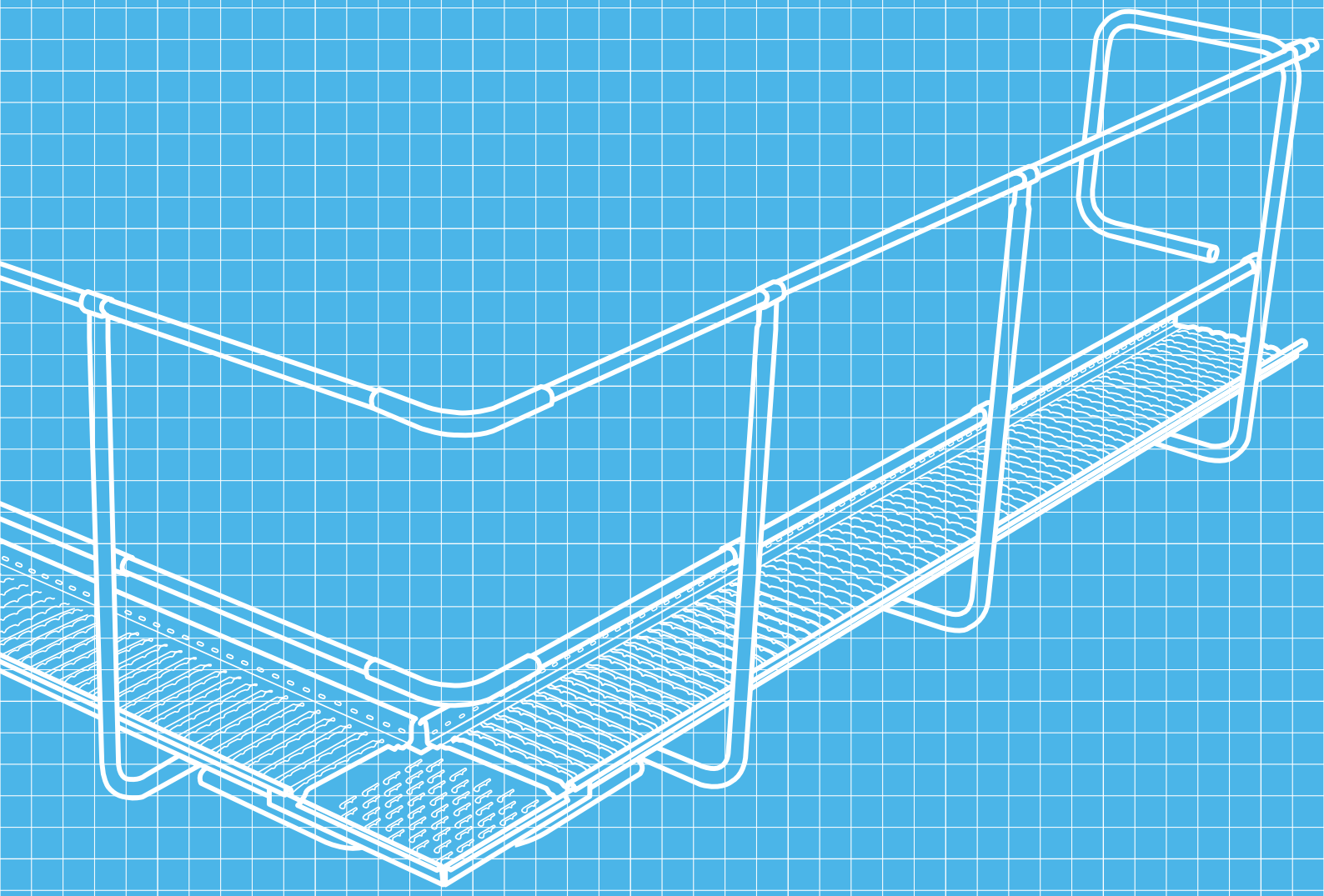
lindab | we simplify construction



Lindab **Roof Safety System**

Installation instructions

Lindab®

Contents - guide

Formal requirements

Laws and regulations

Fastening for roofs

Assembly of protective device

Installation requirements

For fastening to your rooftype see chapter "*fastening for roofs*", then go forward to your product "*assembly of protective device*" to complete your montage.

Formal requirements in Sweden

Before you start
The roof is the workplace for many different categories of profession. Tinsmiths, chimney sweeps and caretakers work on rooftops daily in rain, snow and windy weather.
Lindab has developed a full range of roof safety products for all professional groups that work on roofs.
Learn which rules and regulations apply for the relevant application

Regulations
The Swedish National Board of Housing, Building and Planning building regulations BRR 2008 (with some exceptions) apply from 1 July 2008. All products are tested according to the applicable test standards and fulfil the requirements for the relevant functional standard.

Façade height	**0-3 m**		**3-4 m**			**4-8 m**			**>8m**		
Roof Pitch	<1:10	>1:10	<1:10	>1:10	>1:3	<1:10	1:10– 1:3	>1:3	<1:10	1:10– 1:3	>1:3
	<5.7°	>5.7°	<5.7°	>5.7°	>18.3°	<5.7°	5.7°– 18.3°	>18.3°	<5.7°	5.7°– 18.3°	>18.3°
Slide protection for portable ladder BBR 8:2421	■	■	■	■	■						
Fixed wall ladder with fall protection, or interior ascent BBR 8:2421						■	■	■			
Only interior ascent BBR 8:2421									■	■	■
Guard rails by ascent openings BBR 8:2421						■	■	■	■	■	■
A fixed roof ladder and/or walkways to the ridge, chimney or workplace BBR 8:2422		■		■	■	■	■	■	■	■	■
Walkway along the entire roof ridge BBR 8:2422										■	■
Eyelets for safety lines BBR 8:2431			■			■			■		
Fixing device for safety line, e.g. ridge rails or walkway BBR 8:2431			■	■	■	■	■	■	■	■	■
Footrest at the roof pitch and eaves BBR 8:2432											■
Protection against falling ice and snow at the entrances to buildings BBR 8:2434					■			■	■	■	■
Guard rail around surfaces that may be walked on by mistake and cannot bear a person's weight BBR 8:2433	■	■	■	■	■	■	■	■	■	■	■

Requirements apply for shaded fields

Fixed work stations
BBR 8:2423
Fixed work stations must be designed in consideration of the total fall height, the type or work and the risks arising when the work is carried out. Fixed work stations requiring period maintenance should have an accessible area of at least 0.30 x 0.60 m. It can be a horizontal surface on the crown of the chimney or a platform that is at most 0.5 m below the crown. Guard rails should be at least 1.0 m high and have a hand rail on the upper edge and at half of the rail height.

Moving on the roof
BBR 8:2422
Chimneys should be provided with an ascending device if the chimney height is greater than 1.2 m at the place of ascension. If the fall height is greater than 4 m from the work station to the surface below that prevents a continued fall, the ascending device should be provided with fall protection.

Fire protection regulations
Fire protection should be designed in accordance with BBR 5:374 2002. Lindab's roof safety product range fulfils applicable requirements for escape routes.

Snow guard
Chapter 3 of the Swedish Public Order Act 1993:1617 is the set of regulations stipulating where snow guards must be installed. BBR 2008 is considered complementary to this.
§3
Snow and ice that can fall down and injure people or property in public locations* must be removed promptly from roofs, gutters and similar equipment without unreasonable delay. This shall take place in a manner such that it does not pose a risk of personal injury or property damage. The responsibility for ensuring that the appropriate measures take place is incumbent on the owner or the party assuming the owner's place as a result of a contract for use or similar reason.

* According to this law, the following apply as public locations: 1 public roads, 2 streets, roads, squares, parks and other places that are identified as public areas in local detailed plans and have been designated for this purpose,
3 areas that are identified in local detailed plans as a development district for port activities, if they have been designated for this purpose and are accessible to the general public, and 4 other land areas and spaces indoors that are used permanently for public traffic.

The Swedish Work Environment Act
A risk analysis according to the Swedish Work Environment Authority statutes AFS 1999:3 and AFS 1981:14. This can also entail that a controller and/or inspection person stipulates additional roof safety. A risk analysis gives consideration to special risks on specific buildings and the type of work. In this case, the Work Environment Act always takes priority. BBR 2008 specified minimum requirements for all buildings in general.

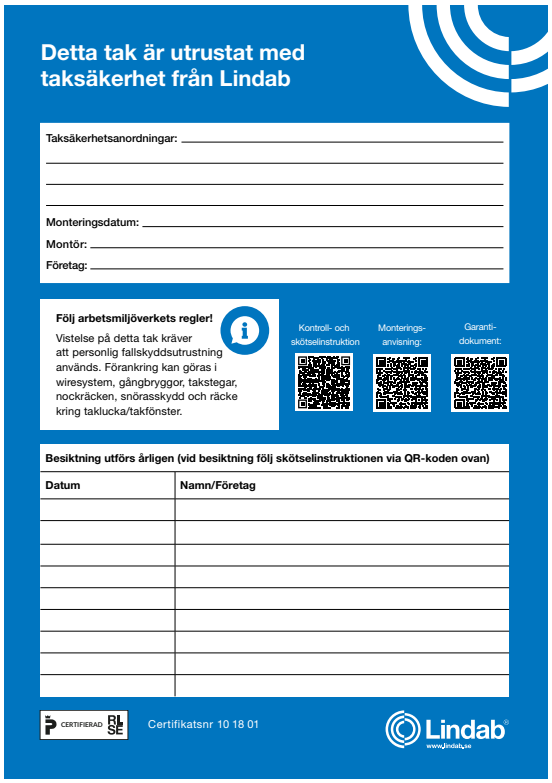
General information

Information sign for acsessing roof

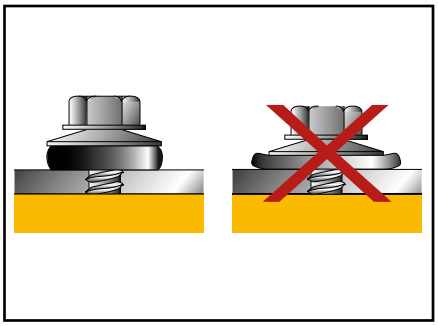
Before employes are to access the roof their employer have to make sure that the roof is a safe working envoirment.
A key factor is that the roof is safe and that it has the neccesarry roofsafety ecipment and that the roofsafety is in good condition.

When new roofsafety is installed, there must be documents that show what has been installed, that what has been installed is of the right class, that it has been installed correctly and checked for not to long ago.

This information will help employers and employees to complete their responsibilitys and be able to perform the work safely.



Do not overtighten the screw, the rubber seal must be intact.



Installation requirements

For fastening to your rooftype se chapter "*fastening for roofs*", then go forward to your product "*assembly of protective device*" to complete your montage.

Control and warranty

Inspection of lindab's roof safety shall take place annually. for more information visit:

Control and maintenance instruction (in Swedish)

Warranty (in Swedish)

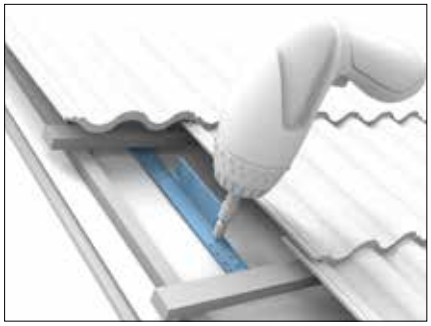
Concrete tiles with batten underlay

Installation requirements

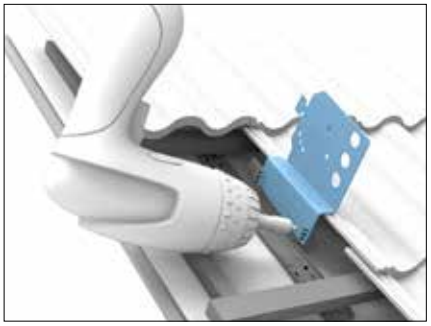
Wood: min. 19 mm
Plywood: min. 15 mm

Refer to the installation instructions for the safety equipment for the number of brackets.

Fixing of KOUND on tongue and groove or plywood underlay

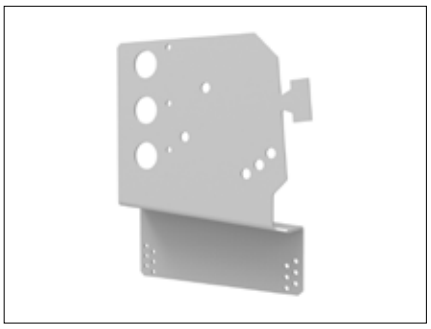


Install KOUND between battens in the desired place fix on the underlay with the eight accompanying screws from bolt set 20.

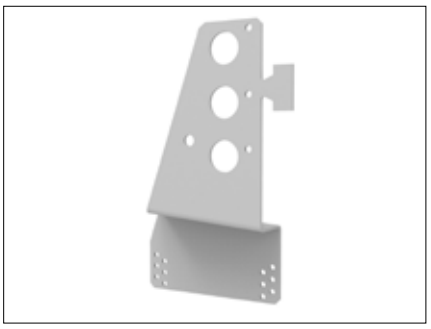


Lay KOBET/L (concrete tile) on the upper bracket and let it rest on the tiles. Fix in place with the two drill bit screws from bolt set 20 - one on each side of the bracket.

Step 2 can take place on the ground to facilitate installation. Then you have to use the first bracket to determine which hole pattern is optimal for the pitch.



KOBET can be used for installation of all protective equipment except ladder: roof walkway, guard, and RÖR snow guard.



KOBETL can be used for installation of all protective equipment except for roof walkways and ladder: e.g. guards and RÖR snow guard.

Concrete tiles with light underlay

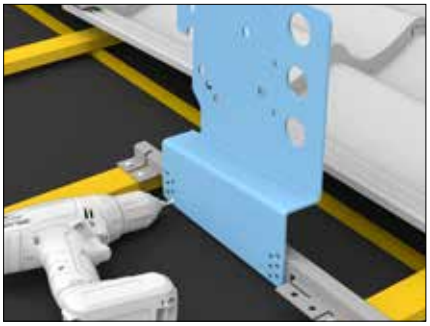
Installation requirements

Min. 45×70 batten.

Refer to the installation instructions for the safety equipment for the number of brackets.

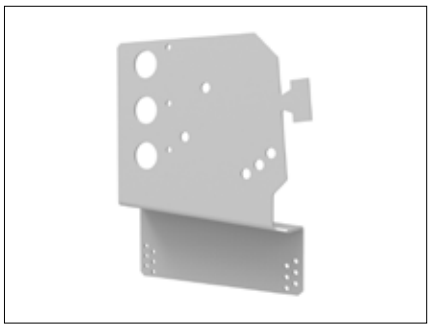
Fastening of KLF on battens for light underlay

Fit KLF supporting bracket on the batten and fasten in place with the four accompanying screws from bolt set 21 where they fit against the batten - two in the upper and two in the lower batten.

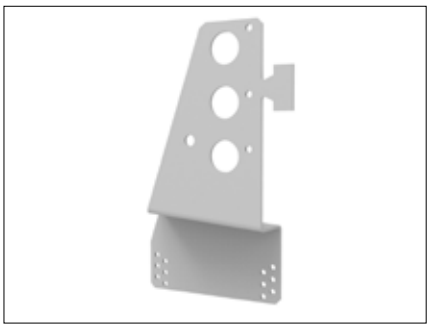


Lay KOBET/L (concrete tile) on the upper bracket and let it rest on the tiles. Fix in place with the two drill bit screws from bolt set 21- one on each side of the bracket.

Step 2 can take place on the ground to facilitate installation. Then you have to use the first bracket to determine which hole pattern is optimal for the pitch.



KOBET can be used for installation of all protective equipment except roof ladder: roof walkway, guard, and RÖR snow guard.



KOBETL can be used for installation of all protective equipment except for roof walkways or ladder: e.g. guards and RÖR snow guard

Standing seam long strip roofing

Installation requirements

Steel sheet: min. d = 0.6 mm double-folded seam

Titanium zinc: min. d = 0.7 mm double-folded seam

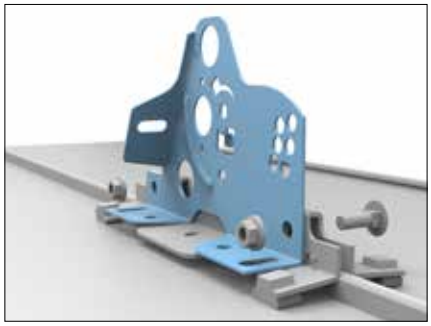
Copper sheet: d = 0.6 mm double-folded seam

Aluminium sheet min. 0.8 mm double-folded seam.

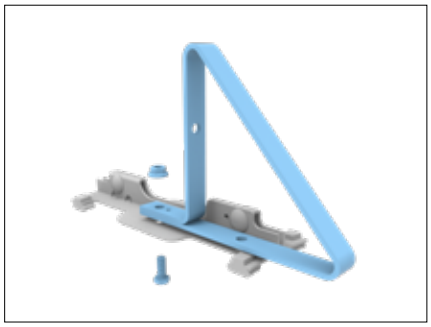
FFIP insulation profile is used for installation on a copper roof.

UNIK bracket is available fully assembled on FF seam fastener. This component is called FFUNIK.

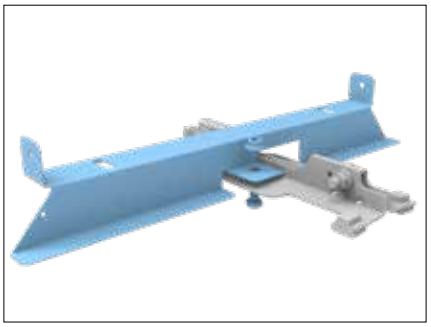
Fastening of FF seam fastener on standing seam long strip roofing



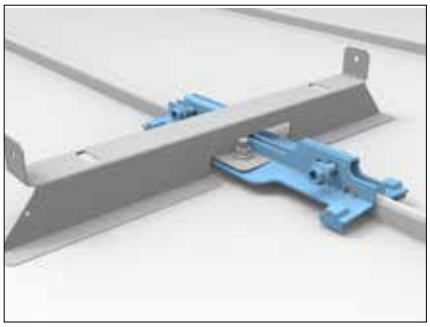
For installation with UNIK (snow guard, walkway, etc.), mount the bracket at the same time of the FF seam fastener. Ensure that the FF seam fastener's heels rests on the roof. Tighten the bolts to 20 Nm.



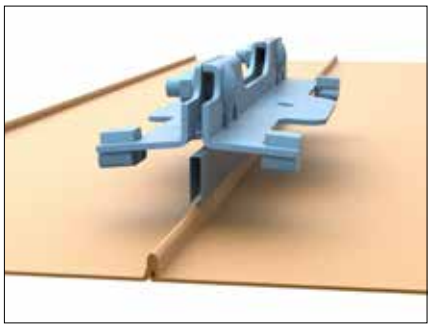
If the HSN bracket is used (snow guard), fit it on the FF first, as illustrated. Mount HSN on FF with 1 screw and nut from bolt set 4.



If the TSKFF bracket is used (roof ladder or walkway), mount it on the FF first, as illustrated. MOunt TSKFF on FF with 1 screw and bolt from bolt set 36.



Mount FF seam fastener around the steel panel seam. Ensure that the FF seam fastener's heels rest on the steel panel. Tighten the bolts to 20 Nm.



When mounting on copper roofs, insulation profile FFIP is used to prevent corrosion between FF and the copper roof.

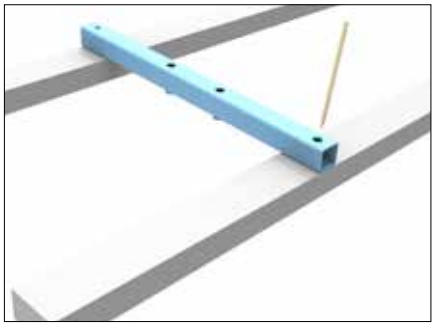
Fibre cement roof

Installation requirements

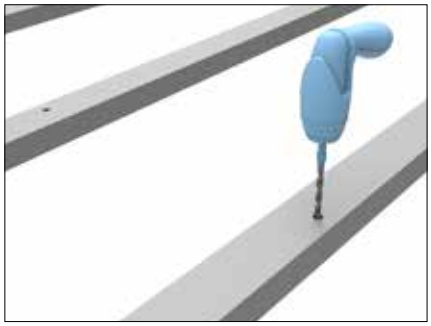
Batten distance:
CELUF is intended for a batten distance of 535 mm.

With a distance of 1070 mm, you need to install an extra batten.

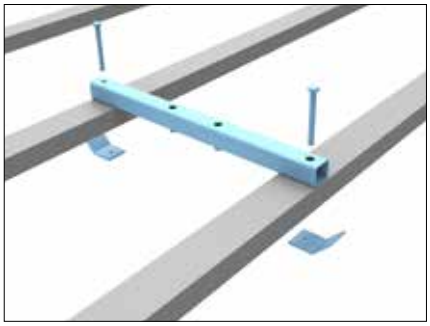
Fastening of CELUF



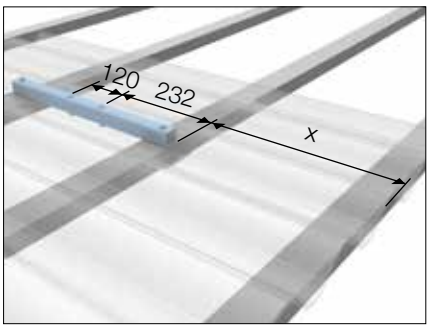
Position the CELUF parallel with the panel corrugation. The CELUF height should be at the same height on the batten (A). Mark the locations to drill holes in the batten.



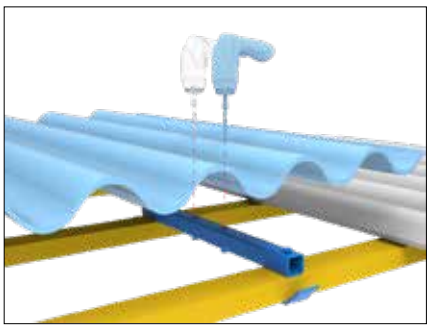
Drill with a Ø 11-12 mm drill bit.



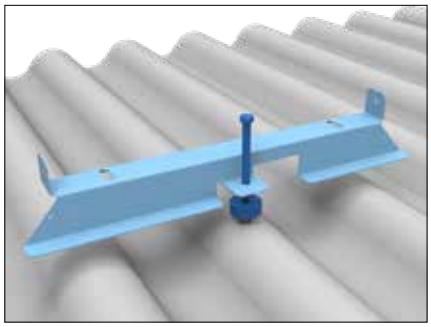
Screw CELUF in the batten firmly and mount the roof panel.



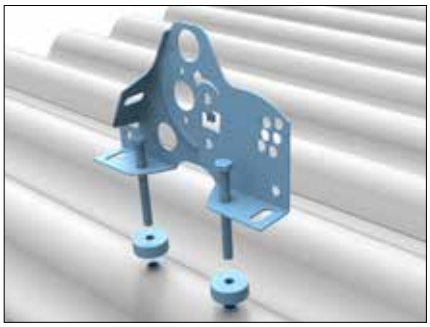
Then measure the distance x from the lower edge of the roof panel to the lower edge of CELUF. Add 232 mm and then mark the hole for the supporting tubes. Mark 120 mm higher up for the other hole.



