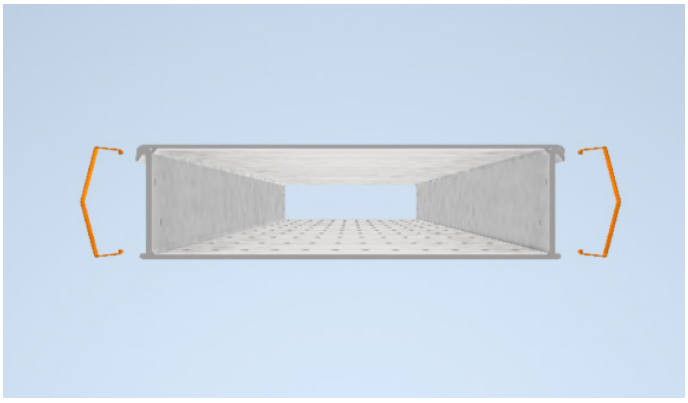
Recommended only for Indoor applications
and for trays mounted in Horizontal plane

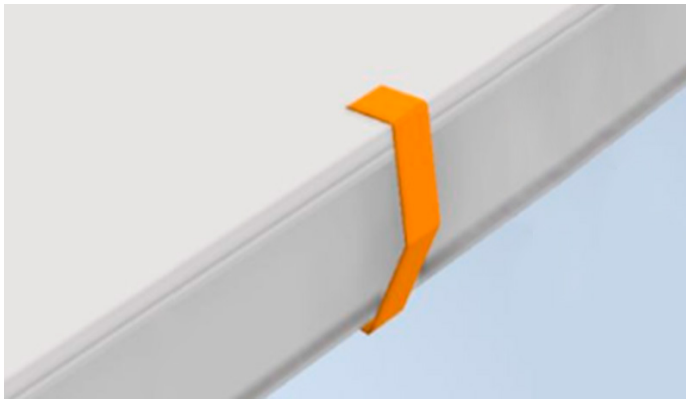


Cable tray with clip on cover

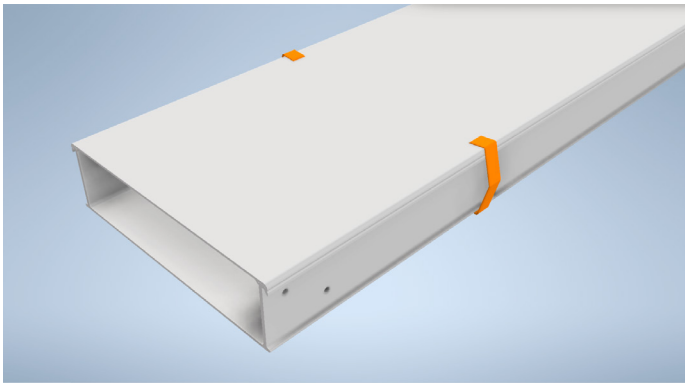


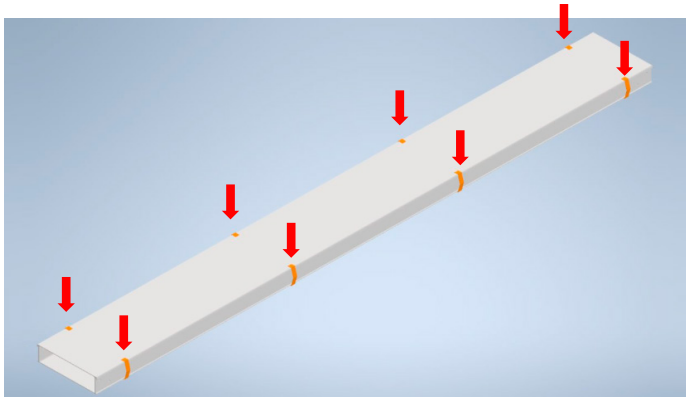
Retracting spring clamp





Gently open the clip and place over the tray product and repeat as required





Recommend to use 8 spring clips for all standard 3mt trays, and 6 clips on all tray fitting covers.

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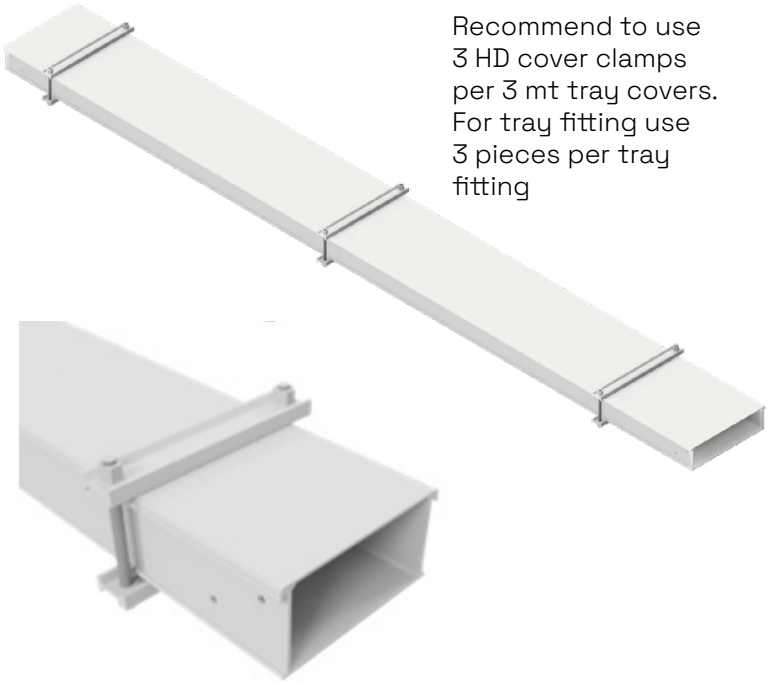
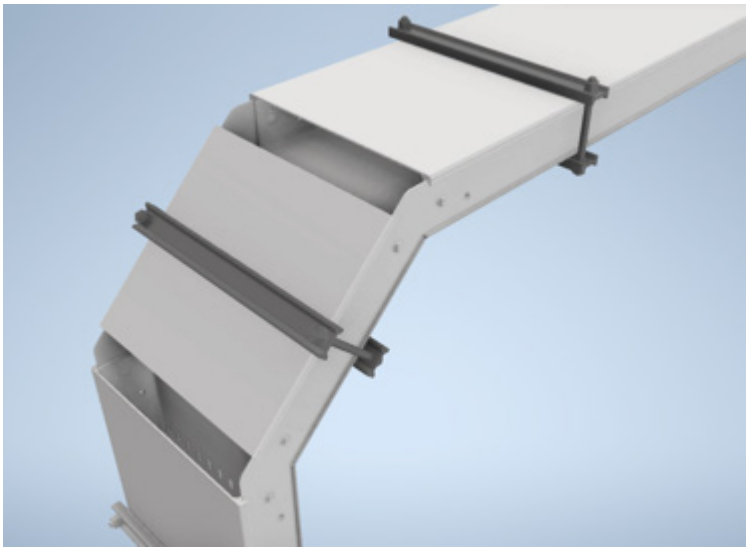
Cable Tray HD Cover Fixing Clamps used for wind or Vertical applications