Drill with a Ø 20 mm carbide drill bit and lower the supporting tubes in the fastener.



For mounting of roof ladder use TSKFF.



Fasten the bracket on the supporting pipe.

Centre-to-centre distance to the next fastener

Snow zone	Medio P6	Cembonite
1	1062	1176
1.5	1062	1029
2	885	882
2.5	885	882
3	708	735
4	708	588

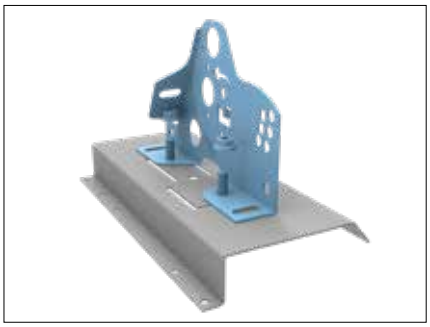
Lindab tile

Installation requirements

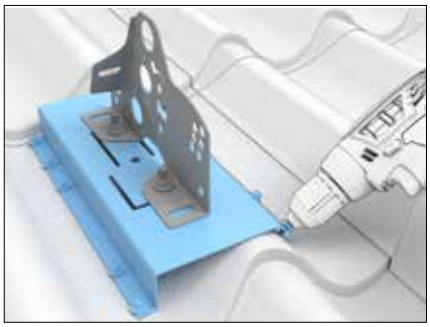
Steel sheet: min. d = 0.5 mm

The installation takes place entirely from the roof's exterior.

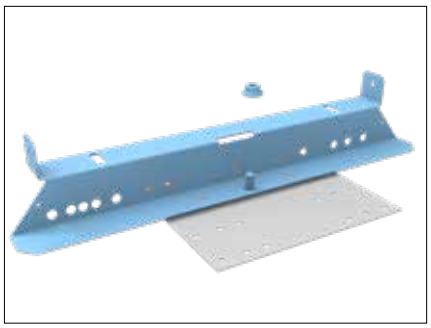
Fastening of IFLPA, IFLPE fastening plate.



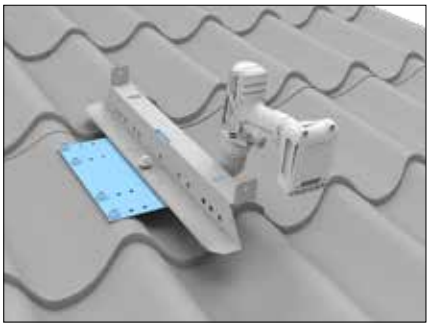
For installation with UNIK (snow guard, walkway, etc.) assemble UNIK at the same time as IFLPA/IFLPE with 2 screws, washer and nut from bolt set 29.



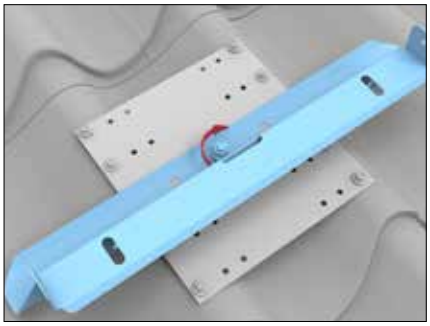
Position IFLPA/IFLPE in the desired location on the roof. Fix it in place with the ten accompanying point screws from bolt set 29.



If TSK is used (roof ladder or walkway), mount it on TSKIF first, as illustrated. Mount TSK on TSKIF with 1 screw and nut from bolt set 2, without tightening the nut.



Position TSKIF on a profile top on the plate at least 200 mm from the edge of the plate. Fasten TSKIF with the eight accompanying point screws from bolt set 2.



Finally tighten the nut for fastening TSK on TSKIF.

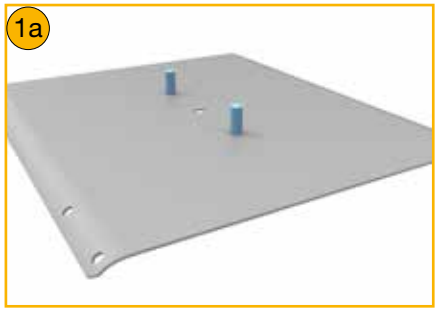
If HSN is used (with SNÖ), mount it on IFLPA/IFLPE first, as illustrated. Mount HSN with 1 screw and nut from bolt set 29.

Boiler plate LPP20

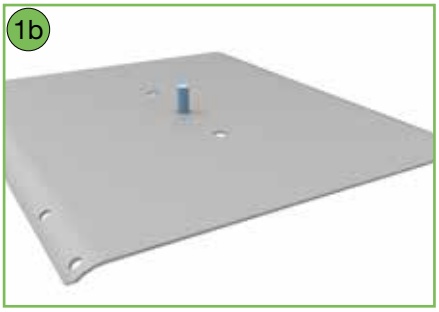
Installation requirements

Steel plate min. 0.5 mm

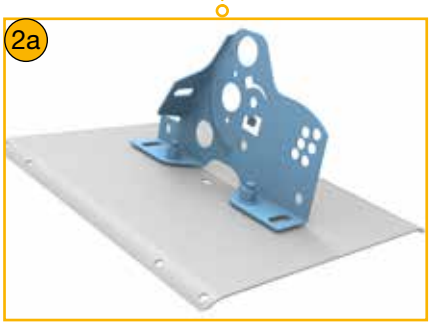
Fastening of IFLPP



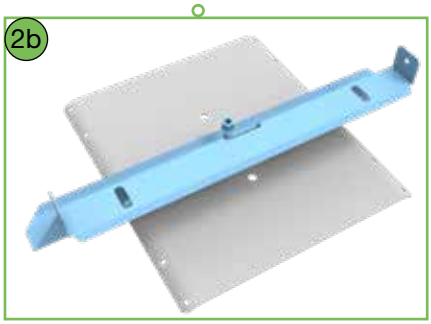
Install carriage bolts on IFLPP from underneath for UNIK.



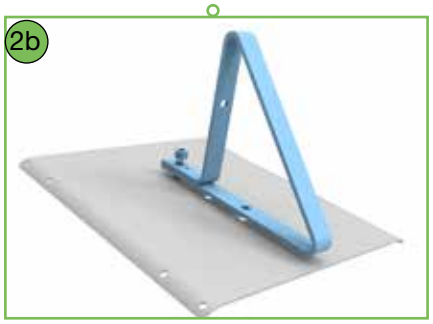
Mount carriage bolt on IFLPP from underneath for TSK or HSN



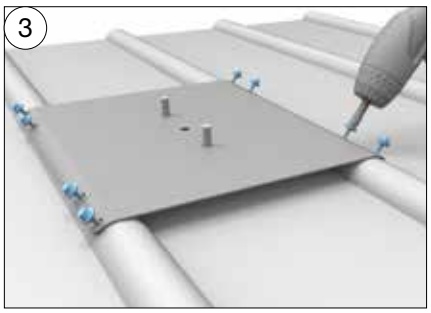
Mount UNIK in the bolts.



Mount TSK in the bolts.



Mount HSN in the bolts.



Position IFLPP on LPP20 and fasten in the plate with eight point screws from bolt set 23.

Felt roofing on batten underlay

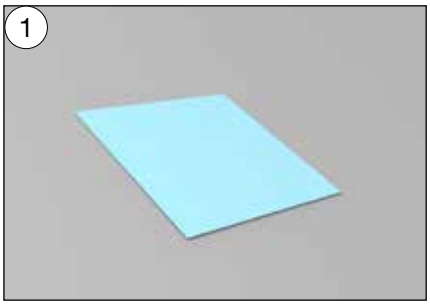
Mechanical fastening with TATPLAT PAPP fastening plate

Installation requirements

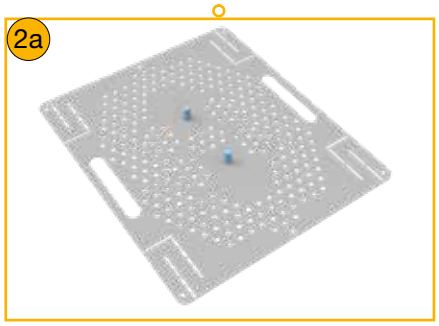
Installation - fastening device for roofs with tongue-in-groove board and TATPLAT PAPP waterproofing.

Approved regardless of waterproofing type

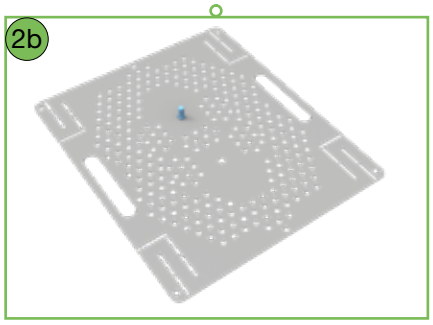
Tongue-in-groove board minimum 19 mm



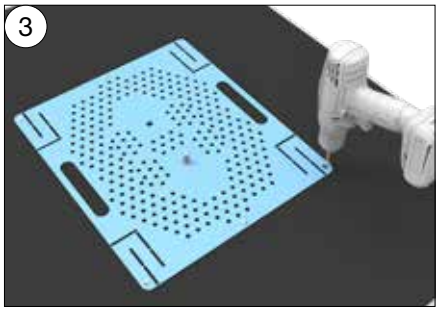
Cut a 500 x 600 mm rectangle of felt for application on the roof. Position it where the seal plate will be mounted with the bottom side facing up.



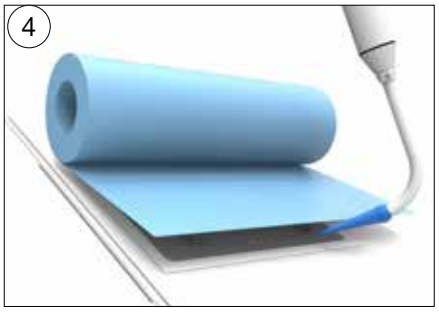
Install the carriage bolts from bolt set 26 in the TATPLAT from underneath. For UNIK.



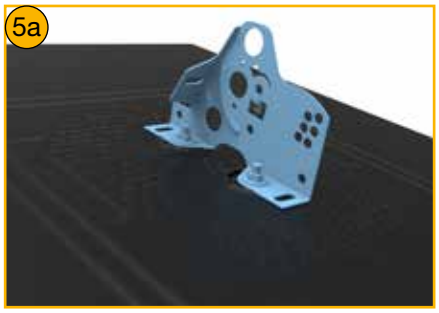
Install the carriage bolt in the TATPLAT from underneath. For TSK from bolt set 26 or for LLF150 from bolt set 27.



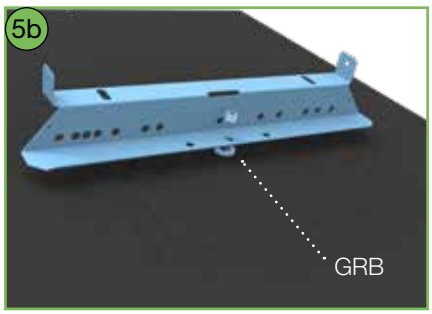
Position TATPLAT on the felt rectangle and fasten the 6 accompanying screws from; bolt set 26 TATPLAT, bolt set 27 TATPLATL.



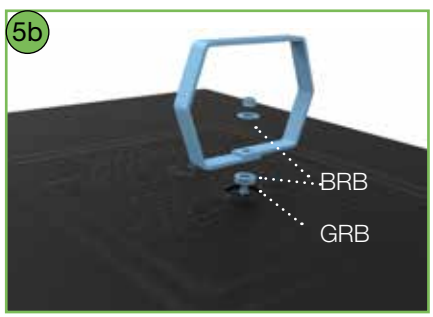
Position the felt and make holes for the bolt or bolts through the waterproofing layer. Heat the roof felt so that it melts together with the underlying felt rectangle through the perforation.



Mount UNIK on TATPLAT. Use the accompanying GRB rubber disc under the fastener and the accompanying nut from bolt set 26.



Mount TSK on TATPLAT. Use the accompanying GRB rubber disc under the fastener and the accompanying nut from bolt set 26.



Mount LLF150 on TATPLAT. Use the accompanying GRB rubber disc under the fastener and the accompanying nut. A disc must also be arranged above the rubber disc for LLF150. Use bolt set 27.

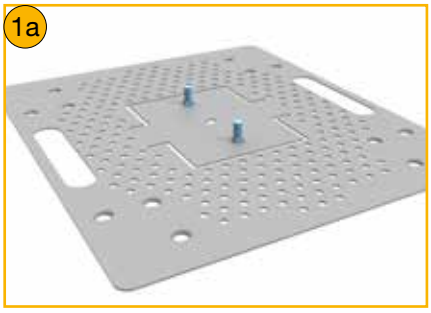
Felt/membrane roof externally insulated decking *- new roof*

Installation requirements

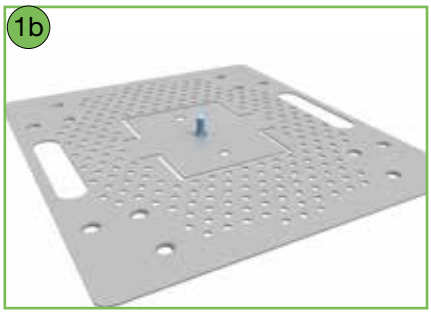
Fastening devices for roofs with external insulation with membrane covering

For installation on LHP115

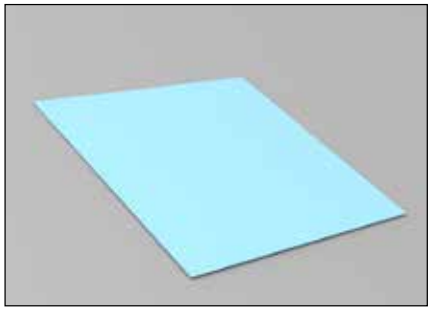
Approved regardless of waterproofing type



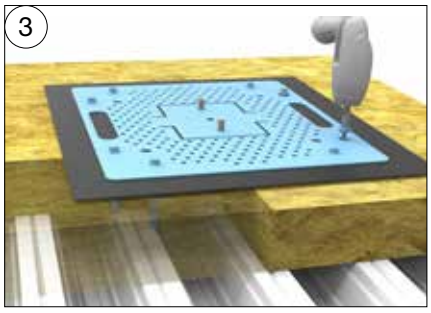
Install carriage bolts in TATPLAT from underneath. For UNIK.



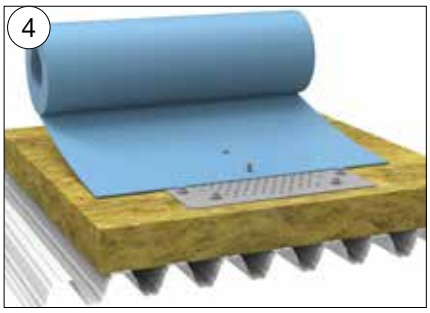
Install the carriage bolt in the TATPLAT from underneath, from bolt set 26 for bracket TSK or bolt set 27 for LLF150.



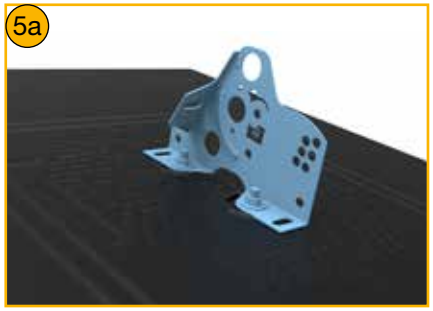
Cut a minimum 800 x 900 mm rectangle of the membrane to be arranged on the roof. Position it where TATPLAT should be installed with the bottom facing up.



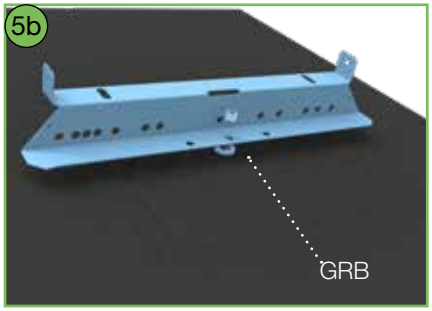
Position TATPLAT in the desired location and find the underlying crest in the plate. Push in the accompanying sleeves. 2 x in each corner, 8 in total. Fasten them with the accompanying screws.



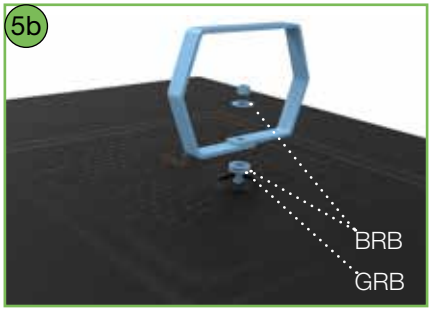
Apply the roof membrane on the roof surface according to the applicable regulations. Make holes for bolt/bolts.



Mount UNIK on TATPLAT. Use the accompanying GRB disc under UNIK and the accompanying nuts.



Mount TSK on TATPLAT. Use the accompanying rubber disc GRB under TSK and the accompanying nuts.



Mount LLF150 on TATPLAT. Use the accompanying rubber disc GRB under LLF150 and the accompanying nuts. There should also be a disc above the rubber disc.

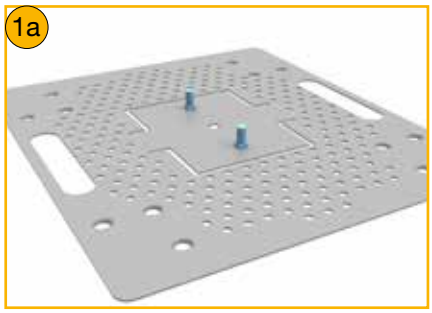
Felt/membrane roof externally insulated decking - *existing roof*

Installation requirements

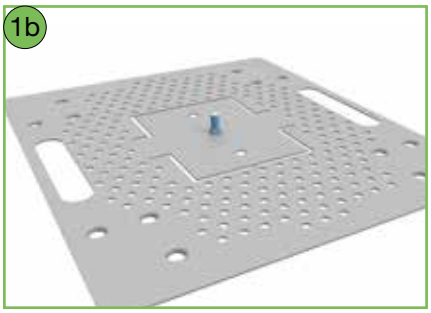
Fastening devices for roofs with external insulation with membrane covering

For installation on LHP115

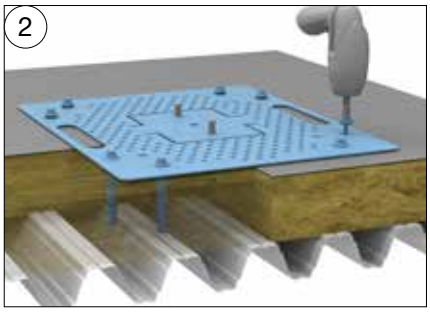
Approved regardless of waterproofing type



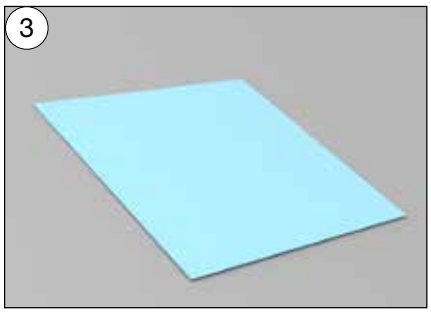
Install the carriage bolts in the TATPLAT from underneath. For UNIK.



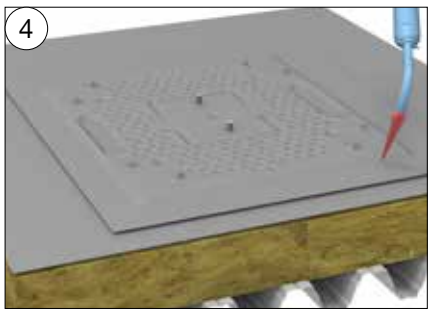
Install the carriage bolt/bolts in the TATPLAT from underneath. For bracket TSK or LLF150.



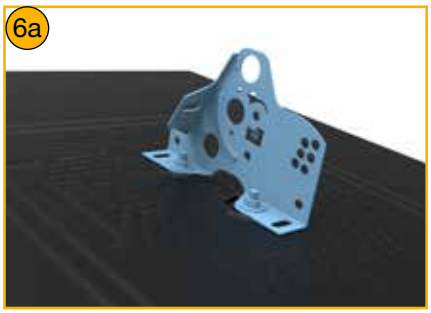
Position TATPLAT in the desired location and find the underlying crest in the plate. Push in the accompanying sleeves. 2 x in each corner, 8 in total. Fasten them with the accompanying screws.



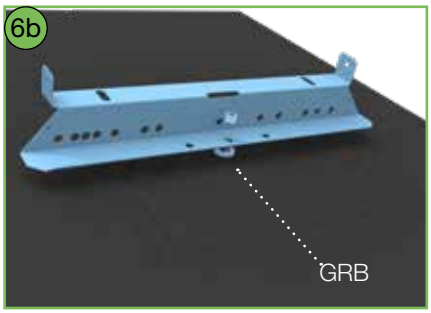
Cut a minimum 800 x 900 mm rectangle of the membrane.



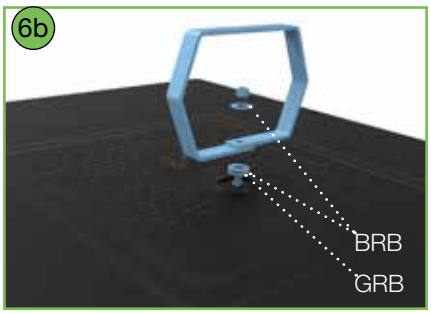
Apply the roof membrane on the roof surface according to the applicable regulations. Make holes for bolt/bolts.



Mount UNIK on TATPLAT. Use the accompanying GRB disc under UNIK and the accompanying nuts.



Mount TSK on TATPLAT. Use the accompanying rubber disc GRB under TSK and the accompanying nuts.

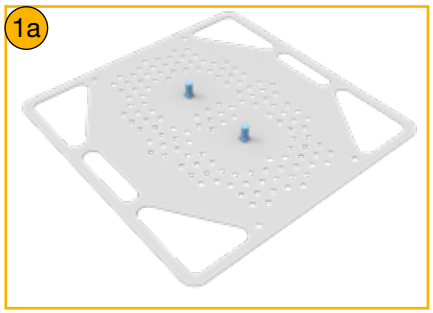


Mount LLF150 on TATPLAT. Use the accompanying rubber disc GRB under LLF150 and the accompanying nuts. There should also be a disc above the rubber disc.