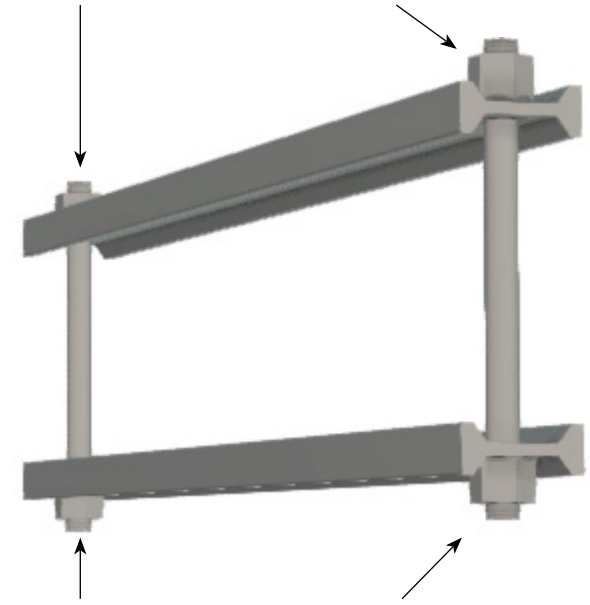
Recommend to use 3 HD cover clamps per 3 mt tray covers. For tray fitting use 3 pieces per tray fitting

General Condition

To avoid damaging the base material or fixing attachment. Follow the recommended torque of 12 Nm. In some cases where vibration is present, you should apply a small bead of elastic adhesive to the top nut and thread before assembling to reduce the risk of the bolt loosening and reduce excessive maintenance requirements.



Once in position, apply a bead of adhesive to the inside of both top nuts and on thread, then secure following the recommended torque



These nuts are already factory bonded to the threaded rod.

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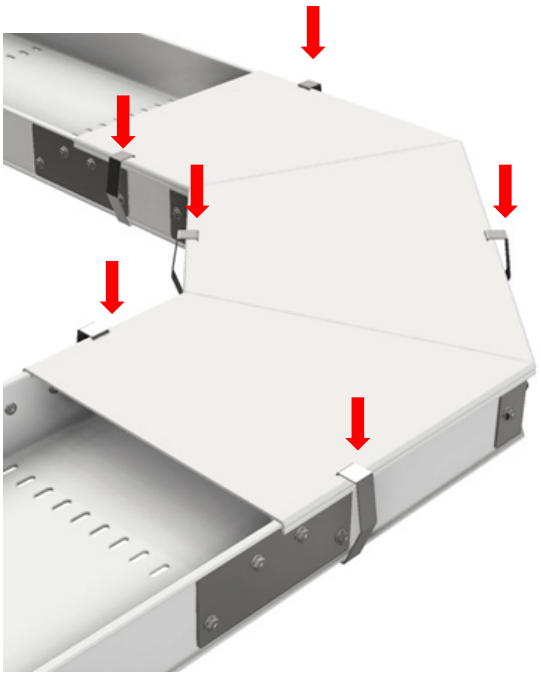
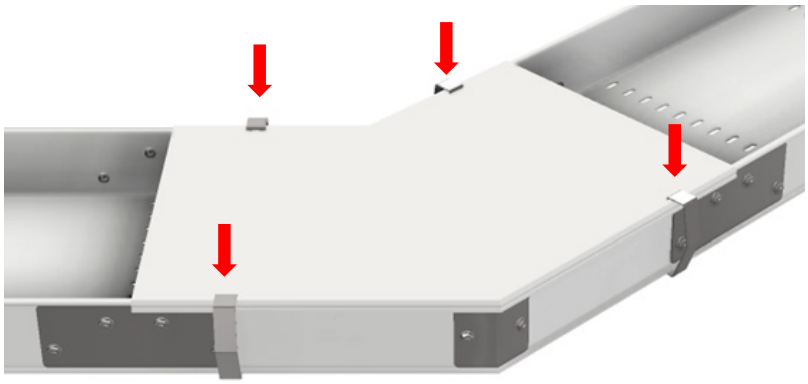
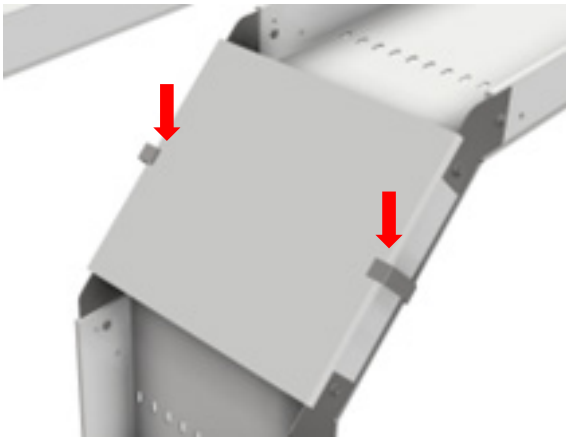
Cable Tray Retracting Spring Grip Clip for tray fittings for indoor and outdoor applications



Recommend to use 6 clips on all tray fitting covers.



Recommend to use 4 clips on all 45° tray fitting covers.