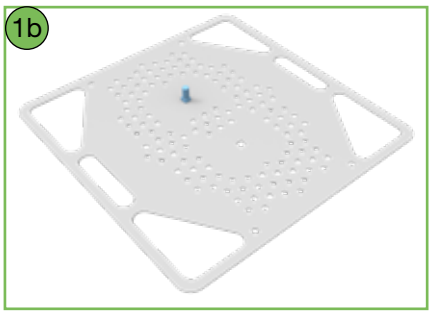
Felt/membrane fastening on the exterior - *new roof*

Installation requirements

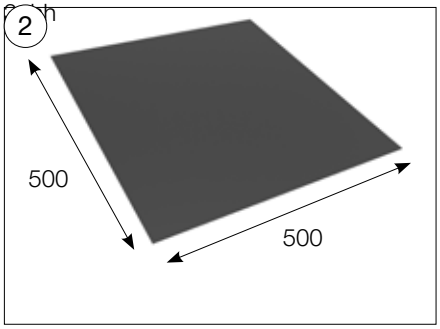
Roof membrane made of PVC, ECB or FPO. Min. thickness 1.2 mm.



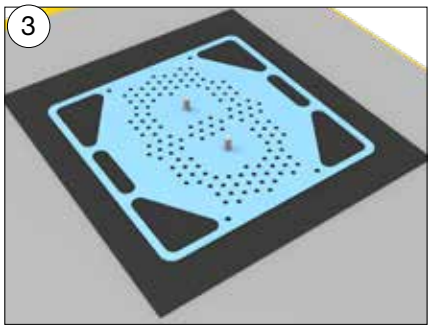
Install carriage bolts on YTPLAT for UNIK from underneath, from bolt set 3 or 30.



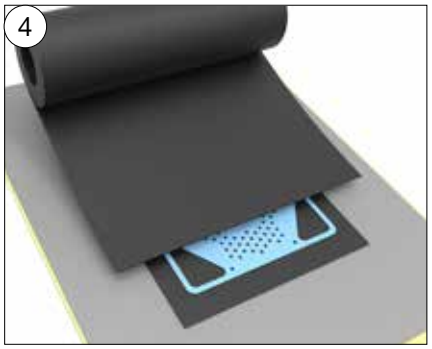
Mount carriage bolt on YTPLAT for TSK or HSN from underneath from bolt set



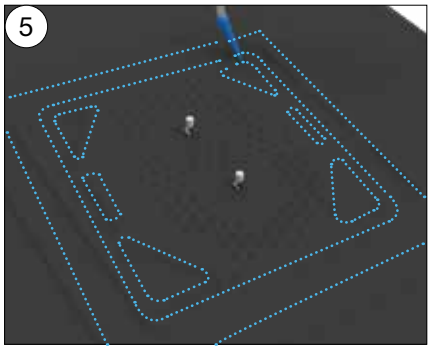
Cut a minimum 500 x 500 mm underlay of the membrane.



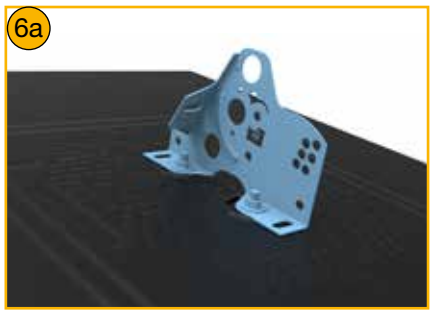
Position YTPLAT in the centre of the underlay.



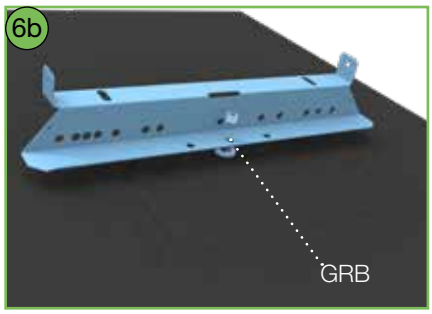
Position the exterior mat and make holes for the bolt or bolts.



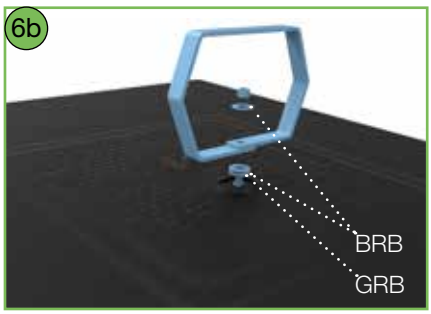
Heat the roof felt so that the exterior mat melts together with the underlying felt rectangle through the perforation.



Mount UNIK on YTPLAT. Apply the accompanying GRB disc under UNIK and the accompanying nuts from bolt set 3.



Mount TSK on YTPLAT. Apply the accompanying rubber disc GRB under TSK and the accompanying nuts from bolt set 3.

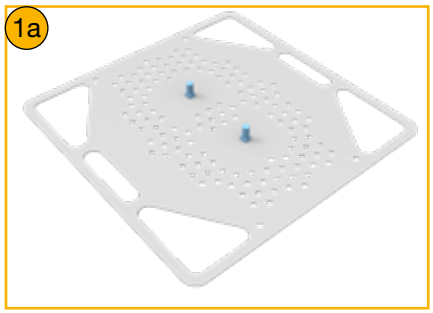


Mount LLF150 on YTPLAT. Apply the accompanying rubber disc GRB under LLF150 and the accompanying nuts from bolt set 30. There should also be a disc above the rubber disc.

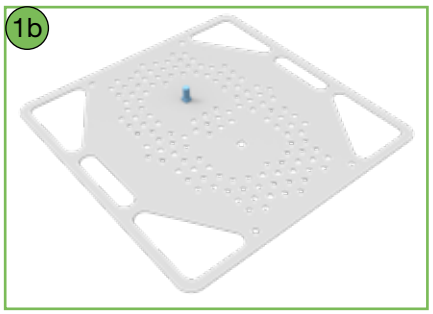
Felt/membrane fastening on the exterior - *existing roof*

Installation requirements

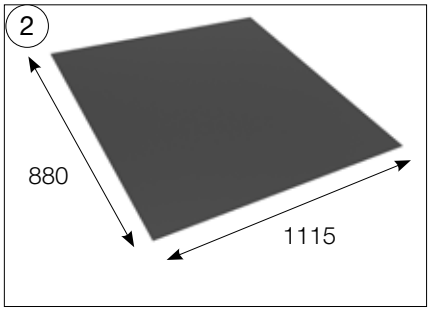
Roof membrane made of PVC, ECB or FPO. Min. thickness 1.2 mm.



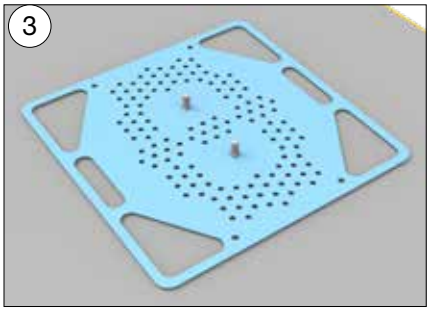
Install carriage bolts on YTPLAT for UNIK from underneath from bolt set 3 or boltset 30.



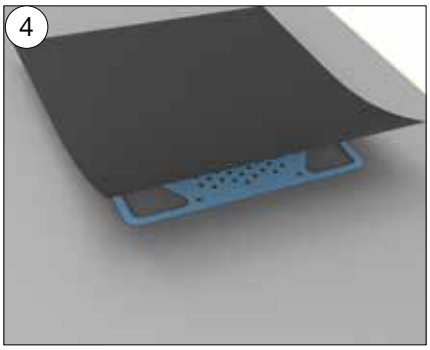
Mount carriage bolt on YTPLAT for TSK or HSN from underneath from bolt set 3.



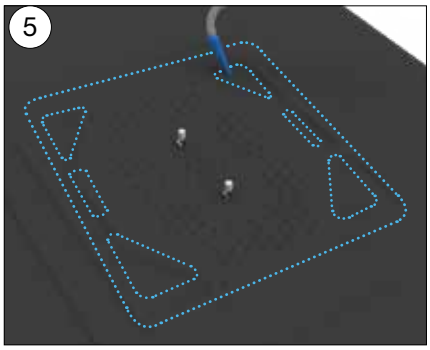
Cut a minimum 1115 x 880 mm underlay of the membrane.



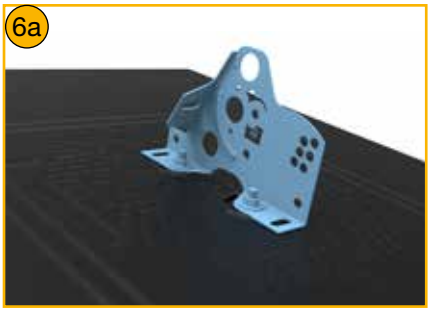
Heat the exterior layer and position YTPLAT in the desired location with the desired number of bolts.



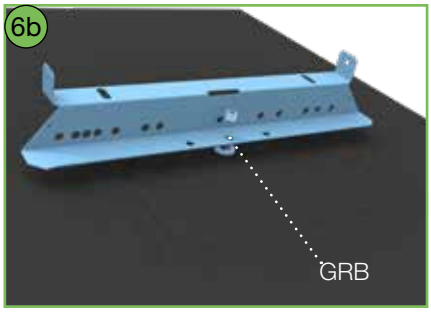
Make holes in the underlay membrane and position it over the fastening.



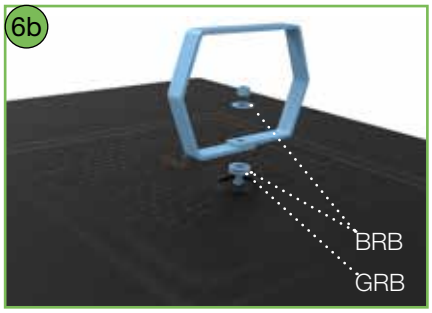
Seal the entire surface.



Mount UNIK on YTPLAT. Use the accompanying GRB disc under UNIK and the accompanying nuts from bolt set 3.



Mount TSK on YTPLAT. Use the accompanying rubber disc GRB under TSK and the accompanying nut from bolt set 3.



Mount LLF150 on YTPLAT. Use the accompanying rubber disc GRB under LLF150 and the accompanying nut from bolt set 3. There should also be a disc above the rubber disc.

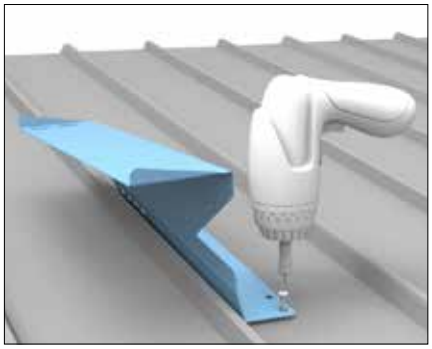
Sandwich panels

Installation requirements

Min. exterior plate thickness: 0.5 mm steel plate.

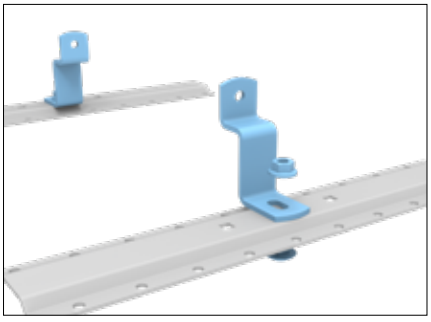
Profile provided for pitch of 7˚-13˚ and 14˚-21˚

Fastening of SAWBRK (for roof walkway)

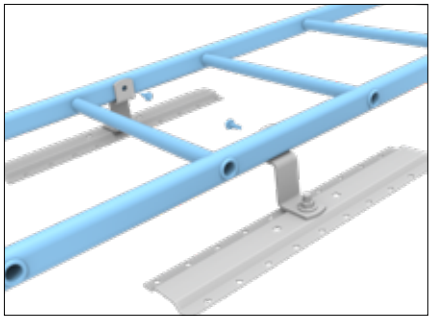


Mount SAWBRK on the sandwich panel Use the 10 accompanying screws from bolt set 9.

Fastening of ladder bracket TSKL (for roof ladder)



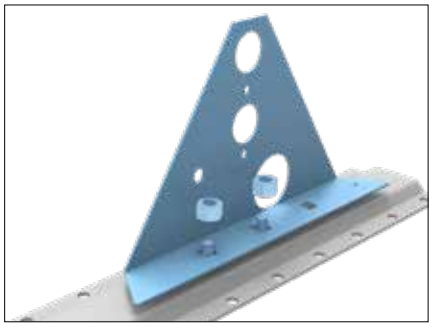
Install the bracket TSKL on SAWPLF. Use the accompanying screws from bolt set 11. The nuts are positioned on the upper side.



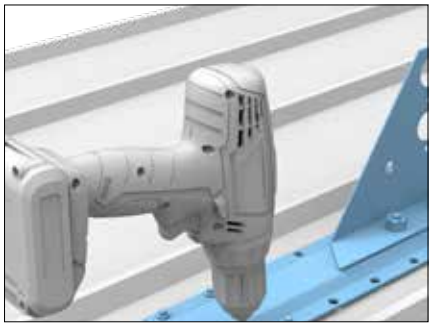
Mount two TSKL + SAWPLF on each side of the top of the ladder. Mount with one screw and nut on each side accompanying TSKL.

Install the top of the ladder by fastening SAWPLF on the roof panel. Use the 8 accompanying screws from bolt set 11.

Fastening of SAWK and SAWPLF (for ridge rail and snow guard RÖR).

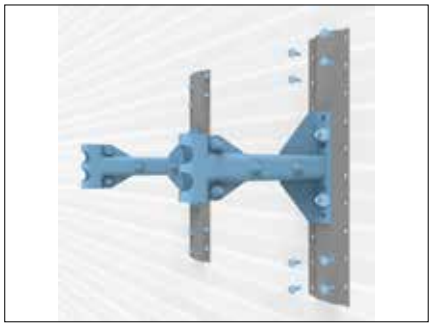


Install SAWK on SAWPLF. Use the 2 screws and nuts from bolt set 11. The nuts are positioned on the upper side.



Mount SAWPLF on the sandwich panel. Use the eight accompanying screws from bolt set 11. Use the outer holes on SAWPLF.

Fastening wall ladder



Mount console VSK on SAWPLF with 2 screws and nuts from bolt set 11, nuts positioned on the upper side. Mount SAWPLF on the sandwich panel with 8 screws from bolt set 11.

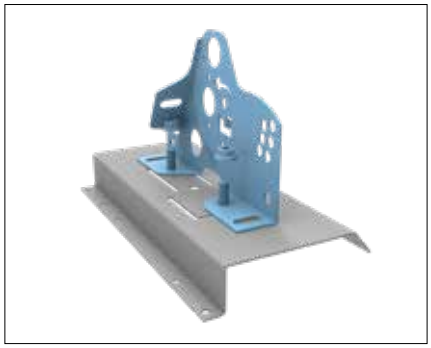
Sinusoidal profiled steel sheet

Installation requirements

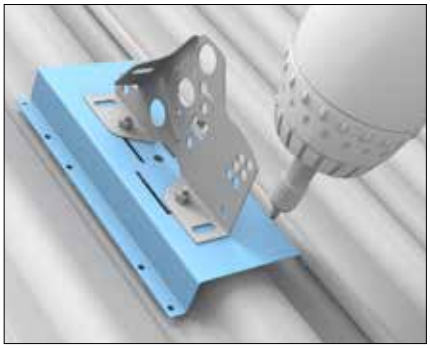
Steel sheet: min. d = 0.5 mm

The installation takes place entirely from the roof's exterior.

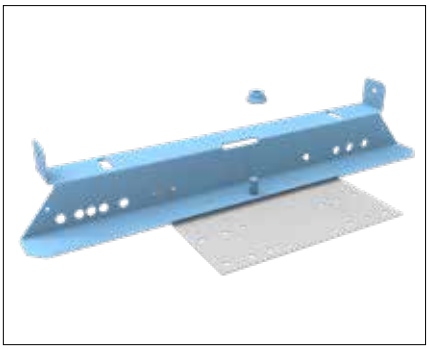
Fastening of IFSIN 26



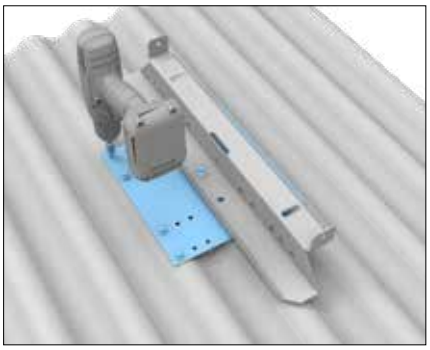
For installation with UNIK (snow guard, walkway, etc.) assemble UNIK on IFSIN 26. Mount with 2 screws and nuts from bolt set 29, nuts positioned on the upper side.



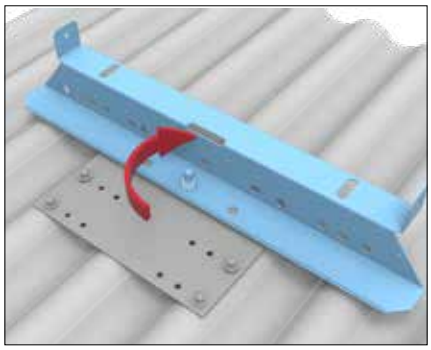
Position IFSIN 26 in the desired location on the roof. Fix it in place with ten screws from bolt set 29.



If TSK is used (roof ladder or walkway for pitch roofs), mount it on TSKIF first, as illustrated, without tightening the nut. Mount with screw and nut from bolt set 2.



Rotate TSK and position TSKIF on a profile top on the plate at least 200 mm from the edge of the plate. Fasten TSKIF with 8 screws. from bolt set 2.



Finally tighten the nut for fastening TSK on TSKIF.

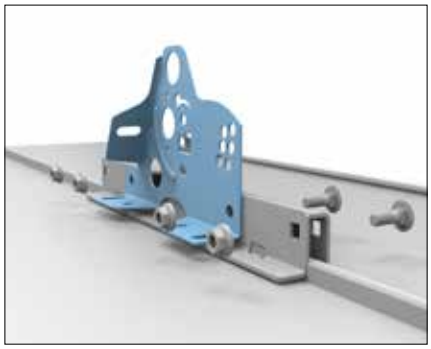
SRP25 Standing seam profile

Installation requirements

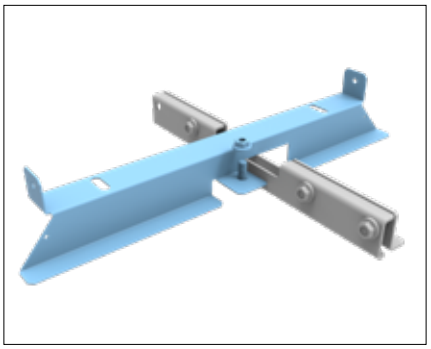
SRP25 underlay.

Tighten the bolts to 40 Nm

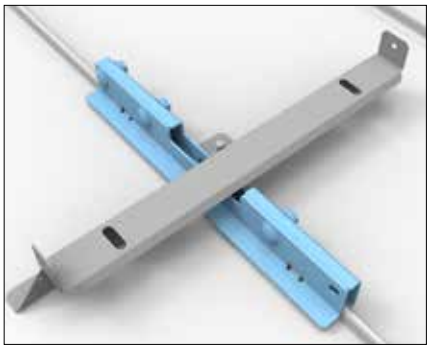
Fastening of bracket IFSRP on SRP25



For installation with UNIK (snow guard, walkway, etc.) assemble UNIK at the same time as IFSRP. Loosen the premounted nuts on IFRSP and fasten UNIK. Ensure that the IFSRP's heels rest on the steel panel.



If TSKFF is used (roof ladder or walkway for pitch roofs), mount it on IFSRP first, as illustrated. Mount TSKFF on IFSRP with one screw and nut from bolt set 36, nut on the uppper side. Mount together before IFSRP is fastened on the roof.



Mount IFSRP around the steel panel seam by loosen the premounted nuts and place IFSRP over the seam.

If the HSN is used (snow guard), fit it on the IFSRP first, as illustrated. Mount HSN against IFSRP with one screw and nut from bolt set 4, nut on the upper side.

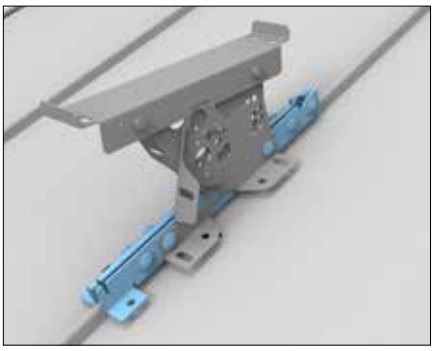
SRP25N Standing seam profile

Installation requirements

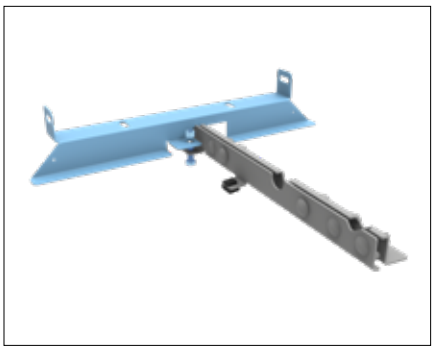
SRP25N underlay.

Tighten the bolts to 40 Nm

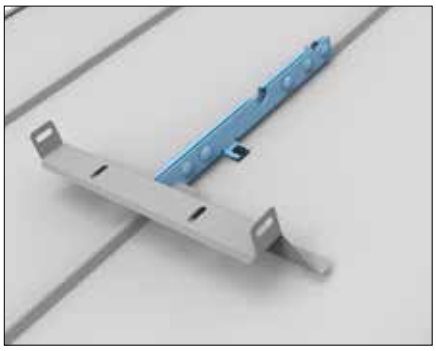
Fastening of bracket IFSRPN on SRP25N



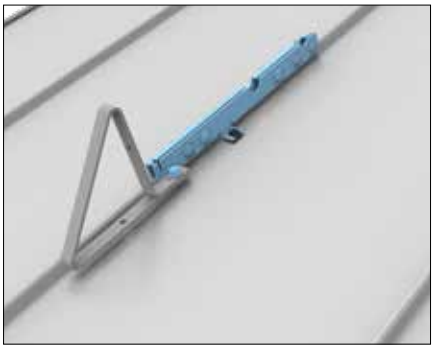
For installation with UNIK (snow guard, walkway, etc.) assemble UNIK at the same time as IFSRPN. Loosen the pre-mounted nuts from IFSRPN and fasten UNIK. Ensure that the IFSRPN's heels rest on the steel panel.



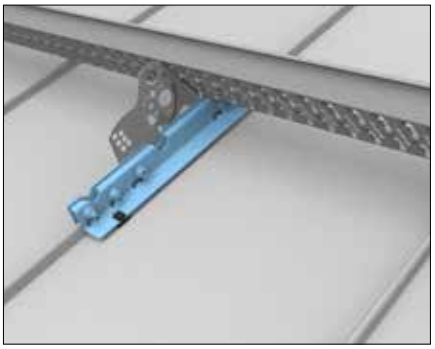
If TSKFF is used (roof ladder or walkway for pitch roofs), mount it on IFSRPN first, as illustrated with screw and nut from bolt set 36. Nut on upper side, screw from underneath.



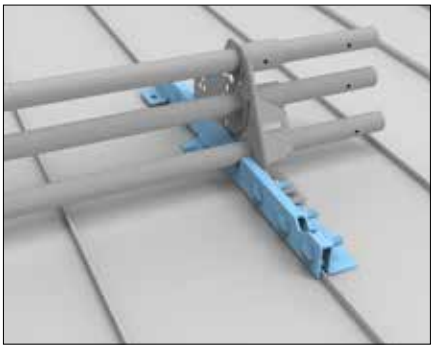
Mount IFSRPN around the steel panel seam by loosen the premounted nuts and place IFSRPN over the seam.