Recommend to use 2 clips on all riser fitting cover part,

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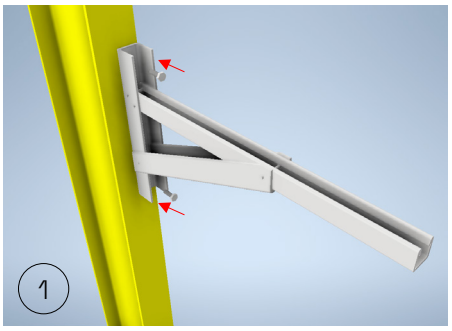
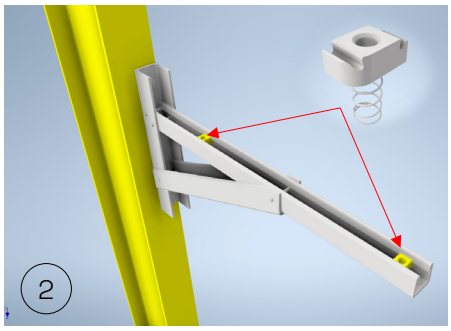
Installation manual

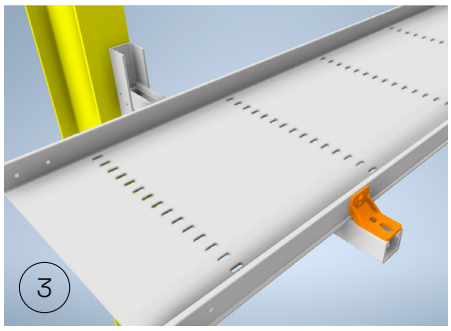
Cantilever Arm Configuration (Option 1)



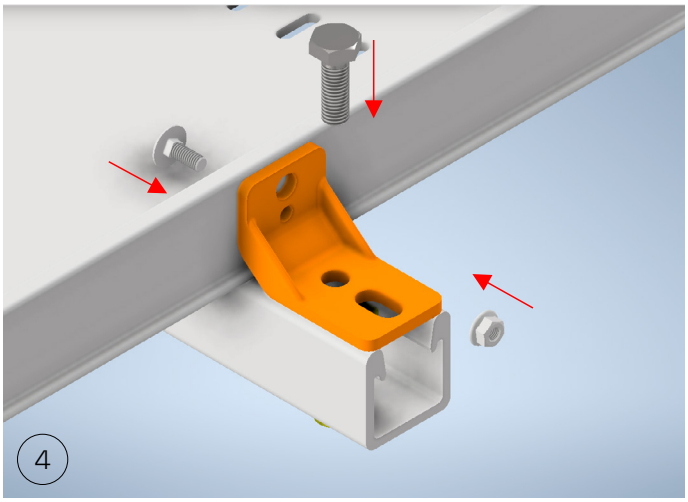
Fit Cantilever to vertical structure using appropriate M8 fixings.



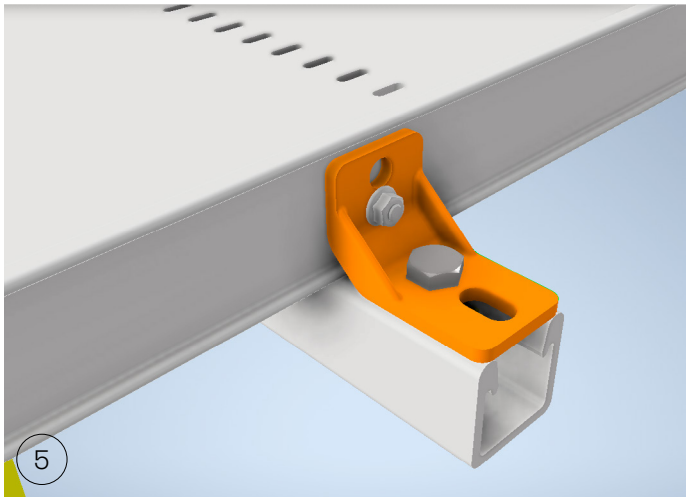
Slide the channel nut through the cantilever arm.



Place the cable tray and fixing clamp to the cantilever arm support.



Fasten the M10 hex bolt through the fixing clamp securing into channel nut and toque to 10 Nm. For fixing clamp that fixed the cable tray, use M6 pan head bolt and torque to 6 Nm



Tighten the bolt at the right torque of 10 Nm

Recommended torque 3-4 Nm

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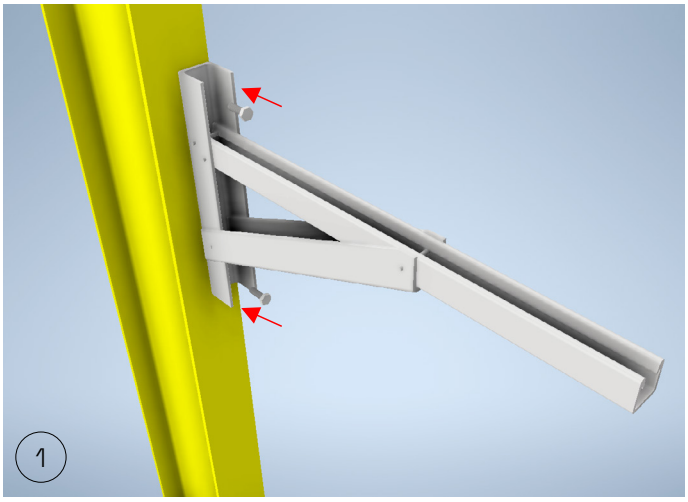
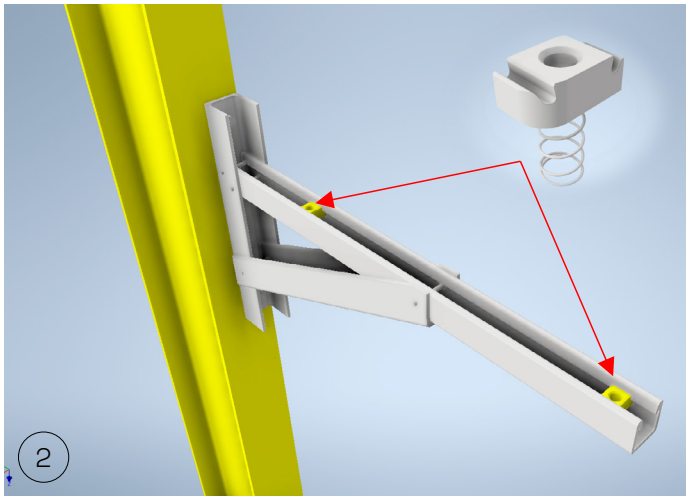
Installation manual

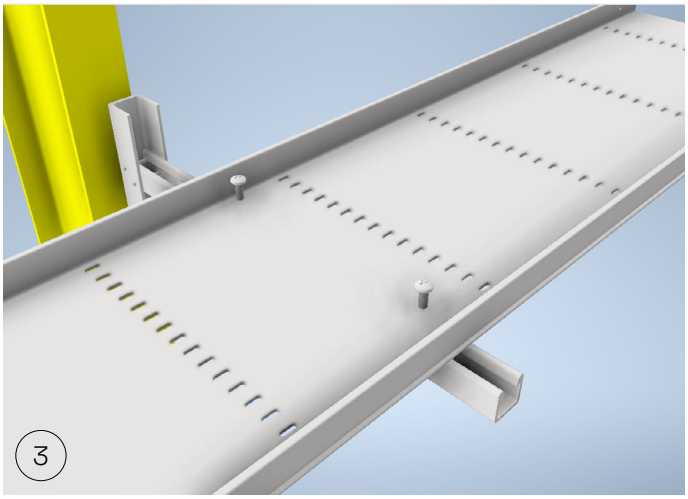
Cantilever Arm Configuration (Option 2)



Fit Cantilever to vertical structure using appropriate M8 fixings.