If the HSN is used (snow guard), fit it on the IFSRPN first, as illustrated.Mount with one screw and nut from bolt set 4, nut on the upper side.



If SNÖ is to be used (slotted snow-system) mount it toghether with consol IFSRPN, as illustrated.



If SNÖ is to be used (slotted snow-system) mount it toghether with consol IFSRPN, as illustrated.

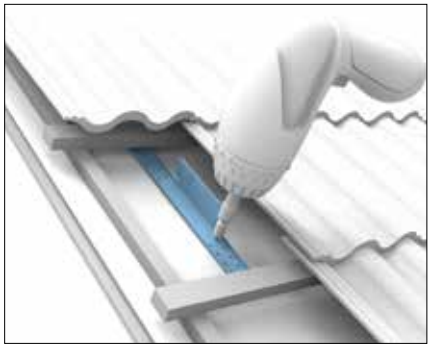
Tile roofing on batten underlay

Installation requirements

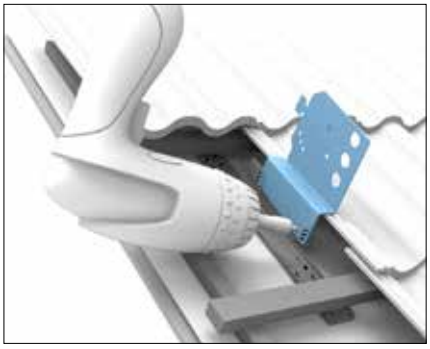
Wood: min. 19 mm

Plywood: min. 15 mm

Fixing of KOUND on tongue and groove or plywood underlay

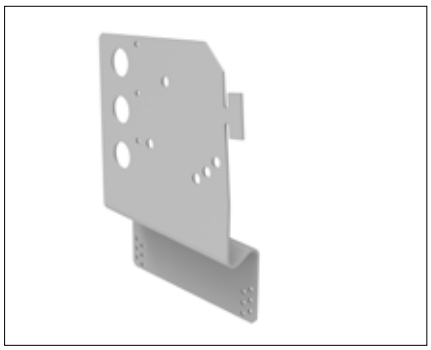


Install KOUND between battens in the desired place Fix on the underlay with the eight accompanying screws from bolt set 20.

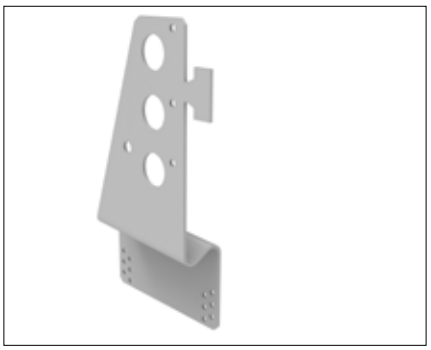


Lay KOTEG/L on the upper bracket and let it rest on the tiles. Fix in place with the two drill bit screws from bolt set 20.

Step 2 can take place on the ground to facilitate installation. Then you have to use the first bracket to determine which hole pattern is optimal for the pitch.



KOTEG can be used for installation of all protective equipment except for ladders: e.g. roof walkway, guard, RÖR snow guard.



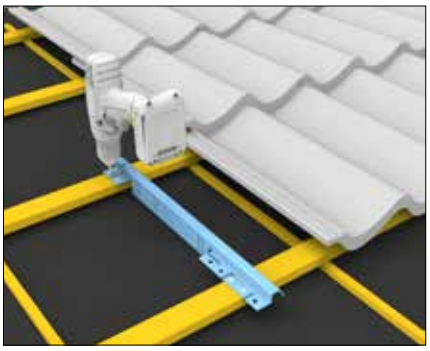
KOTEGL can be used for installation of all protective equipment except for roof walkways or ladders: e.g. guards, RÖR snow guard.

Tile roofing on light underlay

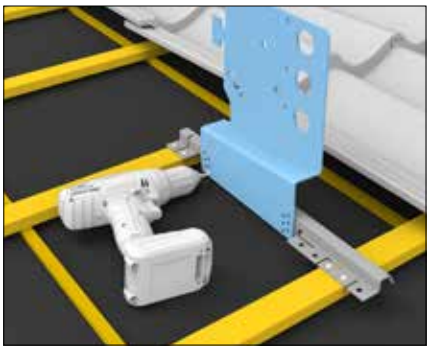
Installation requirements

Min. 45×70 batten.

Fastening of KLF on battens for light underlay

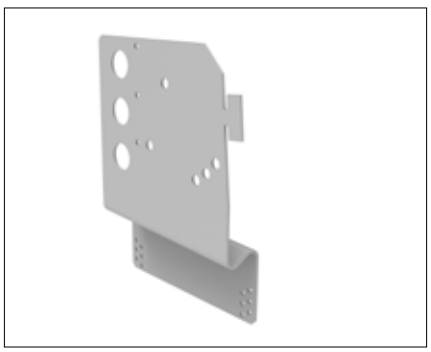


Fit KLF supporting bracket on the batten and fasten in place with the four accompanying screws where they fit against the batten - two in the upper and two in the lower batten.

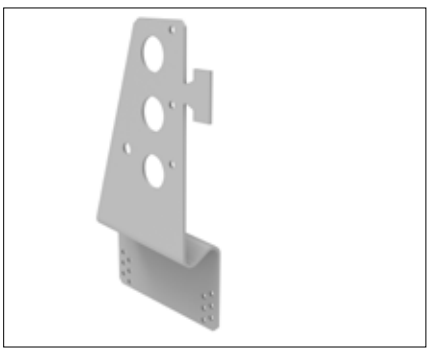


Lay KOTEG/L on the upper bracket and let it rest on the tiles. Fix in place with the two drill bit screws - one on each side of the bracket.

Step 2 can take place on the ground to facilitate installation. Then you have to use the first bracket to determine which hole pattern is optimal for the pitch.



KOTEG can be used for installation of all protective equipment except for ladders: e.g. roof walkway, guard, RÖR snow guard.



KOTEGL can be used for installation of all protective equipment except for roof walkways or ladders: e.g. guards, RÖR snow guard.

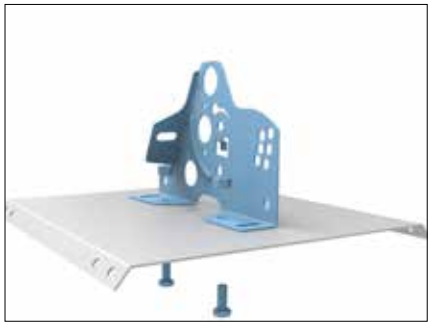
Trapezoidal profile 115

Installation requirements

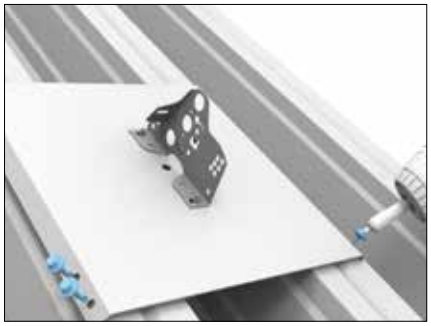
Steel sheet: min. d = 0.5 mm

The installation takes place entirely from the roof's exterior.

Fastening of IF306-245 for LHP115

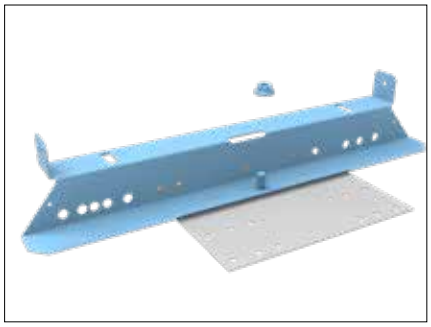


For installation with UNIK (snow guard, walkway, etc.) assemble UNIK on IF115.

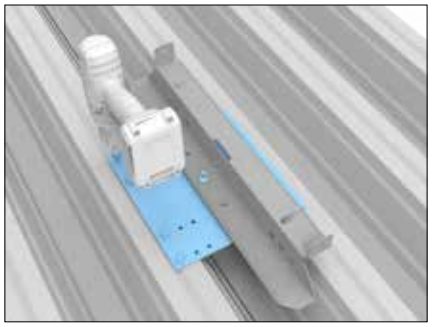


Position IF115 on a profile top on the plate at least 200 mm from the edge of the plate. If steel thickness is 0.9 mm or less use 8 point screws from bolt set 31 and for steel thickness 1.0 or more use 8 drill bit screws from bolt set 31 to fix IF115.

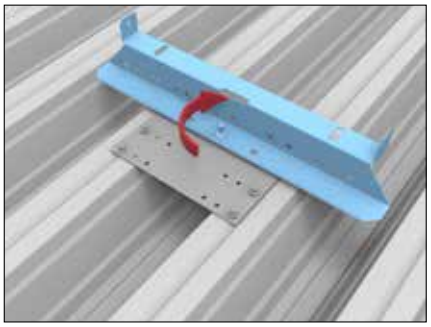
If the HSN is used (snow guard), fit it on the IF115 first, as illustrated. Use one screw and nut from bolt set 4 to fix HSN and IF115 together.



If TSK is used (roof ladder or walkway), mount it loosely on TSKIF first, as illustrated, with one screw and nut from bolt set 36.



Rotate TSK and position TSKIF on a profile top on the plate at least 200 mm from the edge of the plate. Fasten TSKIF with eight screws from bolt set 2.



Finally tighten the nut to fasten TSK on TSKIF.

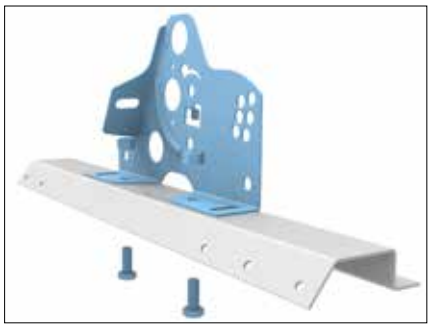
Trapezoidal profiled steel sheet

Installation requirements

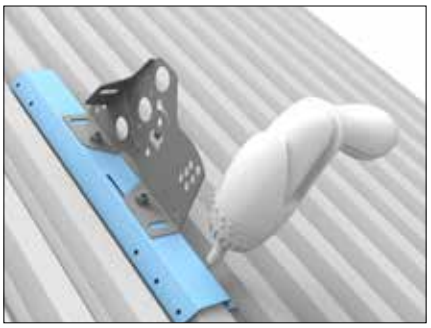
Steel sheet: min. d = 0.5 mm

The installation takes place entirely from the roof's exterior.

Fastening of IF20, IF35, IF45, STKIF

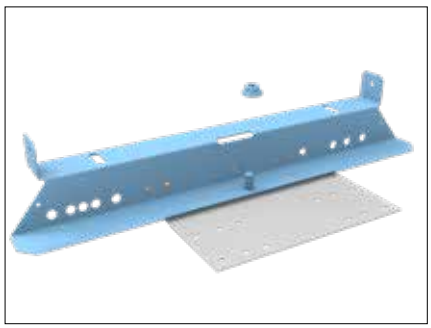


For installation with UNIK (snow guard, walkway, etc.) assemble UNIK on IF20, IF35, IF45.

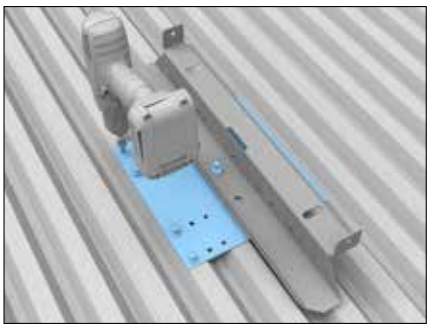


Position IF20, IF35, IF45 on a profile top on the plate at least 200 mm from the edge of the plate. Fasten IF20, IF35 ,IF45 with the 8 accompanying screws.

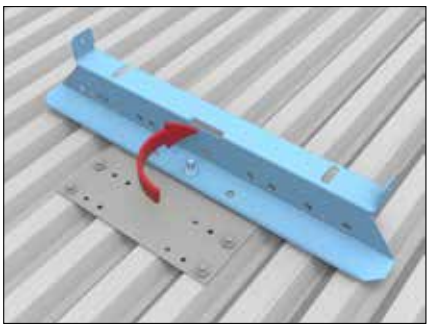
If the HSN fastening eye is used (snow guard), mount it on IF20, IF35 or IF45 first, as illustrated.



If TSK is used (roof ladder or walkway), mount it on TSKIF first, as illustrated.



Rotate TSK and position TSKIF on a profile top on the plate at least 200 mm from the edge of the plate. Fasten TSKIF with eight drill bit screws from bolt set 23.



Finally tighten the nut to fasten TSK on TSKIF.

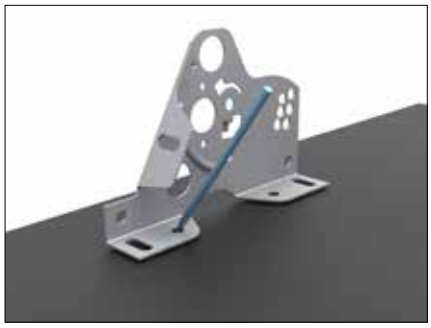
Pivot bolt and retaining bracket

Installation requirements

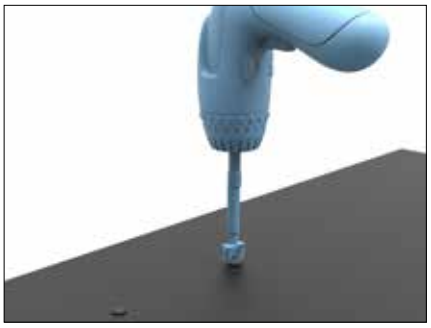
Can be used for single-fold seam strip roofing and flat battened roof.

Tongue-in-groove board min. 22 mm
Plywood min. 18 mm

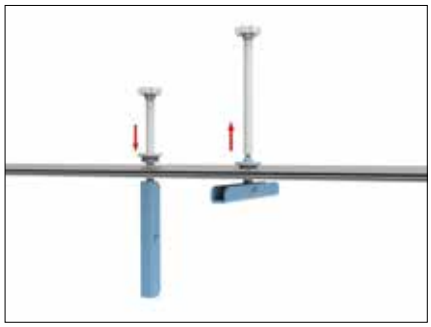
Fastening of VIPPBULT



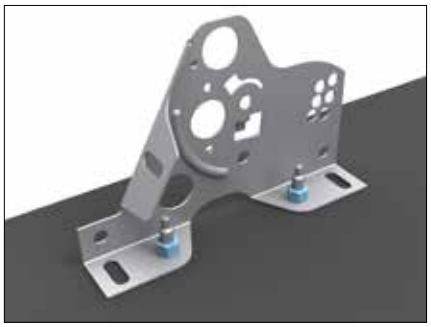
Mark where the holes will be drilled for console UNIK or TSK. .



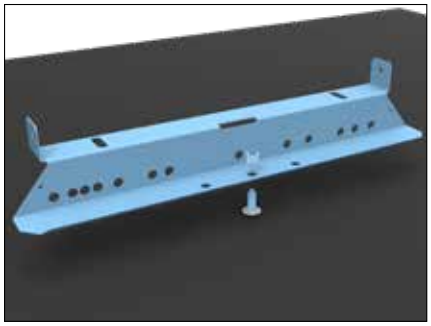
Drill through the roof with a Ø 24 mm bit.



Fit the rubber cone on the assembly tool VIV and then screw VIV on VIPPBULT. Guide VIPPBULT through the hold and then pull it up when the opposing hole faces the side.

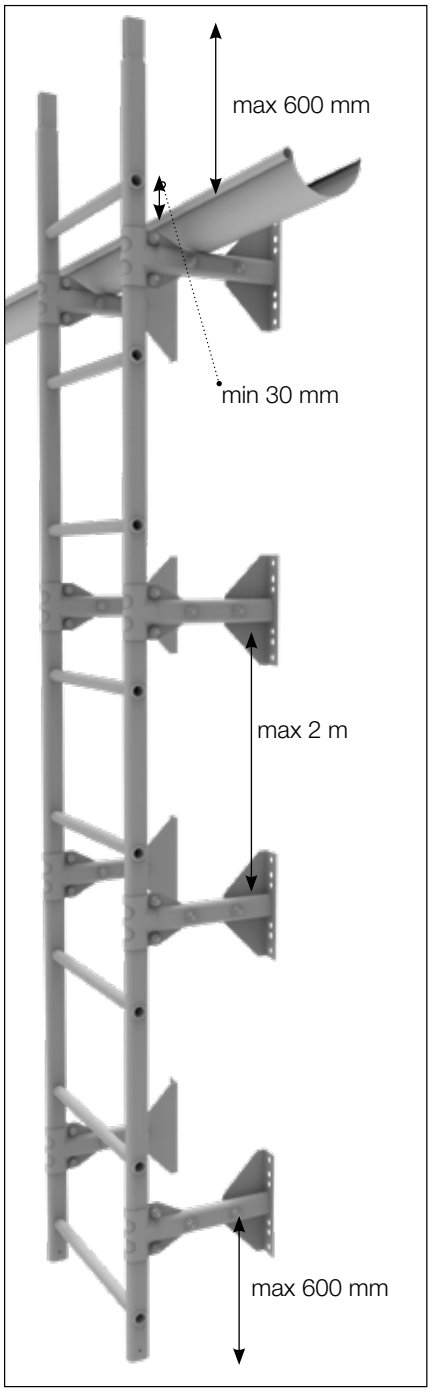


Fasten the bracket on the screws. Tighten the nuts to 35-50 Nm. NOTE: Do not shorten the screws. The groove in the screws must be parallel with the bracket so that the VIPPBULT is positioned immediately beneath the boards.



Fasten TSK to the VIPP-bolt. Maximum distance betewwn consoles 1,5 m. At least three consoles per ladder.

Facade ladder



- Mount brackets with a maximum distance of 2 m between battens.
- The top rung on the ladder must be at least 30 mm above the gutter.
- The top and bottom bracket should be seated a maximum of 600 mm from the end of the ladder.
- The screws against the façade must withstand a minimum pull-out value of 24 kN per ladder.
- Safetybasket is not approved for fastening you personal protective ecuipment.

Mounting

Use fastening elements that are suitable for the wall's construction. Vertical ladders should be mounted with fastening elements equivalent to a total pull-out force of 24 kN in order to fulfil 2015 industry standards. When fastening on a wall with profiled steel (min. thickness 0.5 mm), the wall ladder fastener VFSTE or fastening profile IF must be used. When mounting fascade ladder on wooden/brick wall VSK wall console is used, thereafter you need to choose fastening for your specific wall-type that holds min. 25kN for the whole ladder length. Take help of the sizing values of screw manufacturer to calculate how many screws you need for your ladder. min 1 screw per VSK, all VSK must be used.

Brackets

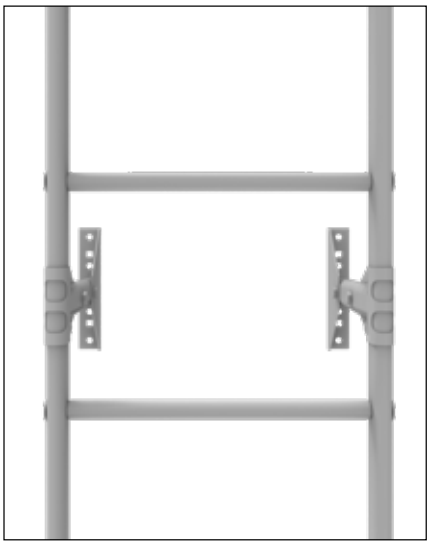
C-C between fastening hole and wall bracket VSK is 435 mm on all dimensions.

In order to ensure that children cannot reach the ladder, we recommend that it ends 2 m above the ground. A separate ladder can be fastened with UBVÄS suspension fitting. Alternatively, a climbing barrier is mounted at the bottom of the ladder near the ground if a full-length ladder is desired.

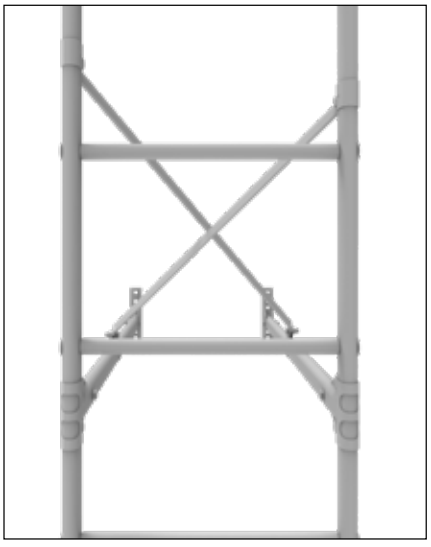
Length of ladder	No. of rungs
1,500	5
1,800	6
2,400	8
3,000	10
3,600	12

Facade ladder

Assembly of TVS on VSK



Dimension 150 – 350
Is installed with bolt set BULTS 38.
2 screws and nut 45mm through and 2 screws and nut 25mm to fix the glove around the ladder.



Dimension 650 –1050
Installed with bolt set BULTS 39.
2 screws and nut 45mm through and 2 screws and nut 25mm to fix the glove around the ladder.

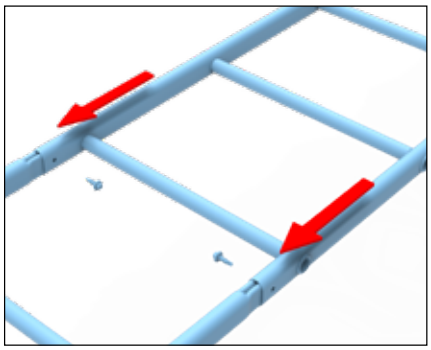
Diagonal restraint VSKSL and VSKSF are mounted crosswise with 4 screws and nut from bolt set 39. .

Installation requirements

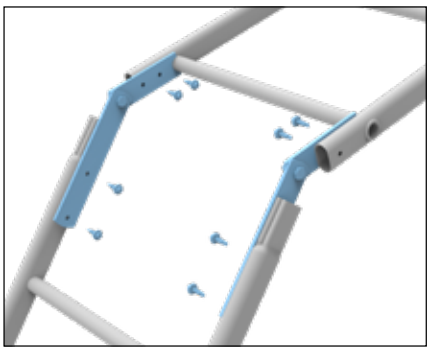
It is possible to adjust the length of VSK based on your needs, cut using a hacksaw and then repaint the surface.
If the holes are cut away, new ones need to be made on 11 Ø in the middle of the pipe and 80mm from the edge.