Slide the channel nut through the cantilever arm.



Drill the M10 hole at the flat surface of the cable tray and fasten it by M10 x 25 pan head bolt. Tips: Recommend to always place the flat surface without perforations of the cable tray on top of the cantilever arm for fixing, Recommended Torque 10 Nm

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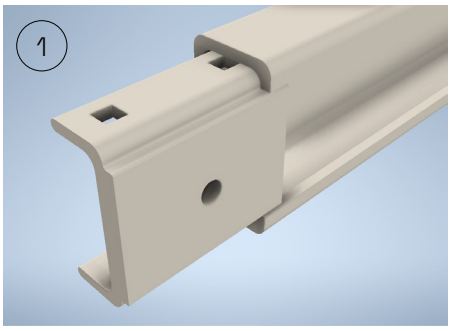
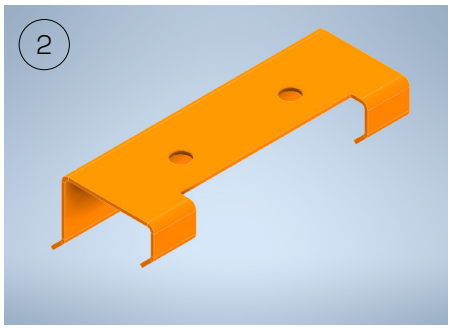
Installation manual

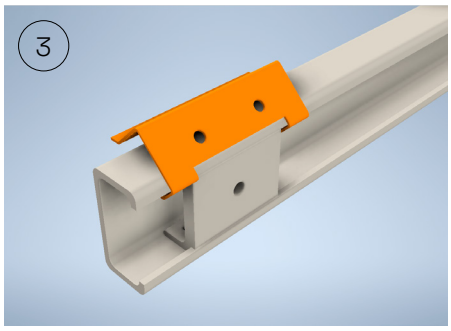
Drilling Jig for Channel Support



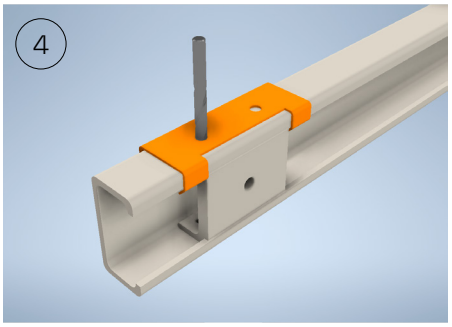
Slide Sleeve into Channel



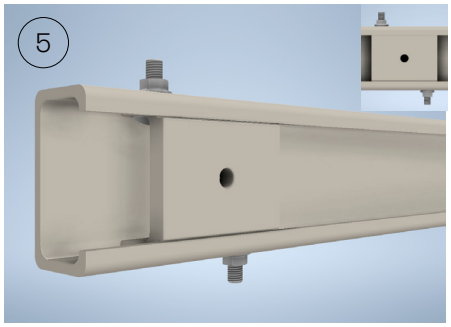
Stainless steel Drill Jig available

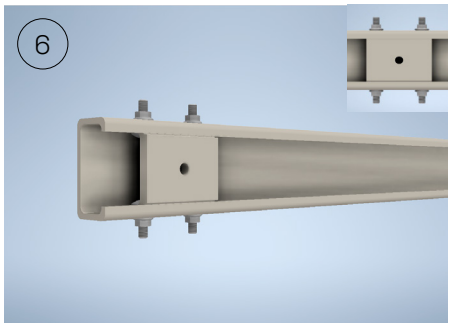


Place the sleeve and the drilling jig into the required position.

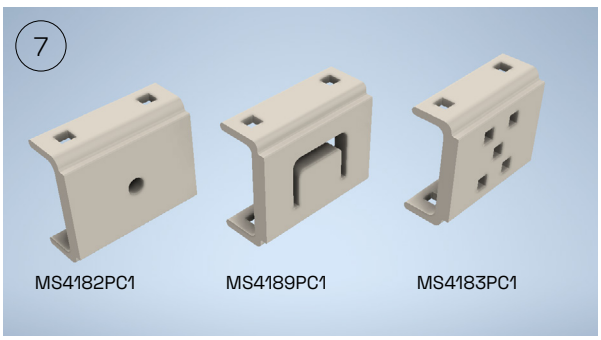


Drill the required holes. Repeat the step 2 and drill it from the bottom.





The square holes shown on the insert sleeves on fig. 1 & 7, allows for a 2 or 4 M10 dome head bolts securing solution depending on your application. Recommended torque 35 Nm.



The drilling jig is also compatible with all channel sleeves.

General Condition

To avoid damaging the base material or fixing attachment. Follow the recommended torque guidelines. In some cases where vibration is present, you should apply a small bead of elastic adhesive to the bolt thread before assembling to reduce the risk of the bolt loosening and reduce excessive maintenance requirements.

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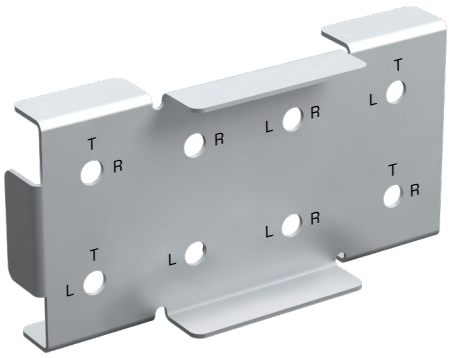
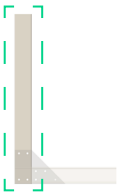
Installation manual

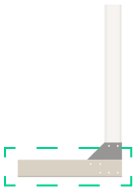
Fabricating L-Frame Brackets using Channel Support Profile (MS4129PC1, MS4101PC1) Gusset Plate L (MS4102PC1) and Drilling Jig (MD2253SS)



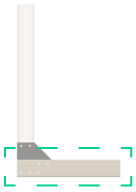
T = Holes for T-joint
L = Holes for Left mounting
R = Holes for Right mounting



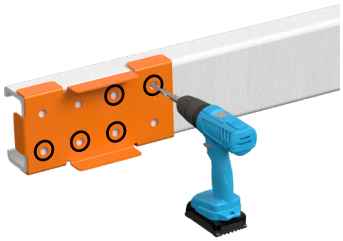
1 Holes for vertical channel (marked “T” on the Drilling Jig)