Facade ladder

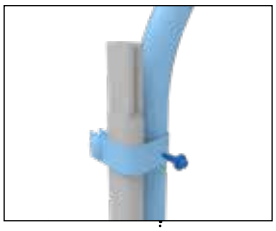
Joining the ladder



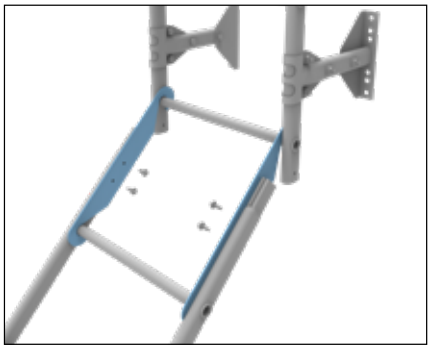
The ladder is joined by guiding the crimped end into the upper ladder. Fasten them together with a drill bit screw.



If the ladder cannot be joined at an angle, TSSV, which is screwed into the rung sides with eight drill bit screw, is used.

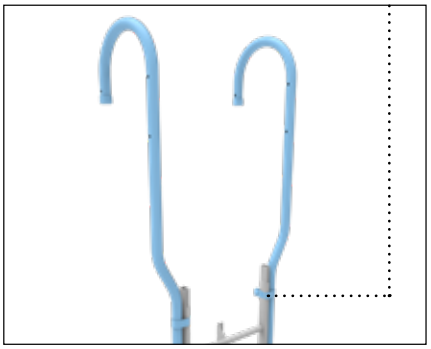


UBVÄS



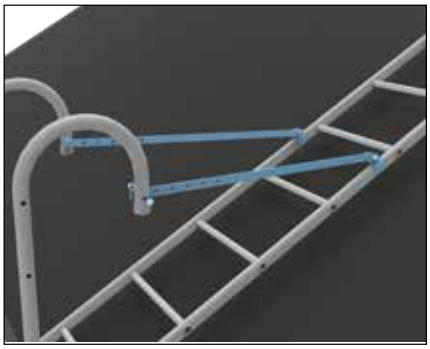
If a climbing barrier is not installed, the ladder must end 2 m above the ground so that children cannot reach it. The suspension fitting UBVÄS can be used in order to reach the ladder from below. UBVÄS is mounted with 4 accompaning drill bit screws.

VSHL

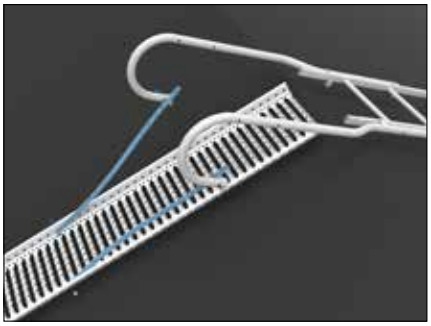


Mount the VSHL handrail if necessary.

When mounting handrails, fasten with 2 extra screw for extra stability, as illustrated.



Also mount HALKSTVS coupling between handrail and ladder. Fasten coupling HALKSTVS on handrail with screw and nut. Fasten glove VSKSF on ladder with two screws and nut.



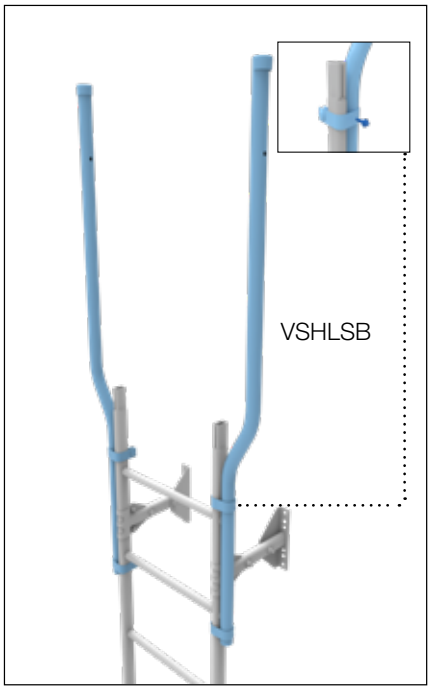
Also mount coupling HALKSBR between handrail and ladder. Fasten coupling HALKSBR against walkway with 2 screws and nut and and against handrail with 2 screws and nut.

KLHIN climbing obstacle

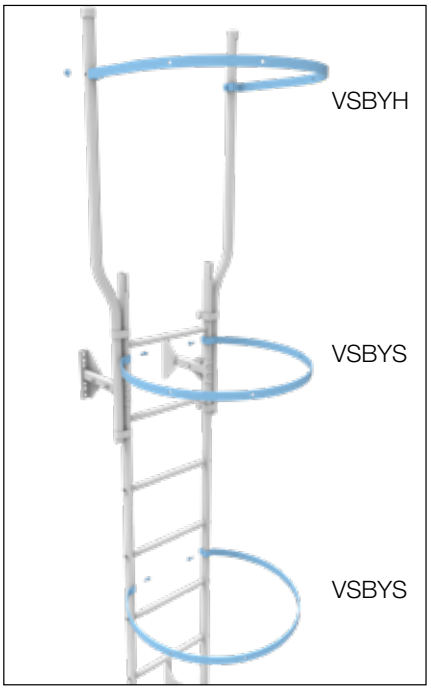
Climbing obstacle to be hooked on to the rung, locked with a padlock.

Facade ladder

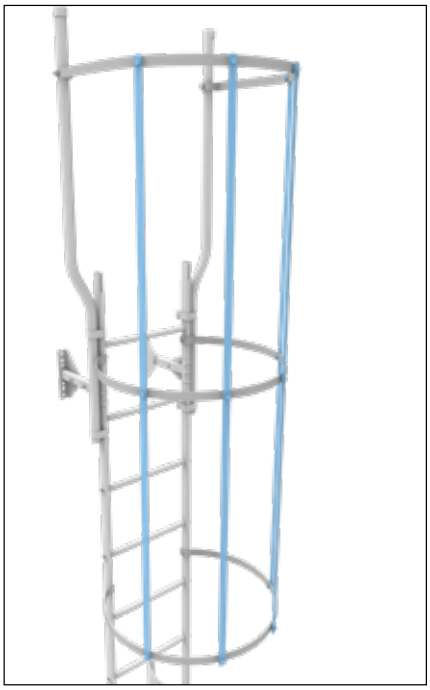
Protective cage



Mount the VSHLSB handrail on the ladder with the accompanying fittings. Fasten with 4 screws and nut from bolt set 24. Fix against ladder with 2 drill bit screws for extra stability.



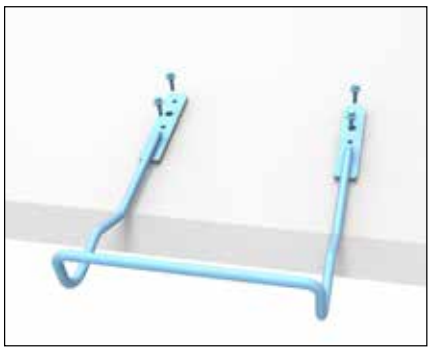
Mount the VSBYH bow on VSHLSB. Fasten VSBYH with 2 screws 60mm ans 2 nuts from bolt set 41. Then mount VSBYS on the ladder with 1000 mm c-c. Fasten VSBYS with 2 drill bit screws from bolt set 40.
The protective cage may end 2.5 metres above the ground.

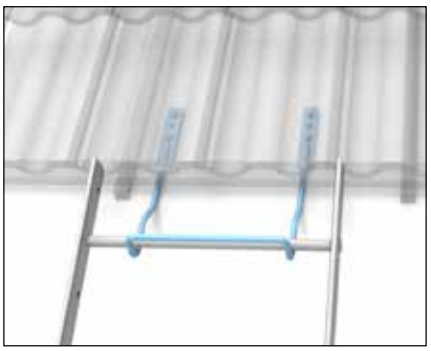


Mount stiffener for protective cage VSST. The screw head should be seated on the inside of the cage.
VSST is to be mounted on VSBYS with 4 screws and nut from bolt set 40. VSST is to be mounted on VSBYH with 5 screws and nut from bolt set 41.

Slide protection for ladders

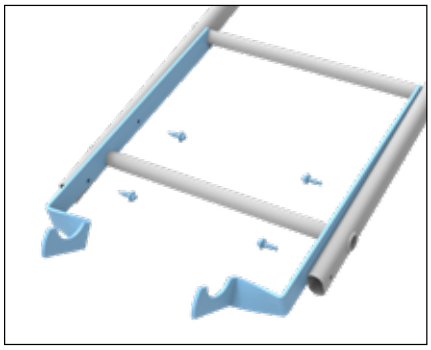
Installation on GLS





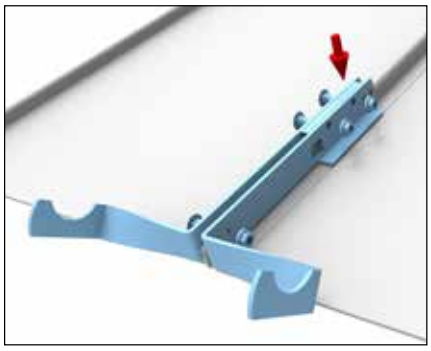
GLS slide protection is positioned at the base of the roof under the outer roof. GLS is fastened with suitable fasteners depending on the underlay. Fasten the slide protection with screws suited for the underlayand with pull-out value of 2.6 kN per slide protection. NOTE: screws are not included in the delivery.

Installation of TSGLS



Fasten TSGLS slide protection on either side of the roof ladder and fasten with the accompanying 4 drill bit screws.

Installation of GLSRP (for SRP roof)



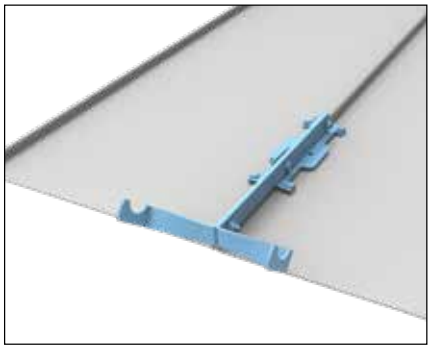
Loosen the nuts and position the slide protection over the seam. Ensure that the lower part comes down far enough for the ground ladder's connection. Tighten the three nuts with a 16 mm socket wrench. Ensure that they are tightened correctly (approx. 45-55 Nm).

Slide protection for ladders

Installation requirements

When mounting on copper-roofs insulation profile FFIP must be used.

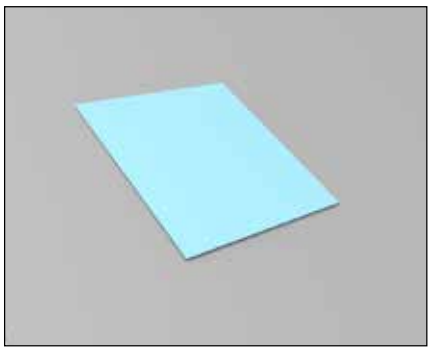
Installation of FFGLS (for folded seam roof)



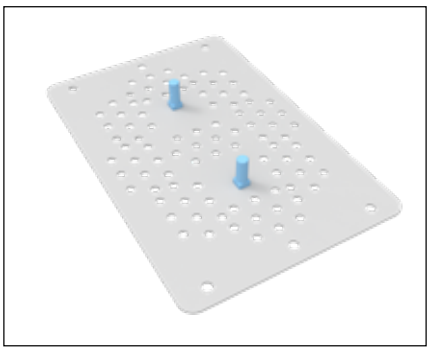
Loosen the nuts and position the slide protection over the seam. Ensure that the lower part comes down far enough for the ground ladder's connection. Tighten the three nuts with a 16 mm socket wrench. Ensure that they are tightened correctly (approx. 45-55 Nm).

Sliding protection for ladder

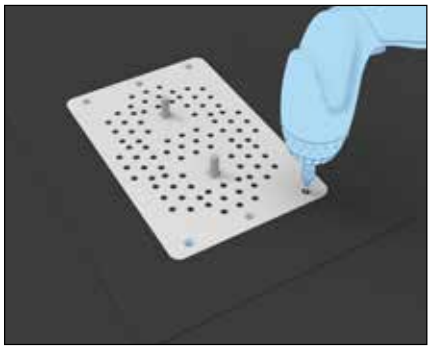
Installation of GLSPAPP



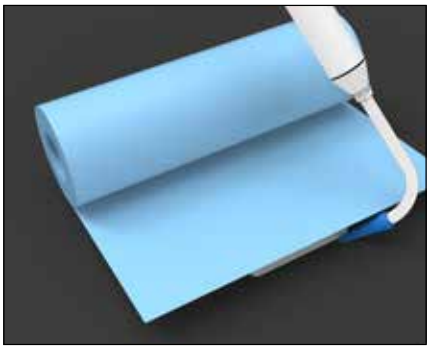
Cut a piece of min 500*400 of the felt that will be on the roof. Put it where the plate will be mounted with the underside up.



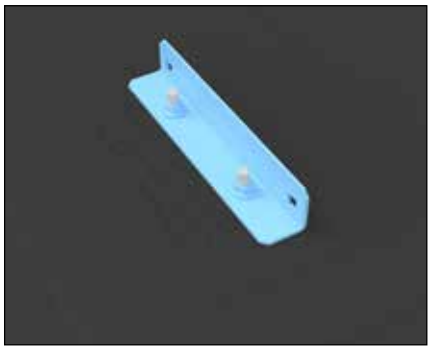
Mount 2 bults from bolt set 26 from the underside on TATPLATGLS.



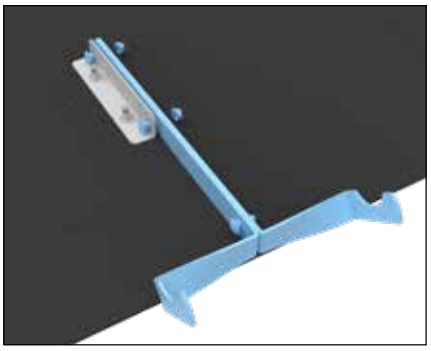
Put the plate TATPLATGLS on the felt and fasten with 6 wood screws from bolt set 26.



Put out the paper and make holes for the bults. Heat the roofing felt so that it fuses with the underlying layer patch through the perforation.



Mount the angle VIPAPP to the plate. use the accompanied rubber washer GRB from bolt set 26 below the angle and nut from bolt set 26. .



Mount VINGEH and VINGEV with the 3 accompanied screws and nuts.

Installation requirements

Sliding protection for roofs on wooden underlaying roof, GLSPAPP.

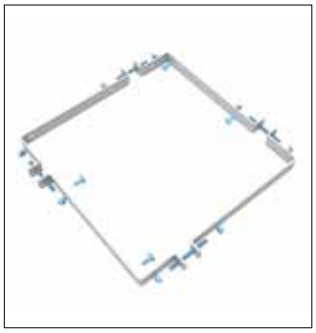
Approved regardless of sealing layer type.

Installation on ladder and standing plate on chimney

Installation requirements

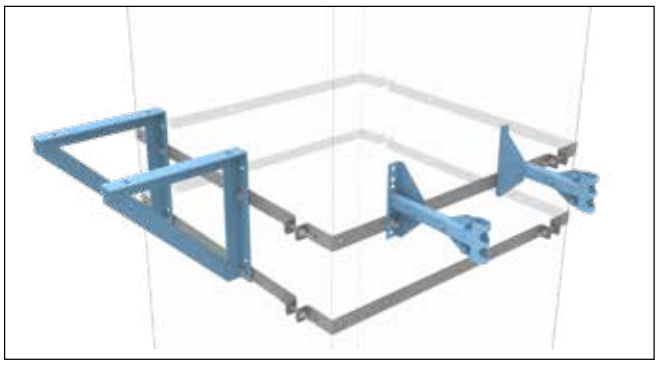
The chimney-ladder is not approved as fastening for your personal protective system.

Chimney width	SKBA chimney strap	HGS threaded bar	SKBASF
500–760	460	350	must be used
760-1,000	460	650	must be used
1,000-1,260	960	350	
1,260-1,500	960	650	
1,500-1,760	1,460	350	
1,760-2,000	1,460	650	



Install the SKBA chimney straps with stainless threaded bar HGS Ø 10 mm. Prepare with 2 accompanied bolts in the holes on which the brackets will be fastened. Mount with 8 accompanied nuts per strap.

SKBASF must be used for SKBA 460. To be fixed with 2 accompanied screws and nuts.



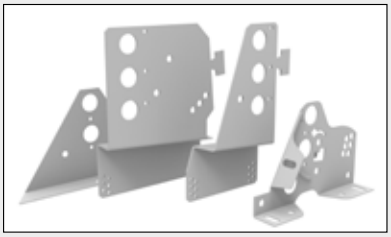
Mount the two fittings with SKKO bracket for roof walkway BR, use screw and nut from bolt set 5 and wall bracket VSK for ladder TVS with 2 accompanied screws and nuts.

Mount the ladder on the bracket. Continue by mounting the other straps for ladders with max. 2 m c-c. Mount the roof walkway with a guard STÄNDN. Fasten the walkway with 2 screws and nuts per SKKO from bolt set 5. Fasten VSSP with 4 included drill bit screws.

Snow guard
- with RÖR

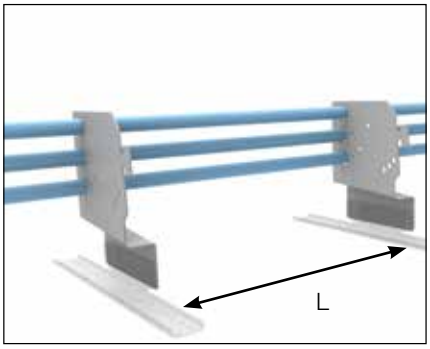
Installation requirements

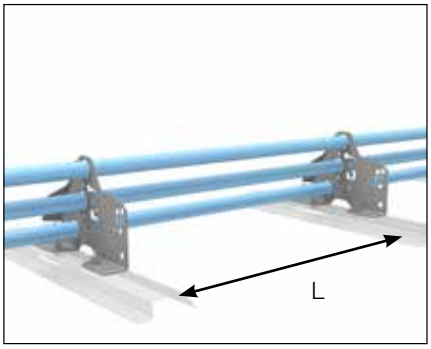
- Bottom brackets are fastened on the underlay according to instructions
- The distance L is max. 1200 mm, but varies for different snow zones. Visit www.roofsafetysystems.se to determine the correct distance for brackets.
- It is possible to adjust the length of RÖR with the help of a hacksaw, then repaint

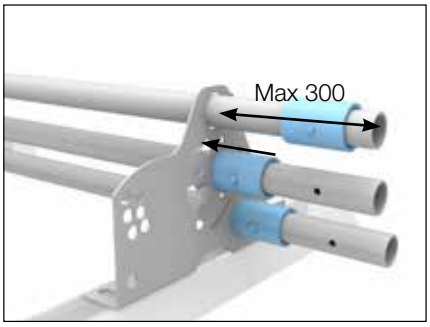


The brackets that can be used for snow protection with RÖR are SAWK, KOBET/L, KOTEG/L and UNIK. The brackets must be fastened in the roof according to instructions.

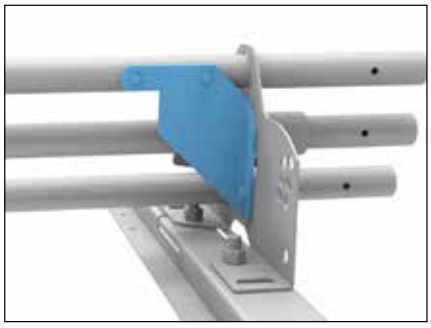
Installation of RÖR as snow guard on KOBET/L, KOTEG/L and UNIK



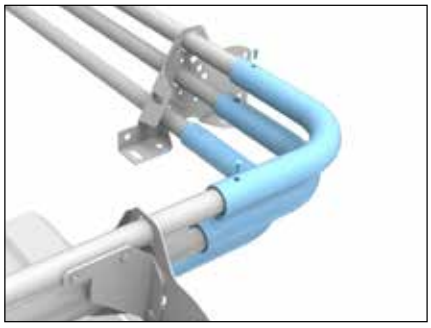




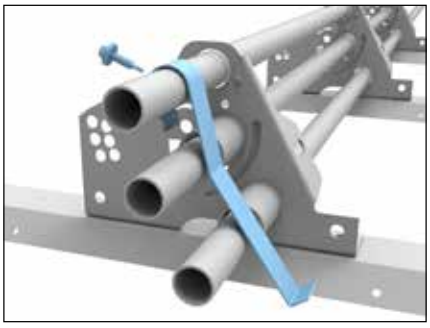
Position the RÖR tube in the bracket holes. Mount the ÄND end sleeve on all tubes as close as possible to UNIK. Max. overhang 300 mm. MOunt ÄND with 1 accompanied drill bit screw.



Mount the supporting bracket (SVI) on the top tube. Only one supporting bracket is needed per guard length. ÄND is not needed on the top tube where SVI is installed. Mount SVI med 2 drill bit screws towards RÖR and one screw and nut towards console UNIK.



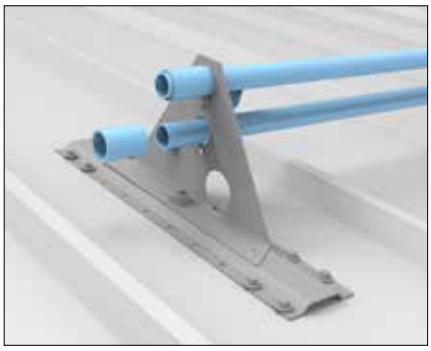
Use HRN corner connection for angels. Fix it in place with the two accompanying drill bit screws per angle.



Fasten ISSTOPP on the top tube with a drill bit screw. 5 are installed per metre of snow guard. ISSTOPP can also be installed on the middle tube if necessary.
Fix ISSTOPP with 1 included drill bit screw.

Snow guard
- with RÖR

Installation of RÖR as snow guard and ridge rail on SAWK (sandwich roof)



Guide the two top tubes in the SAWK bracket (if ridge rail, only one tube in the top hole). Use ÄND tube end in each tube end. Fasten ÄND as close to SAWK as possible. Fix ÄND with 1 accompanied drill bit screw.

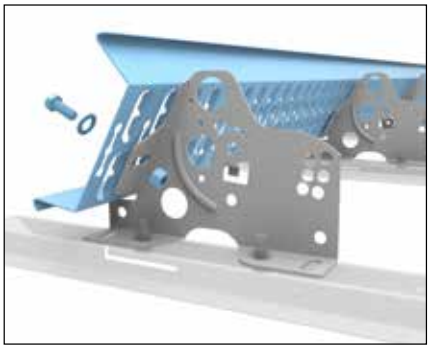
Install SAWSG ice sliding guard between tops on the sandwich panel. Use the 4 accompanying drill bit screws and overlap SAWSG.