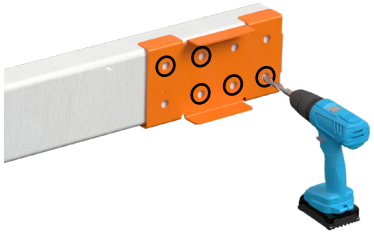


2a Holes for horizontal channel left mounting (marked “L” on the Drilling Jig)



2b Holes for horizontal channel right mounting (marked “R” on the Drilling Jig)

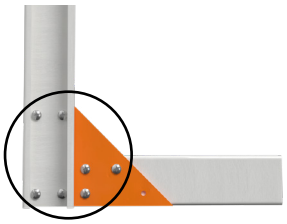




3 Use bolts M10x30 (M4808SS). Recommended torque 35 Nm. Make sure at least two bolts are fully tightened before drilling the last hole to keep alignment.

Drill size: 10.5 mm

Bolt: M10x30 (M4808SS)



4a Drill last hole for horizontal channel left mounting using Gusset Plate L.

4b Drill last hole for horizontal channel right mounting using Gusset Plate L.

5 Tighten the bolts. Use bolt M10x30 (M4808SS). Recommended torque 35 Nm.

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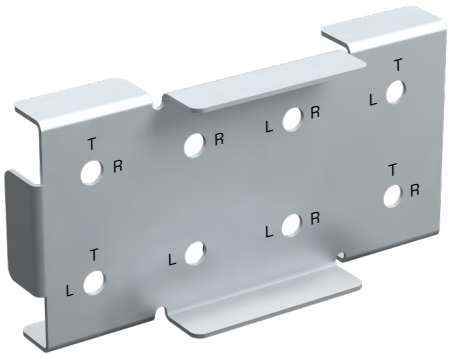
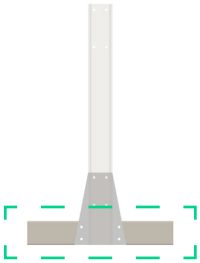
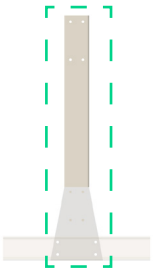
Installation manual

Fabricating T-Frame Brackets using Channel Support Profile (MS4129PC1, MS4101PC1) Gusset Plate T (MS4103PC1) and Drilling Jig (MD2253SS)

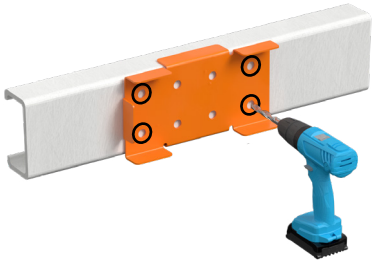


T = Holes for T-joint
L = Holes for Left mounting
R = Holes for Right mounting



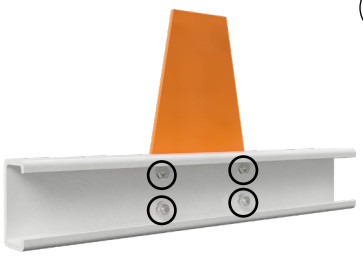


1 Holes for horizontal channel (marked “T” on the Drilling Jig)

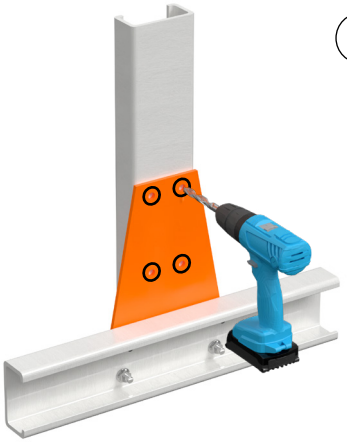


Drill size: 10.5 mm

Bolt: M10x30 (M4808SS)



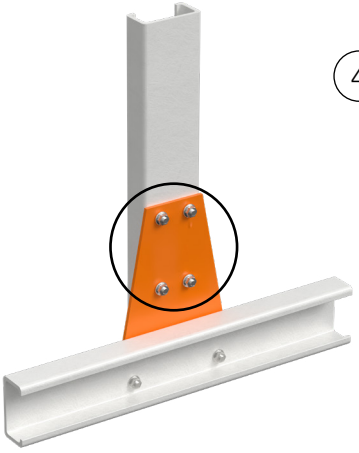
2 Tighten the bolts on the lower channel. Use bolt M10x30 (M4808SS).
Recommended torque 35 Nm.



3 Holes for vertical channel using Gusset Plate T

Make sure the vertical post is properly supported before continuing.

Don’t drill any holes in the upper gusset plate until everything is aligned correctly.



4 Tighten the bolts on the vertical channel. Use bolt M10x30 (M4808SS).
Recommended torque 35 Nm.

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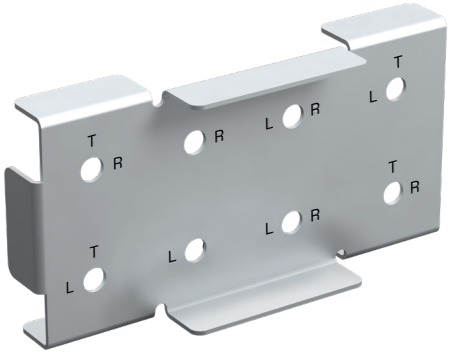
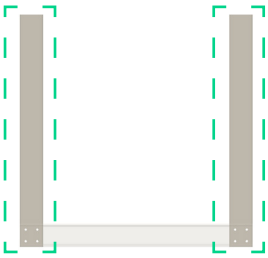
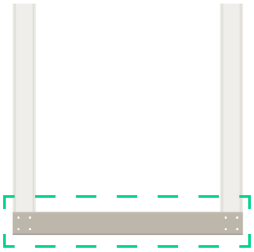
Installation manual

Fabricating U-Frame Brackets using Channel Support Profile (MS4129PC1, MS4101PC1) and Drilling Jig (MD2253SS)



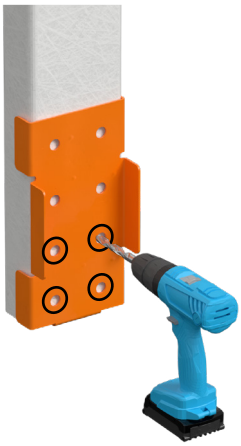
T = Holes for T-joint
L = Holes for Left mounting
R = Holes for Right mounting