Snow guard
- with SNÖ

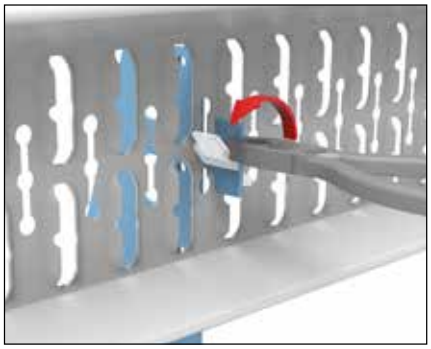
Installation requirements

- Bottom brackets are fastened on the underlay according to instructions
- It is possible to adjust the length of SNÖ after your need, cut using a hacksaw and then repaint the surface

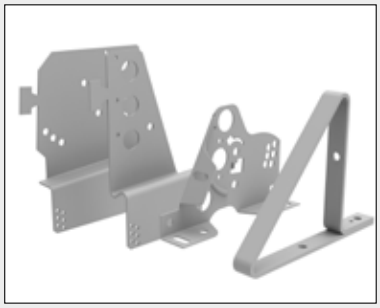
Installation of SNÖ as snow guard



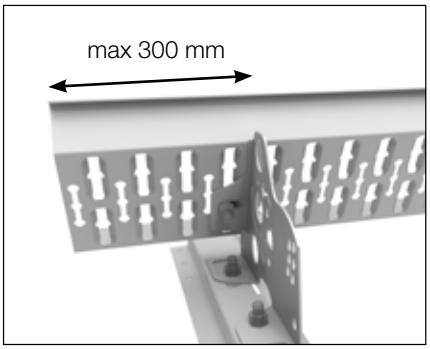
Install SNÖ snow guard with bolt and washer from bolt set 4 for UNIK and HSN brackets. The distance between the roof (profile top on tile and profiled sheet) and the snow guard's lower edge must not exceed 30 mm.



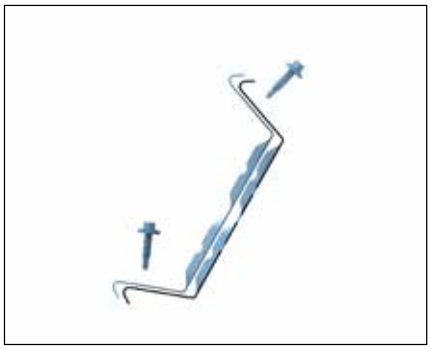
Install SNÖ snow guard on KOBET/L or KOTEG/L by twisting the lock washer around with pliers. The distance between the roof (profile top on tile and profiled sheet) and the snow guard's lower edge must not exceed 30 mm.

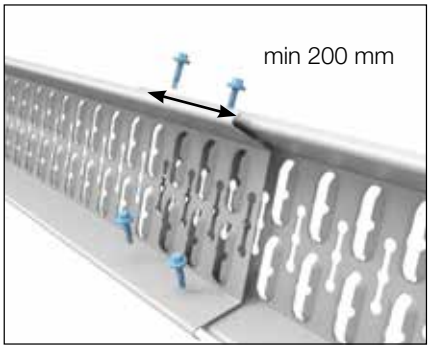


The brackets that can be used for snow protection with SNÖ are KOBET/L, KOTEG/L, UNIK and HSN. The brackets are fastened on supporting brackets that are chosen based on roof construction and fastened according to instructions.



Max. overhang 300 mm.

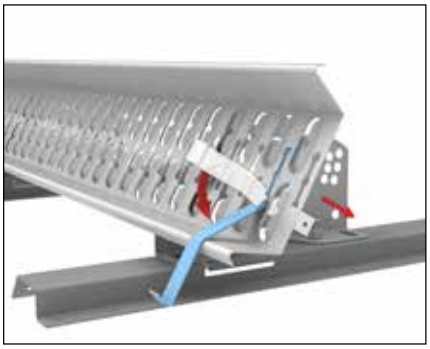




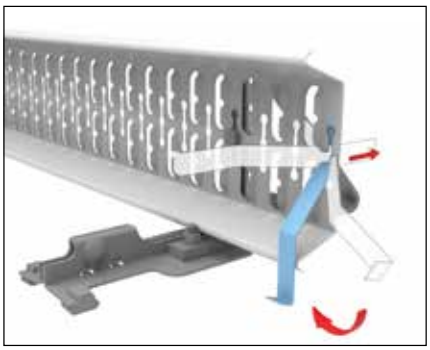
When extending, SNÖ is installed with min. wraparound of 200 mm. Every joint is locked with four accompanied drill bit screws as illustrated.

Snow guard
- *with SNÖ*

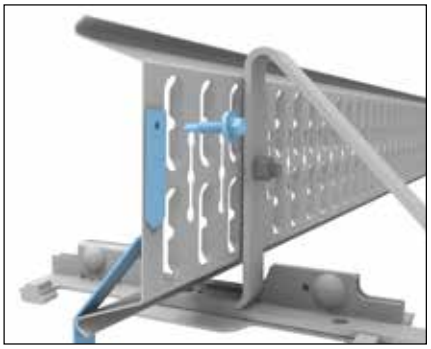
Assembly of ISSTOPP on SNÖ



With use of UNIK bracket: Guide ISSTOPP in the bottom recess and rotate into position. 5 are installed per metre of snow guard.

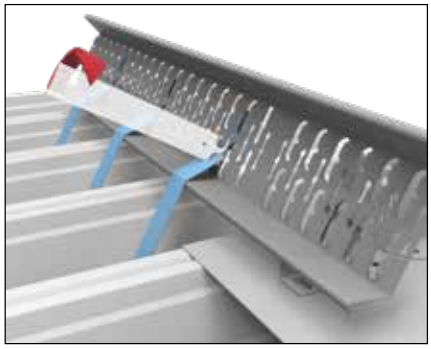


With use of HSN bracket: Guide ISSTOPP in the middle recess and rotate into position. 5 are installed per metre of snow guard.

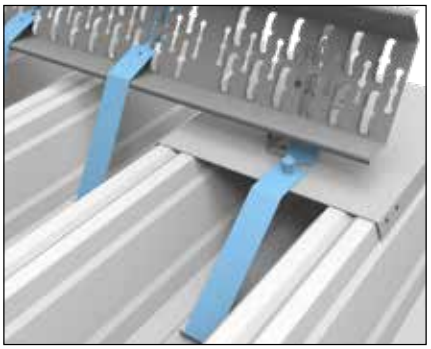


Fasten ISSTOPP with a drill bit screw.

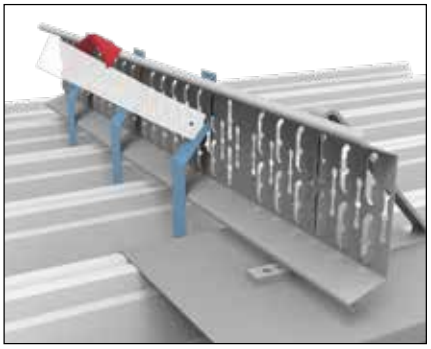
Assembly of IS115S on SNÖ



With use of UNIK bracket: Guide IS115S in the bottom recess and rotate into position. 5 are installed per metre of snow guard.

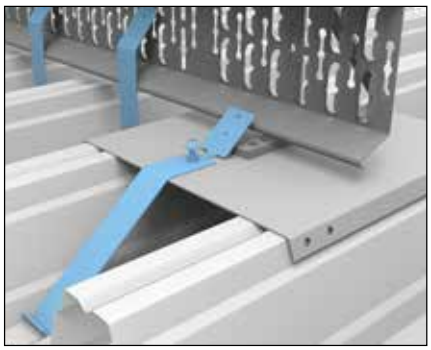


With use of consol UNIK: fasten IS115S in the IF115 plate with on accompanied drill bit screw.

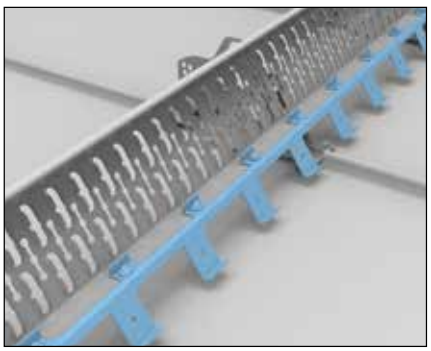


With use of HSN bracket: Guide IS115S in the bottom recess and rotate into position. 5 are installed per metre of snow guard.

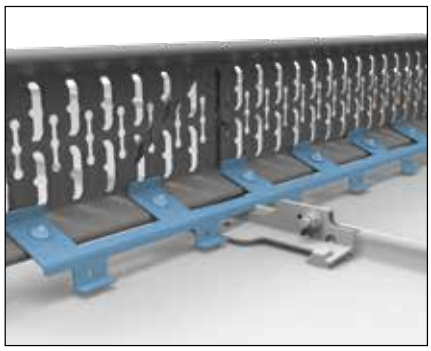
Assembly of ISKRATTA on SNÖ



With use of consol HSN: fasten IS115S in the plate IF115 with one accompanied drill bit screw.



With use of consol UNIK: fasten ISKRATTA with the 6 accompanied drill bit screws.

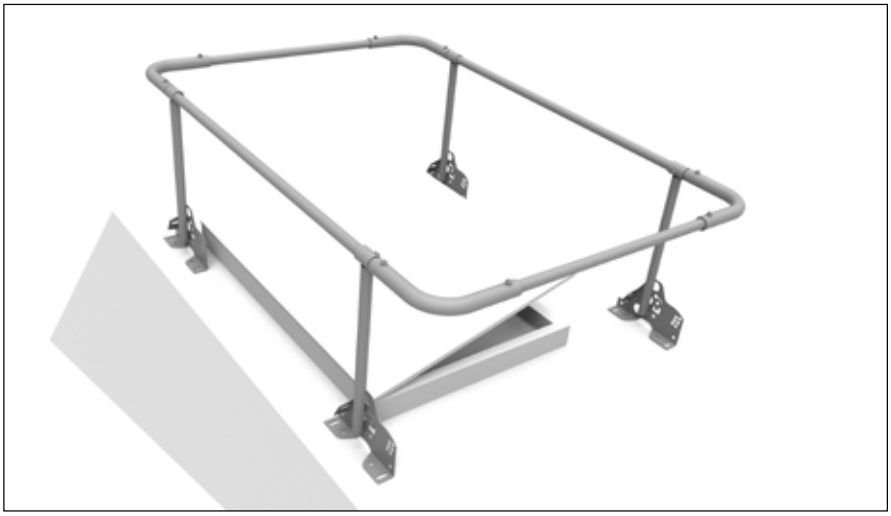


With use of consol HSN: fasten ISKRATTA with the 6 accompanied drill bit screws.

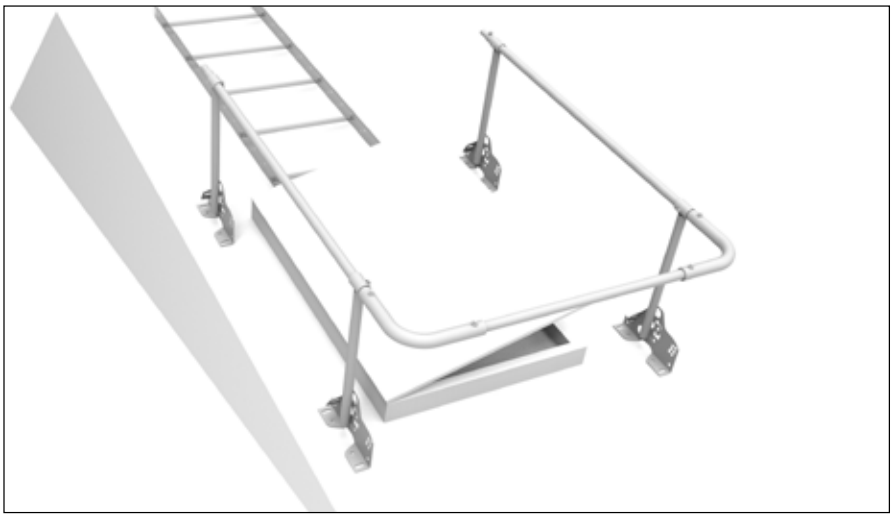
Guard rail

Installation requirements

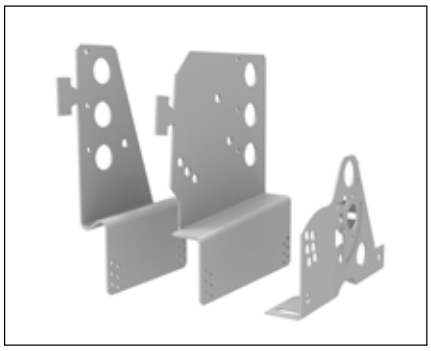
- Bottom brackets are fastened on the underlay according to instructions
- A maximum pole spacing of <1200 mm is used for long guard rails.



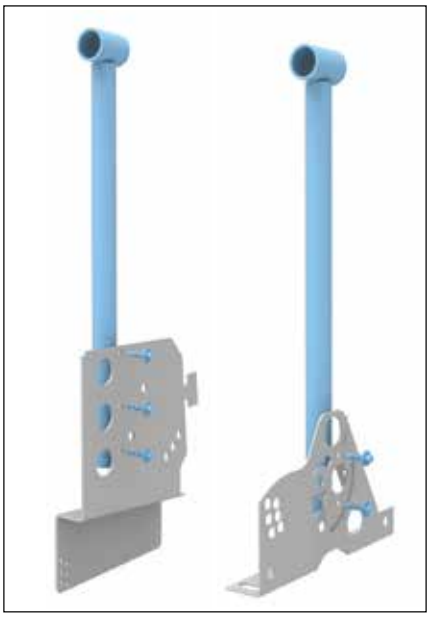
Various versions can be used with guard rail.



Guard rail

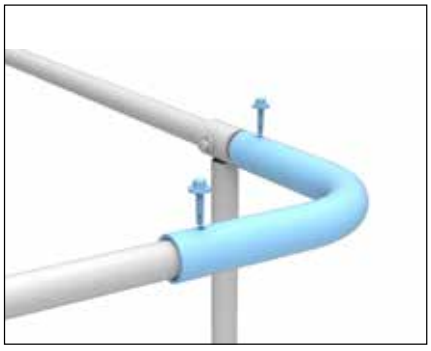


The brackets that can be used for protective rail are KOBET/KOBETL, KOTEG/KOTEGL and UNIK. The bracket is installed in the underlay according to the installation instructions for various fastening types.



Mount the SRT pole on the bracket with 3 accompanying drill bit screws. Two accompanied drill bit screws for UNIK and three drill bit screws for installation on KOBET/L, KOTEG/L

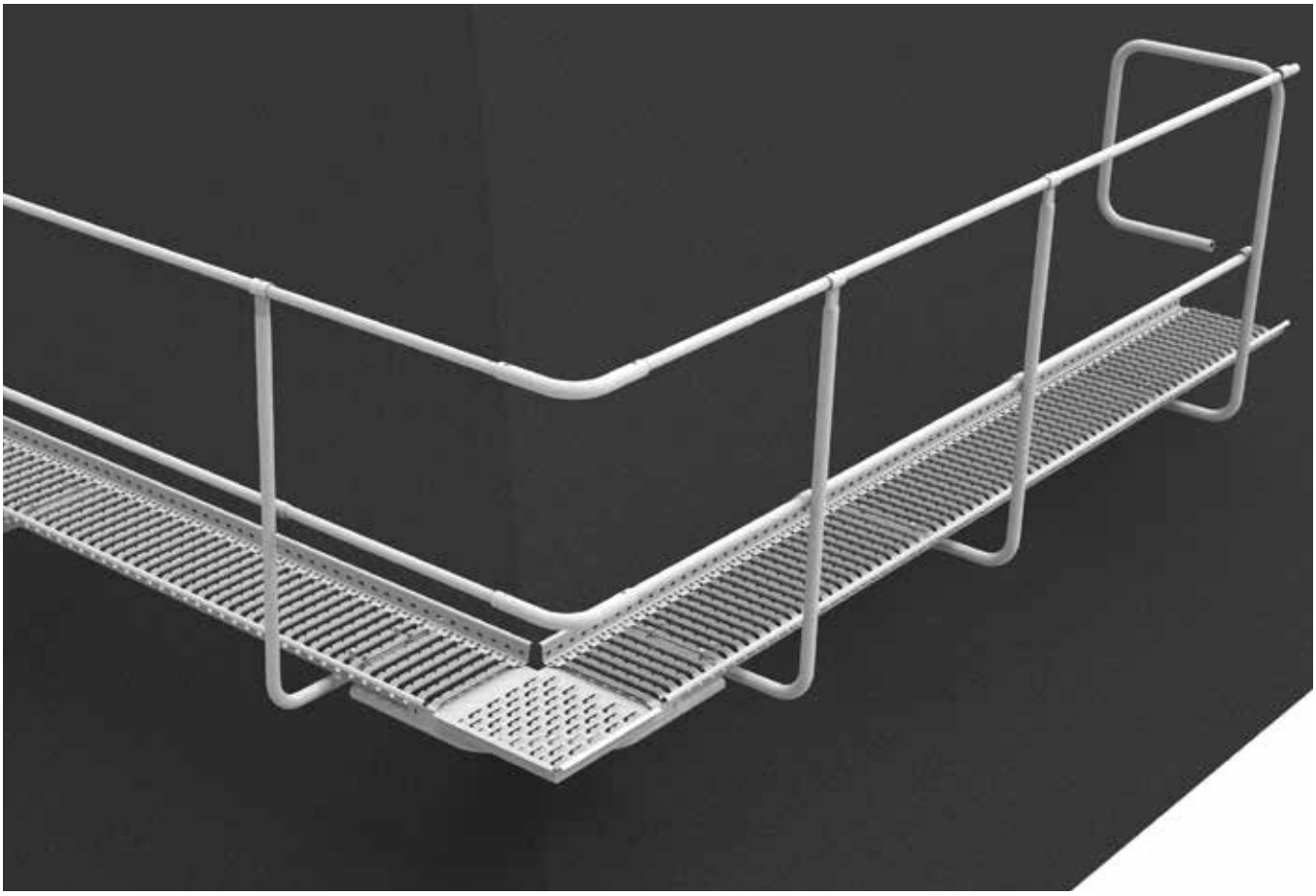
Fix SRT in RÖR with one accompanying drill bit screw.



Fit RÖR pipes and HRN corners together. Fix it in place with 2 accompanying drill bit screws.

If stabilisation is necessary, SRTST stabilisation stiffener is installed on the pole. Use the two accompanying drill bit screws.

Roof walkway



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Lindab Profil AB

Vistorpsvägen 56, 26971 Förslöv, Sverige

Gångbrygga NR 2016

DoP nr 2016

Anmält organ: 0402

SS-EN 516:2006 class 2 type B

Walkways intended to be used as roof access for inclined roofs for buildings

Väsentliga egenskaper	Prestanda
Utformning	Class 2 enl 6.1, Typ B enl 6.2
Statisk belastning enl 7.1	Uppfyller
Dynamisk belastning enl 7.2	Uppfyller
Reaktion vid brand enl 7.3	Klass A1
Beständighet mot korrosion enl. 5	Uppfyller

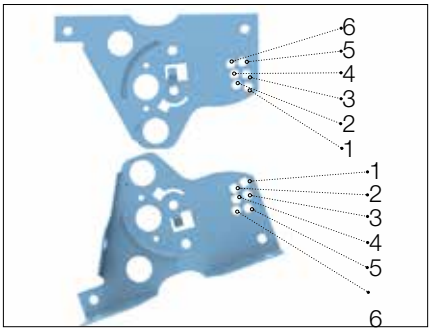
Installation requirements

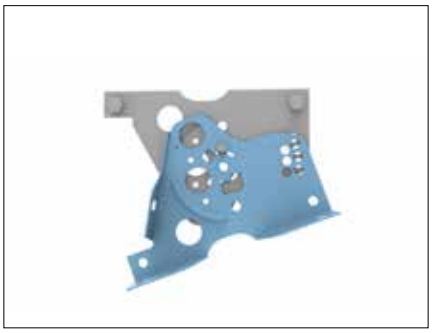
It is possible to adjust the length of the walkway after your need, cut using a hacksaw and then repaint the surface.

When working attached to the bridge, hold 4
meters distance between each person.

Roof walkway with brackets

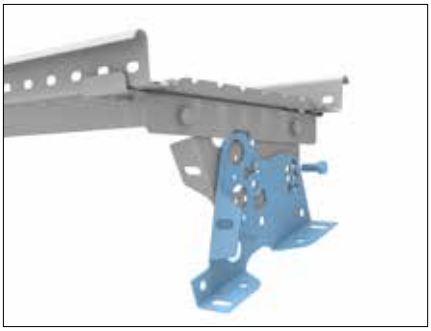
Assembly with console UNIK





Adjust the angle according to chart.

Roof slope		
5°	=	1+1
10°	=	2+2
15°	=	1+3
20°	=	4+2
25°	=	5+1/3+3
30°	=	6+2/4+4
35°	=	3+5
40°	=	4+6
45°	=	5+5
50°	=	6+6



Attach UNIK in UNIKBR.

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Walkways intended to be used as roof access for inclined roofs for buildings

Väsentliga egenskaper	Prestanda
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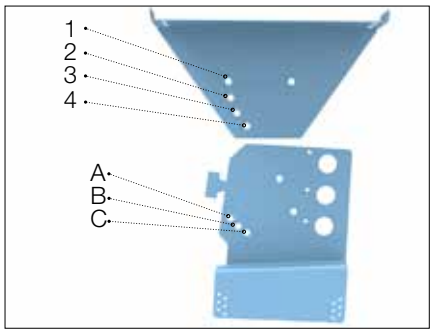
Dynamisk belastning enl 7.2	Uppfyller
Reaktion vid brand enl 7.3	Klass A1
Beständighet mot korrosion enl. 5	Uppfyller

Roof walkway with brackets

Assembly with KOBET/KOTEG

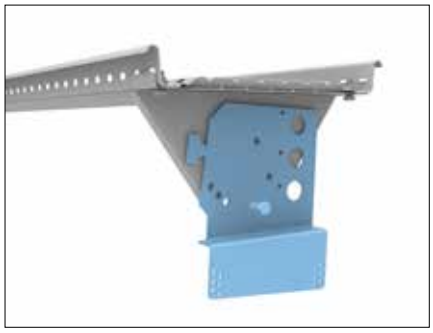


Adjust angle according to chart

Attach KÖ in KOBET/KOTEG with 2 screws and nuts from bolt set 10. .

Roof slope

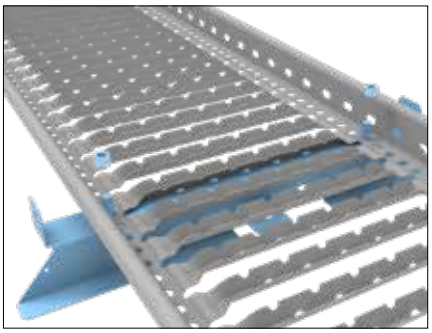
5°	=	B+4
10°	=	A+3
15°	=	C+4
20°	=	B+3
25°	=	A+2
30°	=	C+3
35°	=	B+2
40°	=	A+1
45°	=	C+2
50°	=	B+1
60°	=	C+1



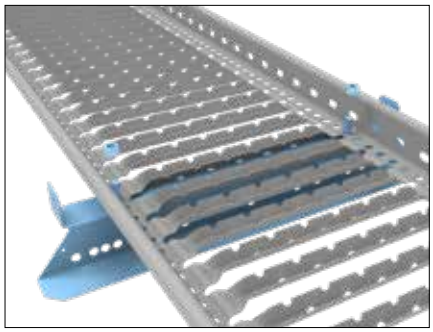
Attach walkway BR on KÖ with 2 screws and nuts from bolt set 10. .

The T-bracket must be bent away when setting the maximum roof slope of 60°.

Assembly of walkway vertically against ridge, maximum roof slope 15°



Mount BR on top of console TSKFFBR, use the 2 accompanied screws and nut.



Mount BR on top of console TSKTAT, use 2 screws and nut from bolt set SKARVB.

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Gångbrygga NR 2016

DoP nr 2016

Anmält organ: 0402

SS-EN 516:2006 class 2 type B

Walkways intended to be used as roof access for inclined roofs for buildings

Väsentliga egenskaper	Prestanda
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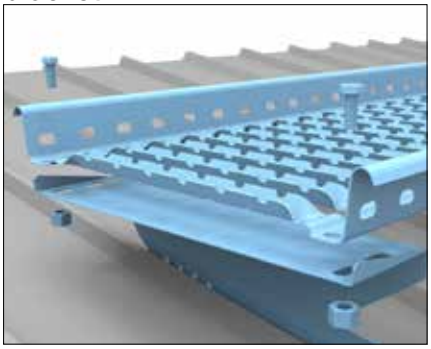
Statisk belastning enl 7.1	Uppfyller
Dynamisk belastning enl 7.2	Uppfyller
Reaktion vid brand enl 7.3	Klass A1
Beständighet mot korrosion enl. 5	Uppfyller

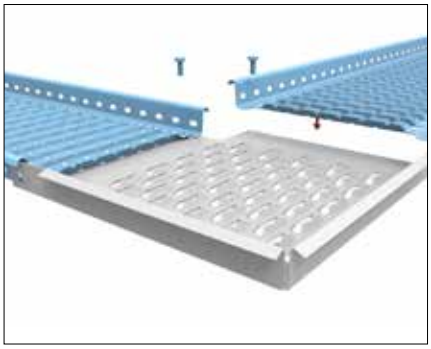
Roof walkway

For installation with SAWBRK bracket

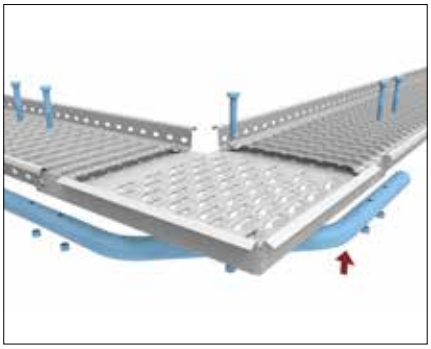


Install roof walkway BR on the SAWBRK brackets. Use two screws and nuts from bolt set 9. SAWBRK is available for two different pitches.

BRV and BRVRÖR walkway bracket corner

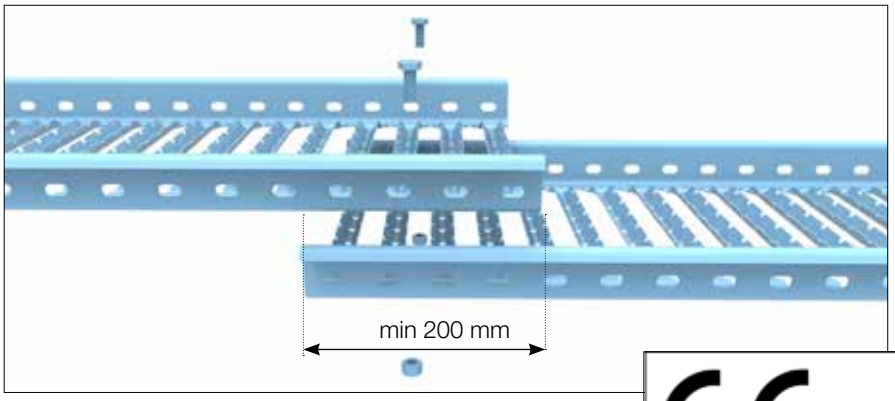


Install the walkway, BR according to the instructions. Ensure that the corners on the walkways meet. The current walkway bracket is installed with a minimum distance of 300 mm and maximum 900 mm to the end of the walkway. Fasten the walkway brackets, BRV where the walkways meet with 2 screws and nuts from bolt set BRV.



Fasten the reinforcement tube, BRVRÖR on the opposite side with 5 screws and nuts from bolt set BRV.

BR joint



When extending, BR is installed with min. wraparound of 200mm. The joint is locked in place with two screws and nuts from bolt set SKARVBR. When joining several bridges each bridge must always rest on at least 2 brackets.

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Gångbrygga NR 2016

DoP nr 2016

Anmält organ: 0402

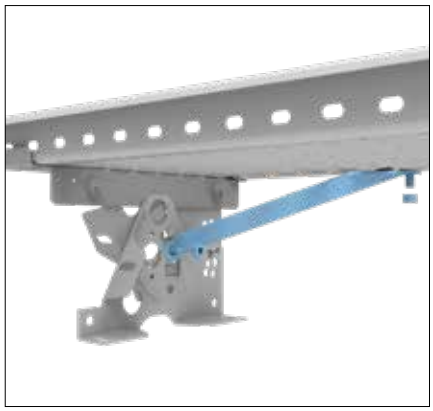
SS-EN 516:2006 class 2 type B

Walkways intended to be used as roof access for inclined roofs for buildings

Väsentliga egenskaper	Prestanda
Utformning	Class 2 enl 6.1, Typ B enl 6.2
Statisk belastning enl 7.1	Uppfyller
Dynamisk belastning enl 7.2	Uppfyller
Reaktion vid brand enl 7.3	Klass A1
Beständighet mot korrosion enl. 5	Uppfyller

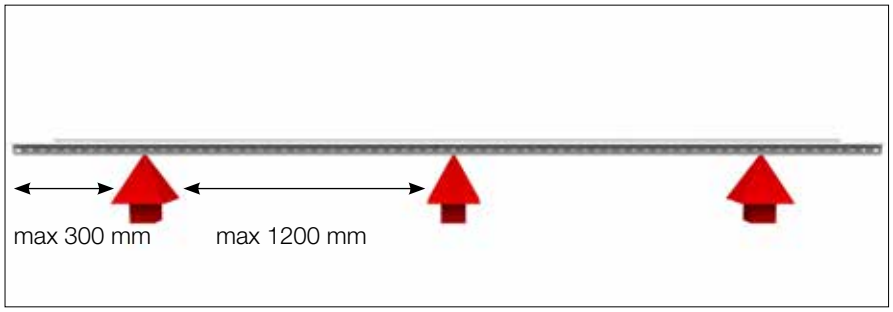
Roof walkway

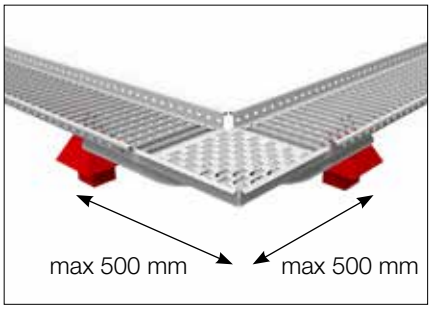
BRSTAG



BSTAG walkway stiffener must be used. Mount with one screw and nut from bolt set 4, loosen screw and nut from the console to fix BSTAG against the console.

Support points





At least three brackets must be used per length. The distance between the brackets must not exceed 1200 mm. The max. overhang is 300 mm.

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SS-EN 516:2006 class 2 type B

Walkways intended to be used as roof access for inclined roofs for buildings

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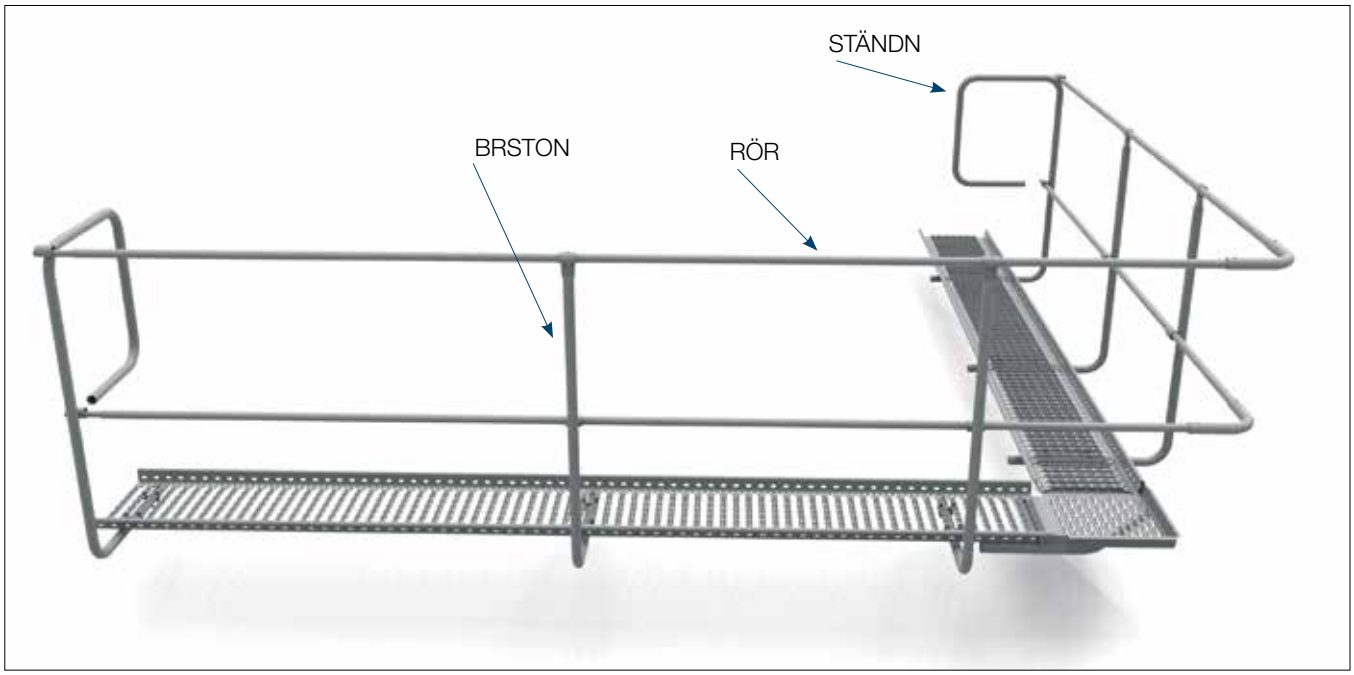
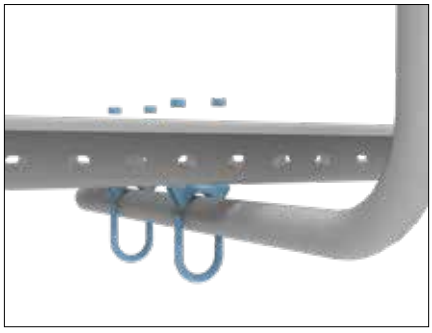
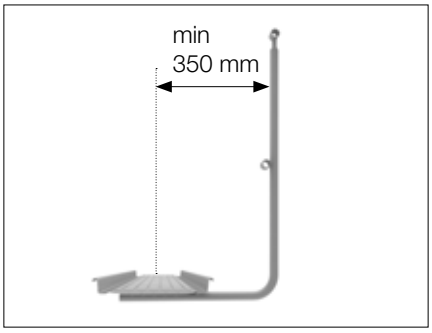
Statisk belastning enl 7.1	Uppfyller
Dynamisk belastning enl 7.2	Uppfyller
Reaktion vid brand enl 7.3	Klass A1
Beständighet mot korrosion enl. 5	Uppfyller

Roof walkway with rail



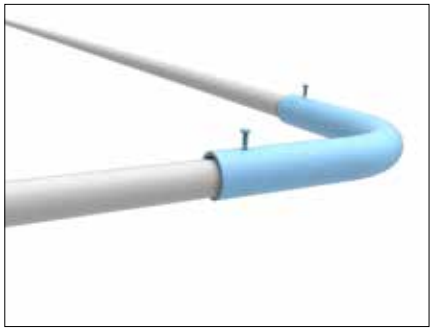




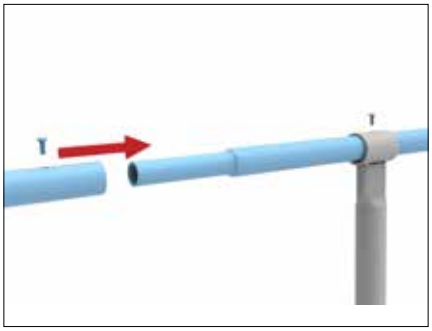
Install the BRSTON and STÄNDN rails with bracket, clamps, washer and nut from bolt set 8. Washer to be mounter under nut, fix the nut on the bracket, max. c-c 1,200 mm.

NOTE:

The start and end walkway must be supported on at least two brackets.



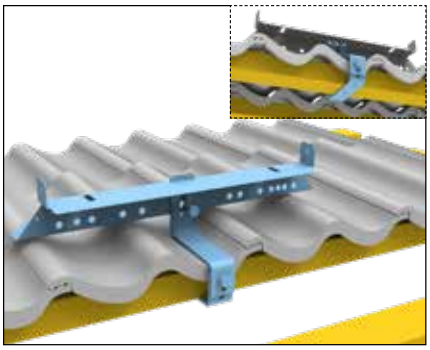
HRN for joints in corners.



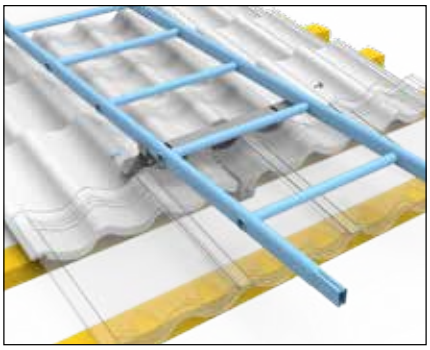
Fasten and/or joint RÖR in STÄNDN or BRSTON. Fasten with a drill bit screw at each joint with RÖR. Fasten STÄNDN och BRSTON with 2 drill bit screws from bolt set 8, one on the upperside and one in the middle.

Roof ladder

Installation on concrete tile with light underlay



Fasten TSKP around the batten. Loosen the nut and adjust TSKP if needed. TSK is fastened on TSKP with 1 bolts and nuts from bolt set 37. The maximum distance between brackets is 1,5 m. At least three pairs of brackets must be used for each ladder length.

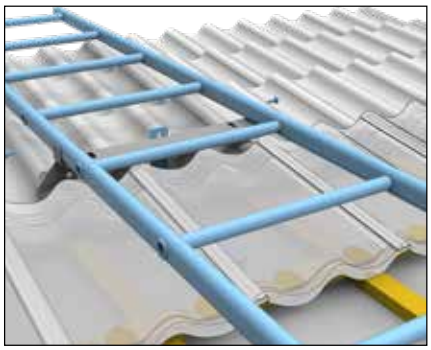


Fasten the ladder on TSK with 2 included drill bit screws.

Installation on concrete tile on tongue-in-groove

Fasten TSKP in the underlay. The maximum distance between brackets is 1,5 m. At least three pairs of brackets must be used for each ladder length.

TSK is fastened on TSKP with bolts and nuts.



Fasten the ladder on TSK with 2 included drill bit screws.

Installation requirements

- The max. overhang is 300 mm
- One alternative is to install a roof walkway if the maximum roof pitch is 12°.
- Bracket TSKFF can be used in combination with seam fastener FF on roofs with roof sheeting.
- When fastening on roofs with profiled steel sheet, TSK is used in combination with TSKIF.
- The bracket TSK is used for roofs with external insulation.
- Min. 45x70 batten for light underlay.

The ladder is to be used by one person including safety equipment (max 150kg)

It is possible to adjust the length of the ladder after your need, cut using a hacksaw and then repaint the surface.

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Lindab Profil AB

Vistorpsvägen 56, 26971 Förslöv, Sverige

Takstege NR 022020

DoP nr 022020

Anmält organ: 0402

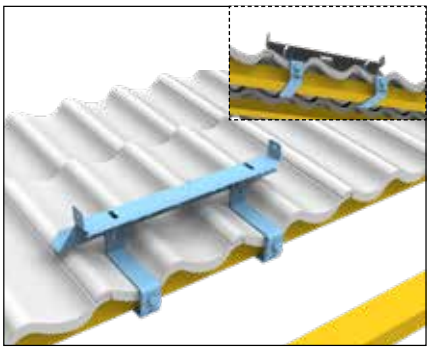
SS-EN 12951:2004 Permanently fixed roof ladder

Roof access for inclined roofs for buildings C2-TB

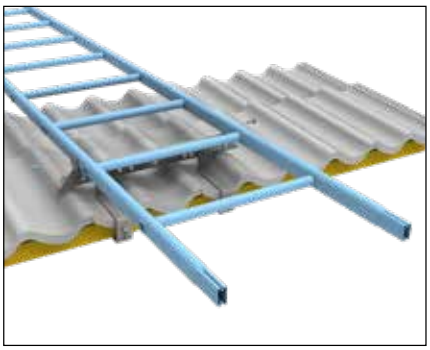
Väsentliga egenskaper	Prestanda
Utformning enl 5	Uppfyller
Statisk belastning enl 6	Uppfyller
Dynamisk belastning enl 6.3	Uppfyller
Reaktion vid brand enl 6.4	Klass A1
Beständighet mot korrosion enl.4	Uppfyller

Roof ladder

Installation on clay tile with light underlay

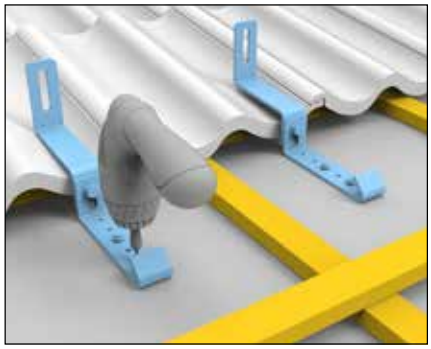


Fasten TSKP around the batten. Loosen the screw and adjust TSKP if needed. TSK is fastened on TSKP with 1 screw and nut from bolt set 37. The maximum distance between brackets is 1,5m. At least three pairs of brackets must be used for each ladder length.

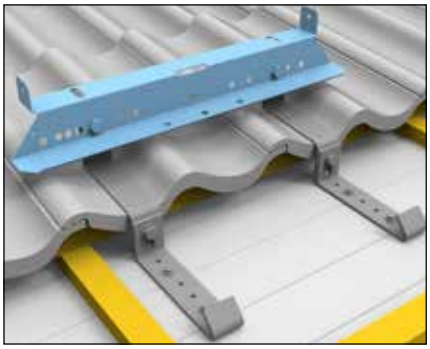


Fasten the ladder on TSK with 2 included drill bit screws.

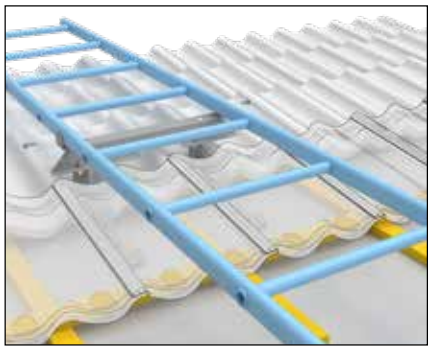
Installation on clay tile on tongue-in-groove



Fasten TSKP in the underlay. Loosen the nut and adjust TSKP. Fasten TSKP with 3 wood screws from bolt set 37. The maximum distance between brackets is 2 m. At least three pairs of brackets must be used for each ladder length.



TSK is fastened on TSKP with bolts and nuts.



Fasten the ladder on TSK with drill bit screws.

Installation requirements

- Roof ladders can be installed on flat roofs and on roofs with single or double-ridged concrete or brick clay tiles. There are many different bracket alternatives depending on the roof covering that is used.
- One alternative is to install a roof walkway if the maximum roof pitch is 12°.
- Bracket TSKFF can be used in combination with seam fastener FF on roofs with roof sheeting.
- When fastening on roofs with profiled steel sheet, TSK is used in combination with STKIF.
- The bracket TSK is used for roofs with external insulation.
- Min. 45x70 batten for light underlay.

The ladder is to be used by one person including safety equipment (max 150kg)

It is possible to adjust the length of the ladder after your need, cut using a hacksaw and then repaint the surface.

CE

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Vistorpsvägen 56, 26971 Förslöv, Sverige

Takstege NR 022020

DoP nr 022020

Anmält organ: 0402

SS-EN 12951:2004 Permanently fixed roof ladder

Roof access for inclined roofs for buildings C2-TB

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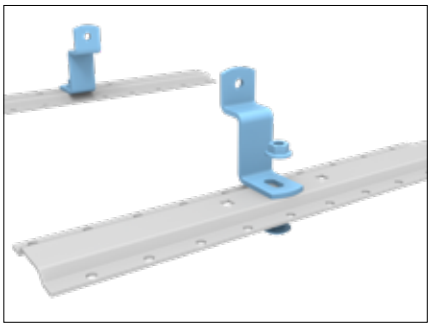
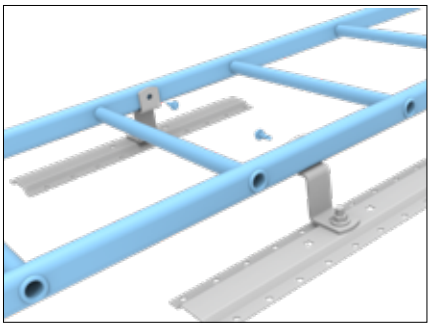
Utformning enl 5	Uppfyller
Statisk belastning enl 6	Uppfyller
Dynamisk belastning enl 6.3	Uppfyller
Reaktion vid brand enl 6.4	Klass A1
Beständighet mot korrosion enl.4	Uppfyller

Roof ladder

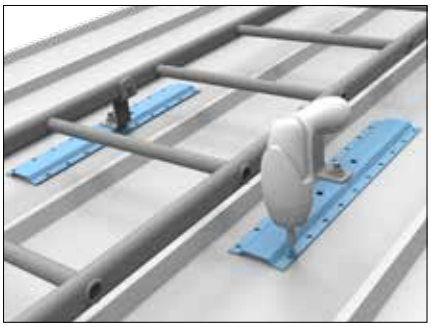
Installation on sandwich roof



Install the bracket TSKL on SAWPLF. Use screws and nut from bolt set 11. The nuts are positioned on the upper side.

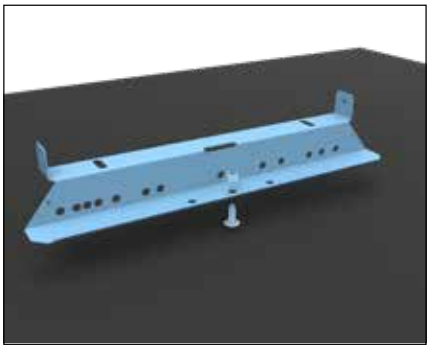


Mount two TSKL + SAWPLF on each side of the top of the ladder. Mount with accompanying drill bit screw.



Install the top of the ladder by fastening SAWPLF on the roof panel. Use the 8 accompanying point screws from bolt set 11. .