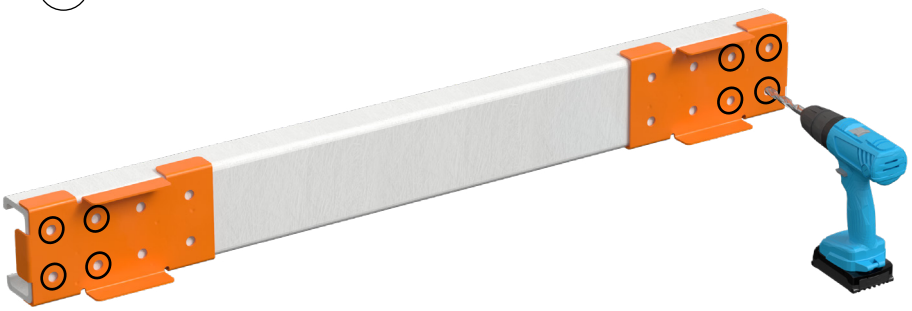




1 Holes for vertical channels

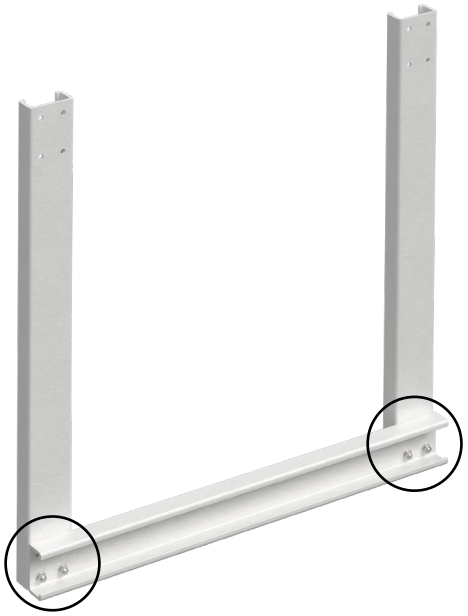
2 Holes for horizontal channel





Drill size: 10.5 mm

Bolt: M10x25 (M4808SS)



3 Tighten the bolts. Use bolt M10x25 (M4804SS). Recommended torque 35 Nm.

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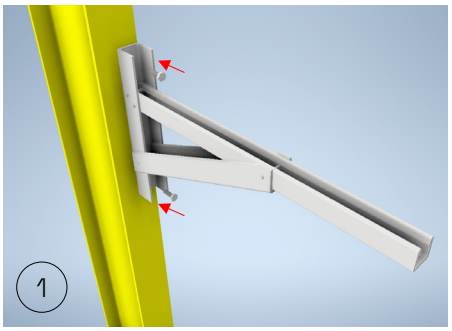
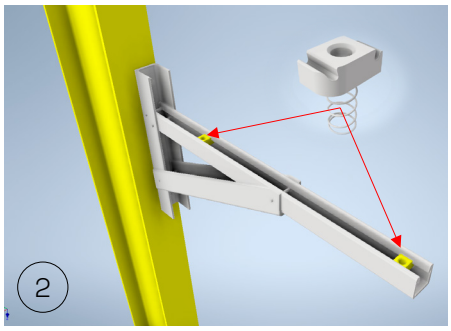
Installation manual

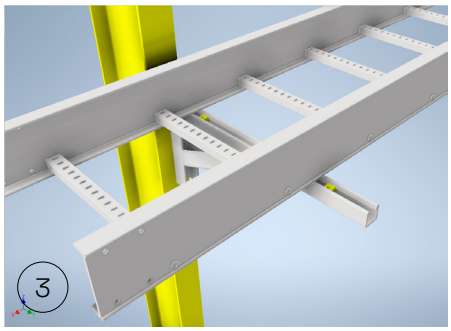
Cable Ladder Fixing Clamp



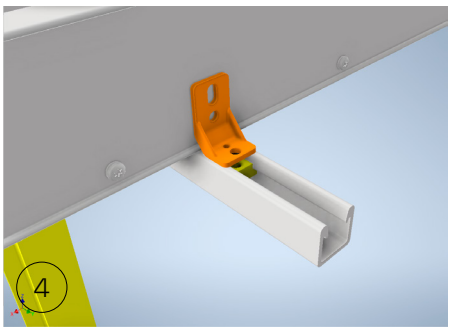
Place the cantilever arm into the required position and fix by through bolting or anchor for concrete base.



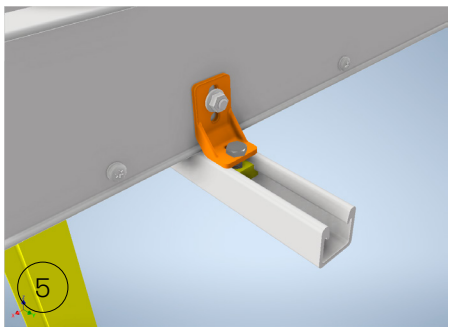
Slide the highlighted channel nut through the cantilever arm.



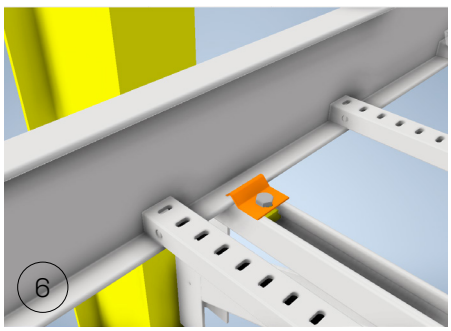
Place the cable ladder on top of the cantilever arm.



Place the highlighted orange fixing clamp to the cantilever for fixing.



Place the highlighted orange fixing clamp to the cantilever for fixing.



For the space constrain, please use the hold down fixing clamp to fix the cable ladder from inside.

General Condition

To avoid damaging the base material or fixing attachment. Follow the recommended torque guidelines. In some cases where vibration is present, you should apply a small bead of elastic adhesive to the bolt thread before assembling to reduce the risk of the bolt loosening and reduce excessive maintenance requirements.

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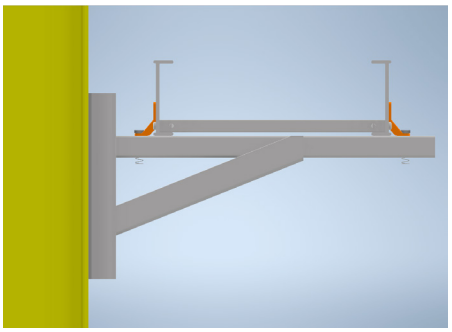
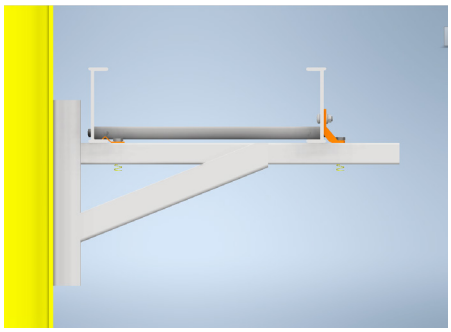
Installation manual

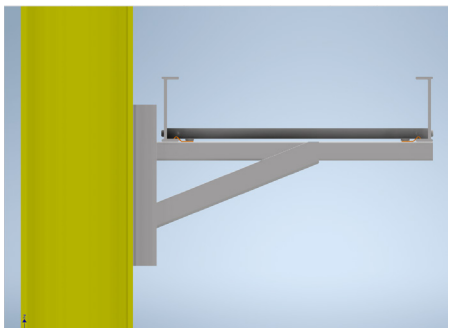
Configuration of Cable Ladder Fixing Clamp



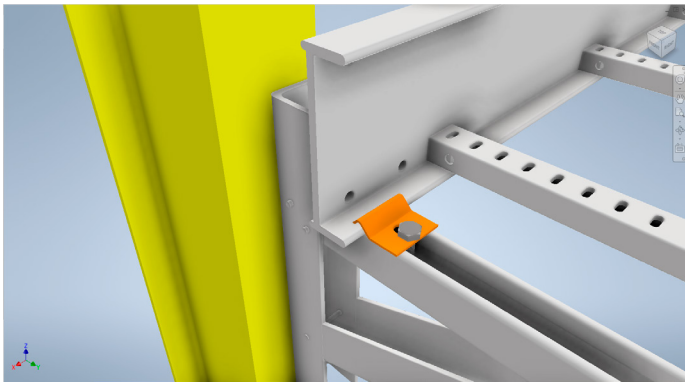
Option 1:
Recommended to fix the highlighted fixing clamp to outside of the cable ladder.



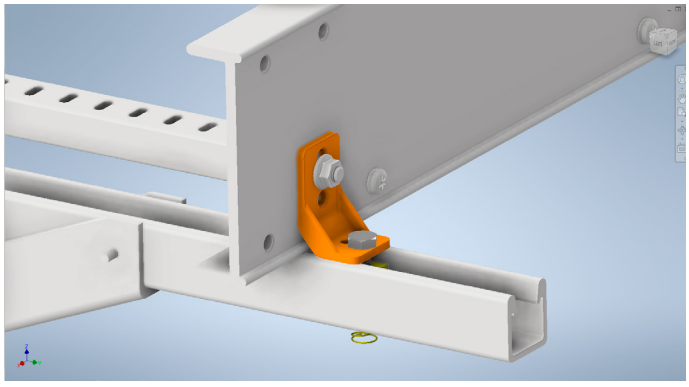
Option 2:
Replace into hold down fixing clamp for space constraint.



Option 3:
Use hold down clamp for both inside of the cable ladder for space constraint support. NOT SUITABLE FOR VERTICAL SUPPORT. Max size of cable ladder is 600 mm width.



Inside Fixing Clamp



Outside Fixing Clamp

General Condition

To avoid damaging the base material or fixing attachment. Follow the recommended torque guidelines. In some cases where vibration is present, you should apply a small bead of elastic adhesive to the bolt thread before assembling to reduce the risk of the bolt loosening and reduce excessive maintenance requirements.

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Handling & Storage

General Packing and Handling

Typically, in large EPC Projects the requirements for handling, storage at site and packing requirements often can be dictated by the client and specific project. Where possible at Wibe Group we will try to meet these specific requirements when it is commercially and technically viable.

The following guidelines are our baseline recommendations and should only be used as a guide.

Straight lengths of trays, ladders, covers and support profiles.

These shall be packed in bundles using adequate banding and balanced at the centre. For Metallic systems It is recommended that where possible non- metallic banding is used in order to avoid rust stains forming on galvanized products and contamination of stainless-steel products. Where products of five metre lengths or above are packed in bundles, they shall be supported with a minimum of three timber bearers which provide sufficient clearance to accommodate the forks of a forklift truck. Bearers shall be spaced evenly along the length of the bundle. Where shorter length products are packed in bundles, they shall be supported with a minimum of two timber bearers which provide sufficient clearance to accommodate the forks of a forklift truck. Bearers shall be spaced evenly along the length of the bundle.

Bundles should be placed on a flat level surface with timber bearers. If bundles are stacked on top of one-another they should be aligned vertically. The handler is responsible for ensuring that the stack is stable. The working height and load capacity of the storage facility and/or transport vehicle should not be exceeded. Boxed and bagged parts Boxes and bags should be stacked onto suitably sized pallets for handling by a forklift truck. Pallets of parts must be kept dry and stacking should be avoided. Tray and Ladder Fittings Small parts should be stacked onto suitably sized pallets for handling by a forklift truck. Each pallet should be suitably wrapped in order to secure the parts. Pallets of parts must be kept dry and stacking should be avoided. Large parts should be packed and transported in the same way as straight lengths detailed above. Specialised Packaging Where delivery involves transhipment or rough handling en route it is recommended that products are packed in wooden crates or wooden cases.

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Handling & Storage

Loading and offloading recommendations

Site deliveries should preferably only be made where suitable mechanical handling equipment is available on site. The delivered material must be treated with care. Lifting must only be carried out from the sides and the forklift truck tines must pass below a complete bundle, see Figure 1a. Tines must never be inserted into the end of the bundle, see Figure 1b unless provision is made such as special packaging and/or extended tines, otherwise the safety limits of the lifting vehicle may be exceeded, and damage may be caused to the equipment being lifted.

For offloading by crane suitable lifting beams should be inserted from side to side beneath a bundle and these must be sufficiently long to avoid undue pressure on the edges of the bottom components. The tensioned banding used for securing bundles of equipment during transport is not suitable for lifting purposes. When cutting this banding appropriate eye protection must be worn to avoid injury.

For shipment using containerisation special provision should be made for example a ramp which allows access for lifting by forklift from one end or both ends, see Figures 1c and 1d.

Figure 1a
Correct method of removal

Figure 1b
Incorrect method of removal

Figure 1c
Correct method of removal from a container

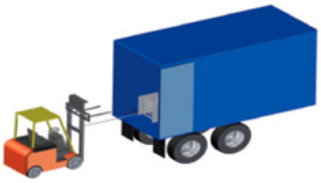

Figure 1d
Incorrect method (using a pulling chain) of removal from a container

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Handling & Storage

Storage

In order to store Cable Tray Systems, Cable Ladder Systems, Channel Support Systems and other supports safely and maintaining them in their delivered condition, the following guidelines should be considered:- Ideally, all metallic and FRP products should be stored undercover in a dry, unheated environment and be loosely stacked off the ground to ensure adequate ventilation. It is important that products that have different finishes are kept apart. Products, Pre-Galvanized (PG) before manufacture should always be protected and stored in a well ventilated, and dry location, and stacked as above. Any components packaged in degradable bags, boxes, cartons etc. should always be stored in a well ventilated and dry location. All products should be stored away from areas where processes or activities could cause damage and/or contamination. Due consideration should be given to ensure products are stacked together by type and width and in such a way as to prevent toppling.

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Material Safety Data Sheet

GRP/FRP Cable Ladders, Trays & Supports

Section 1: Identification of the product and of the company/ undertaking

Product Type
Cable Ladders, Trays and Supports made of FRP

Manufacturer
Wibe Group Asia Pacific Sdn. Bhd.

Common Material Name
Glass Reinforced Plastic (GRP)/ Fiberglass Reinforced Plastic (FRP)

Address
No 7, Jalan Apollo U5/194
Bandar Pinggiran Subang
Shah Alam, Selangor
40150, Malaysia

Contact Number
+ 603-7734 4063

Section 2: Composition / information on ingredients

Wibe Group GRP/FRP Cable Ladders, Trays and Supports are made of a mixture of unidirectional glass fibers, mat fiber, surface veil, resin and additives. During the manufacturing process this mixture is cured into a stable solid material that is not hazardous when used as intended.

Section 3: Hazard identification

Acute Effect
Dust produced by cutting or grinding can cause irritations to skin and eyes. Avoid breathing dust. Cut edges that have not been sealed may also cause skin irritations if touched.

Routes of Entry
Direct contact or inhalation of dust.

Section 4: First Aid Measures

Eye Contact
Immediately flush eye(s) with plenty of clean water for at least 15 minutes. Occasional lift the eyelids to ensure thorough rinsing.
Beyond flushing do not attempt to remove material from eye(s). Seek medical attention.

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Material Safety Data Sheet

GRP/FRP Cable Ladders, Trays & Supports

Section 4: First Aid Measures (continued)

Skin Contact

Wash with soap and water. Seek medical attention if irritation persists or later develops.

Ingestion

Seek medical help.

Inhalation

Remove from source of expose into fresh air. Ensure clear airway. Seek medical attention if irritation persists or later develops.

Section 5: Fire Fighting Measures

Wibe System GRP Cable Ladders, Trays and Supports are produced using a resin system that aids the products performance during fire. The resin system used is halogen free. For more details about the relevant test standards please contact us.

Extinguishing Media

Chemical Powder, CO_2 or alcohol-resistant foam.

Fire Fighting Procedures

Use extinguishing method best suited to the fire environment.
Use self-contained breathing apparatus for large scale fires.

Section 6: Environmental Information

Most cured polyesters have little or no toxic effect. The material should be disposed of in accordance with local, provincial and federal regulations. Incinerate only at approved disposal sites.

Section 7: Transport Information

No special regulations govern transport of this product.

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Material Safety Data Sheet

GRP/FRP Cable Ladders, Trays & Supports

Section 8: Personal Protection Information

Always observe common safety procedures.

Eye Protection

Always wear safety glasses or goggles when cutting, drilling, sawing or machining the product and any other activity that may create dust or the chance of particulates.

Respiratory Protection

Wear a suitable dust mask when cutting, drilling, sawing or machining the product and any other activity that may create dust or the chance of particulates.

Skin Protection

Overalls or suitable clothing as well as gloves should be worn during cutting, drilling, sawing or machining the product and any other activity that may create dust or the chance of particulates. Skin should also be covered if touching any new surface exposed by any of these activities. Wash skin with soap and water after handling. Wash exposed clothes separately.

Section 9: Installation Guidelines

Always observe common safety procedures. When a circular power saw is used, always wear safety glasses, suitable dust mask and gloves.

Overalls or suitable clothing would also protect the operator during sawing or cutting, machining or sanding operations. Although the dust created is non-toxic and presents no serious health issues, it can cause skin irritation. The amount of irritant varies among different individuals and can be reduced or eliminated by use of protective clothing and/or protective creams.

Avoid excessive pressure when sawing or drilling. Excessive force can wear the tooling down (Diamond or carbide grit edged saw blades, carbide tip drill bits are best suited for fiberglass). Refrain from generating excessive heat in any sawing or drilling operation. Excessive heat softens the resin thus resulting in a rough rather than a clean edge. Excessive heat will burn resin and fiberglass.

Support the fiberglass profile material rigidly during the cutting or drilling process. Movements may cause chipping at the profile edges.

When installing cable ladder or tray product from Wibe, ensure that you use original parts which make up part or all of the main support system, for example splice plates, fittings, fixing clamps and GRP/FRP supports. The use of non Wibe product in your cable management system could affect the loading performance and warranty of the total system.

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Material Safety Data Sheet

GRP/FRP Cable Ladders, Trays & Supports

Section 10: Storage and Handling

FRP/GRP non-metallic cable tray can be stored outdoor but it is always best practice to keep it covered where possible. Product should be elevated off the ground and at an angle to prevent water build-up or other foreign objects staining or bonding to cable ladder.

If appearance is important, FRP/GRP products should be stored indoors.
FRP/GRP should be kept away from high traffic areas and should be palletized by width and type. If unloading by hand, workers should wear gloves and if necessary glasses too.
To prevent damages, never pull from the truck by chaining to bottom rung and pulling out of truck as this may cause serious damage.

Special care must be taken when slings are used to prevent ladder or tray from crushing as a result of improper handling.
Avoid using any chemical cleaning agents to clean the surface of the product. If the products requires cleaning use water first or contact the manufacturer for advice.

The recommended number of standard 3m/10ft (long) x 900mm/36" (wide) x 150mm/6" (height) ladder/tray should be 10 per pallet, for 100mm/4" high profile it should be 16 per pallet (Guide only).

If you are required to re-band the ladders please exercise care when using steel banding/strapping or use plastic to avoid damaging the product during transit.

Section 11: Other Information

The information in this safety data sheet is provided in good faith but without assurance. It is accurate to the best of our knowledge and belief and contains the most recent facts.

The information in this data sheet does not represent or replace the user's personal evaluation of workplace risk, as required by applicable health and safety laws. The user assumes all risks because the conditions of use are outside our control.