Installation on flat roof



Fasten TSKL on the VIPP bolt. The maximum distance between brackets is 1,5 m. At least three pairs of brackets must be used for each ladder length.

Fasten the ladder on TSK with 2 drill bit screws from bolt set 36..

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Lindab Profil AB

Vistorpsvägen 56, 26971 Förslöv, Sverige

Takstege NR 022020

DoP nr 022020

Anmält organ: 0402

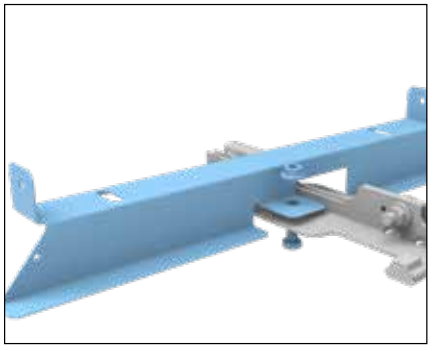
SS-EN 12951:2004 Permanently fixed roof ladder

Roof access for inclined roofs for buildings C2-TB

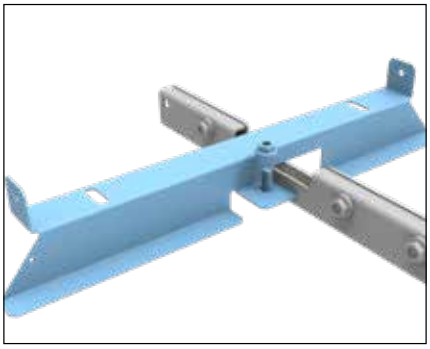
Väsentliga egenskaper	Prestanda
Utformning enl 5	Uppfyller
Statisk belastning enl 6	Uppfyller
Dynamisk belastning enl 6.3	Uppfyller
Reaktion vid brand enl 6.4	Klass A1
Beständighet mot korrosion enl.4	Uppfyller

Roof ladder

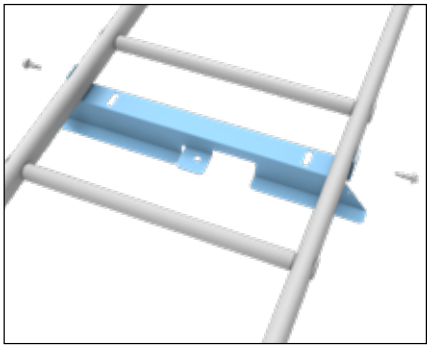
Installation on standing seam long strip roofing or SRP25N



For standing seam long strip roofing, FF is used as a supporting bracket and TSKFF as a ladder bracket. FF is pre-mounted, fasten TSKFF with screw and nut from bolt set 36.

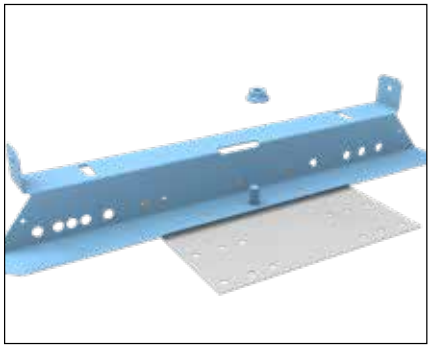


For SRP25N, IFSRPN is used as a supporting bracket and TSKFF as a ladder bracket. IFSRPN is premounted, fasten TSKFF with screw and nut from bolt set 36.

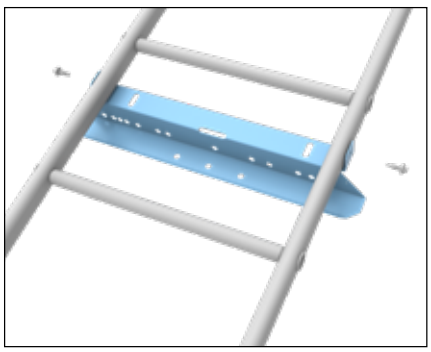


Fasten the TVS ladder on the TSKFF ladder bracket with 2 drill bit screws from bolt set 36. The maximum distance between brackets is 1,5 m. At least three pairs of brackets must be used for each ladder length.

Installation on other steel sheet roofing



For roofs with trapezoidal corrugated steel sheet, high-profile sheet or sinusoidal corrugated sheet or the Lindab tile, TSKIF is used as a fastening plate under the TSK ladder bracket. Mount TSK on TSKIF with 1 screw and nut from bolt set 37.



Fasten the TVS ladder on the TSK ladder bracket with 2 drill bit screws from bolt set 37. The maximum distance between brackets is 1,5 m. At least three pairs of brackets must be used for each ladder length.

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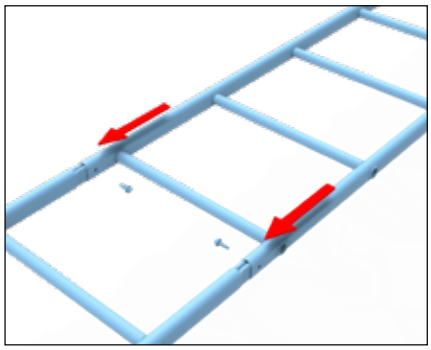
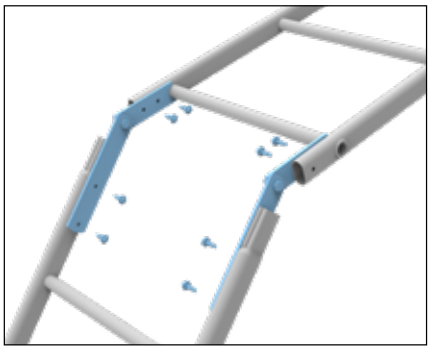
Reaktion vid brand enl 6.4	Klass A1
Beständighet mot korrosion enl.4	Uppfyller

Roof ladder

Joining of ladders

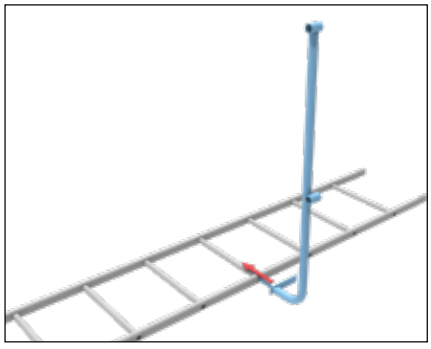


The ladder is joined by guiding the crimped end into the upper ladder. Fasten them together with 2 accompanied drill bit screw.

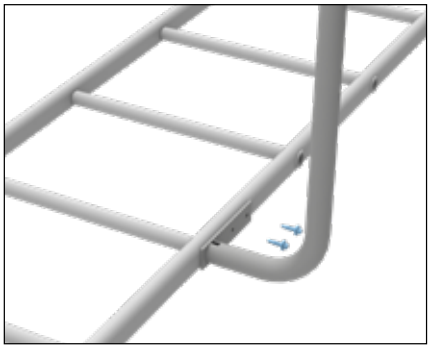


The TSSV joining kit is used for discontinuous roofs. Mount TSSV with 8 accompanied drill bit screws.

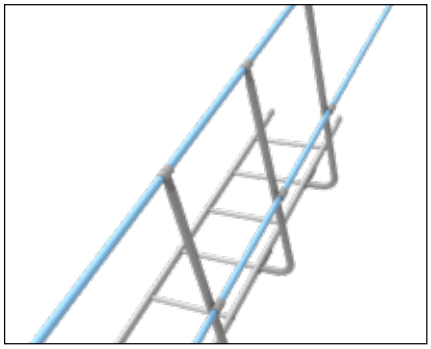
Rail for roof ladder. Roof pitch 0-45° (TSRH)



Guide the rail post TSRH through the rungs of the ladder. The maximum distance between guard rail posts is 2m.



Fix through the roof side with drill bit screw.



Thread RÖR through the sleeves in the top and middle, fasten with accompanied drill bit screw.

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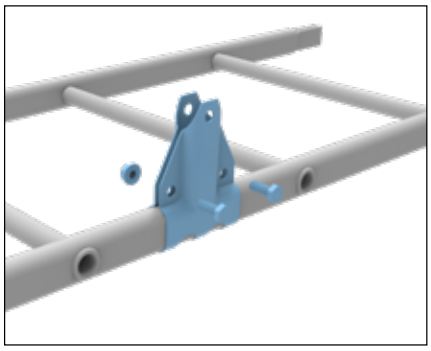
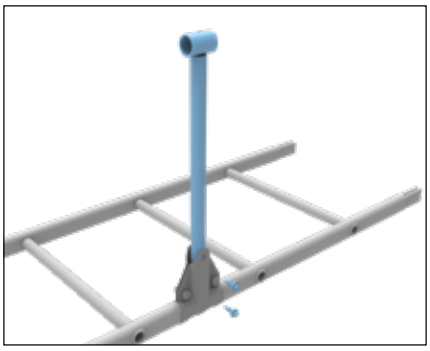
Reaktion vid brand enl 6.4	Klass A1
Beständighet mot korrosion enl.4	Uppfyller

Roof ladder

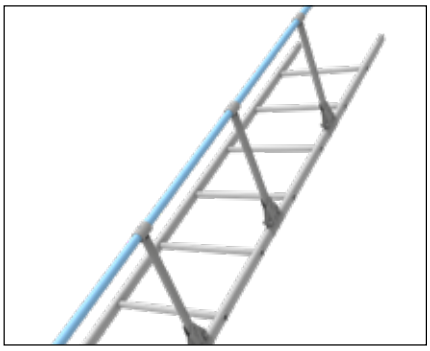
Rail for roof ladder. Roof pitch 25-45° (TSRL)



Fix the TSRL fastener on the side of the ladder with two accompanied screws and nuts. Max. distance of 2m between fastening points.

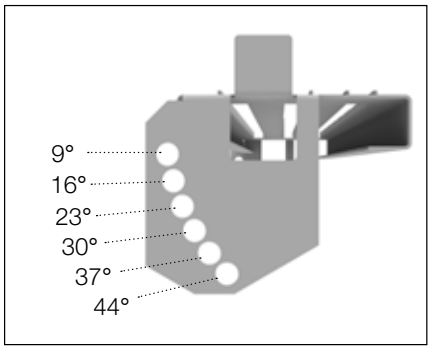


Fix through the roof side with 2 accompanied drill bit screws.

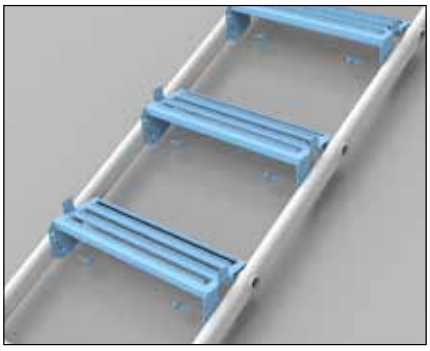


Thread the tube through the sleeves in the top and middle, fasten with 2 accompanied drill bit screws in each sleeve.

TSST steps for roof ladder



Measure the roof pitch and determine which hole is suitable for the roof pitch.



Hook TSST around the rung and fasten with 2 accompanied drill bit screws.

Length of ladder	No. of rungs
1,500	5
1,800	6
2,400	8
3,000	10
3,600	12

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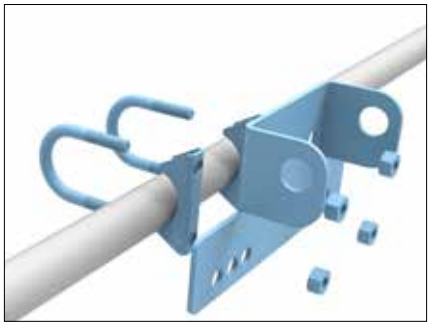
Reaktion vid brand enl 6.4	Klass A1
Beständighet mot korrosion enl.4	Uppfyller

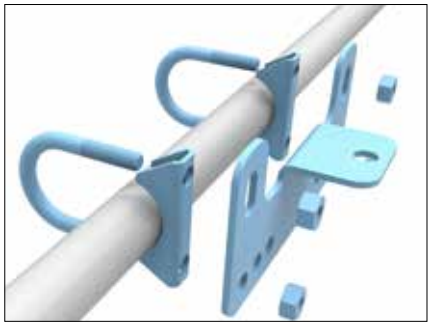
Installation of wire system
- ridge rail

Installation requirements

- The support fasteners are installed at a maximum distance of 10m for assembly as fall protection.
- With installation as support for work, the support fasteners are installed at a maximum distance of 2.5m.

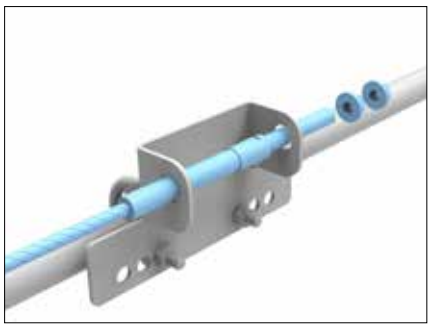


Mount the WFÄNDL start and end fastener at the beginning and end of the wire strand. The assembly is carried out with 2 U-brackets and nuts and a retaining plate from bolt set 8. .

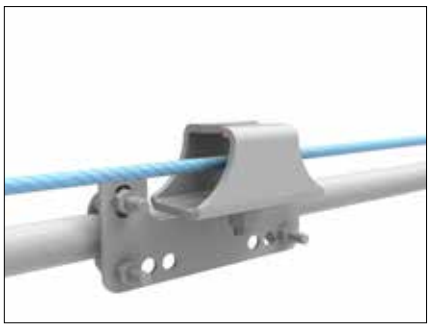


Mount the WFSTL support fasteners in the same manner with c/c distance according to the installation conditions. he assembly is carried out with 2 U-brackets and nuts and a retaining plate from bolt set 8. .

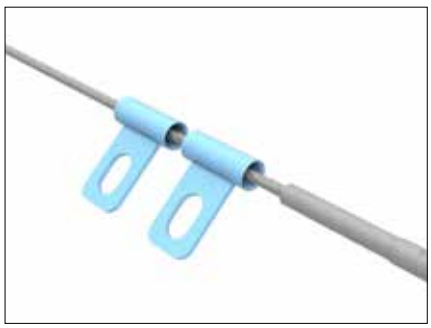
Install WSLÖP wire runner for runners on WFSTL wire support. Use the accompanying bolt and nut.



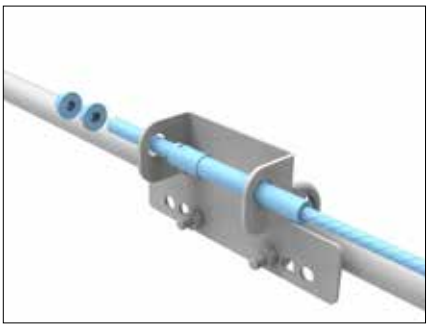
Thread one end of the wire through start/ end fastener WFÄNDL. Fix with disc and M12 double nut, premounted on the wire.



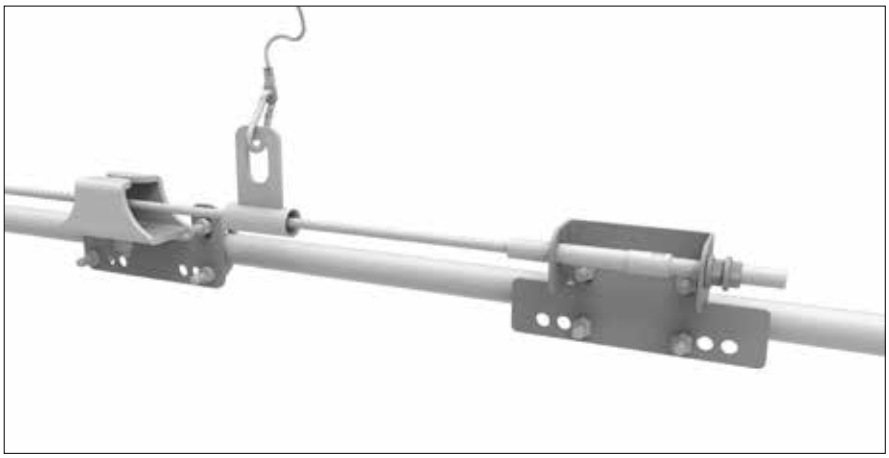
Thread the wire through all WSLÖP wire supports to the end of the wire assembly.



Thread the desired number of WLÖPL runners over the other end of the wire.



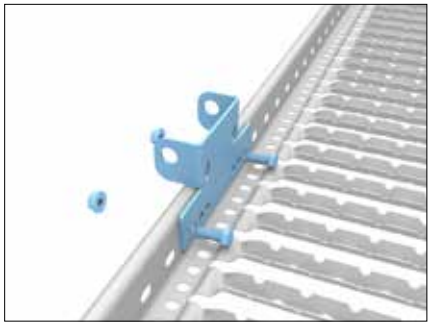
Thread the wire end through WFÄNDL end fastener and fix with disc and M12 double nut. The wire should only be tightened til it is streched.



Wire system
- walkway

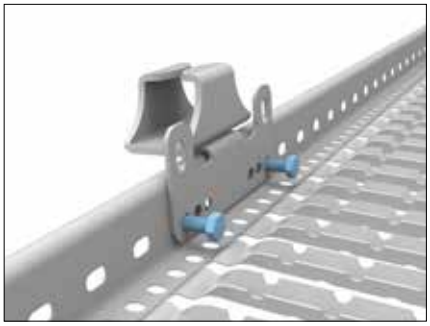
Installation requirements

- The support fasteners are installed at a maximum distance of 10m for assembly as fall protection.
- With installation as support for work, the support fasteners are installed at a maximum distance of 2.5m.

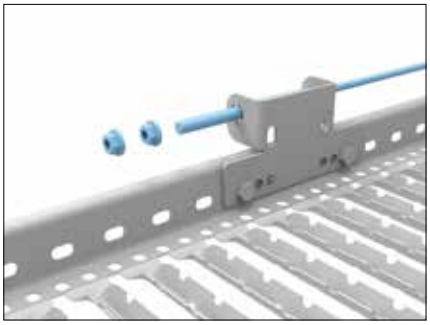


Mount the WFÄNDL start and end fastener at the beginning and end of the wire strand. Installation takes place with the 2 bolts and nuts from bolt set 32..

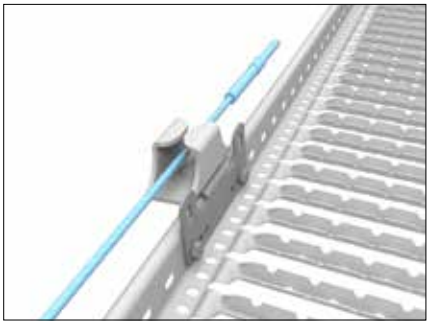
Install WSLÖP wire support for runners on the WFSTL wire support. Use the accompanying bolt and nut.



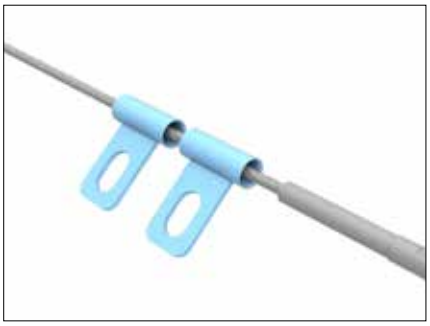
Mount the WFSTL support fasteners in the same manner with c/c distance according to the installation conditions.
Mount with screw and nut from bolt set 32.



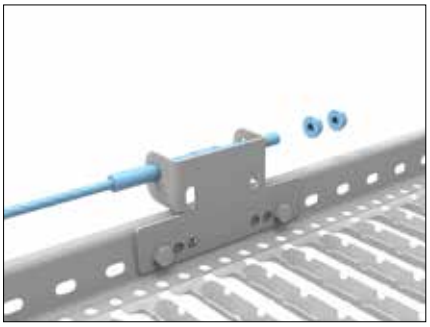
Thread one end of the wire start/end fastener WFÄNDL. Fix with disc and M12 double nut, premounted on wiren.



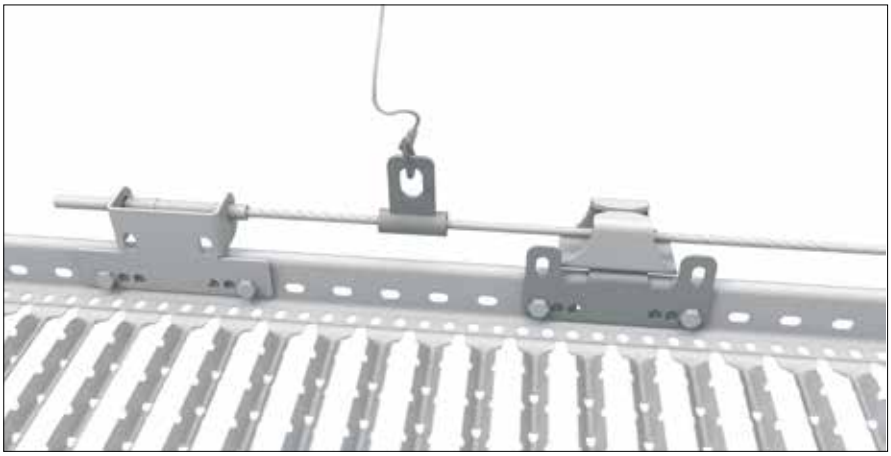
Thread the wire through all WSLÖP wire supports to the end of the wire assembly.



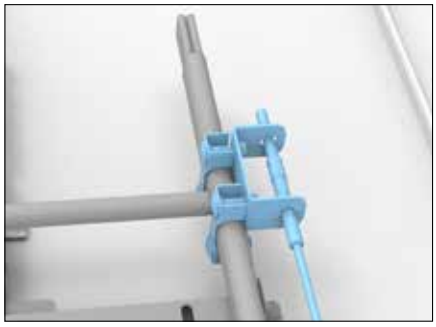
Thread the desired number of WLÖPL runners over the other end of the wire.



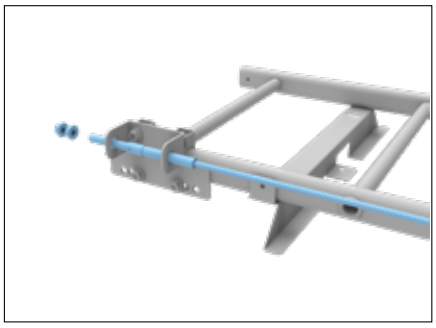
Guide wire end through WFÄNDL end fastener and fix with disc and M12 double nut, premounted on the wire. The wire should only be tightened til it is streched.



Wiresystem
- roof ladder



Mount the WENDTVS start/end fastener at the beginning and end of the wire strand. Installation takes place with 4 accompanying screw and nut according to illustration.

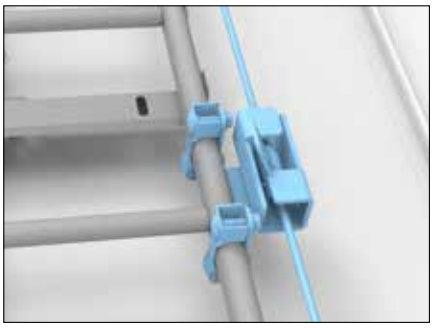


Thread one end of the wire start/end fastener WENDTVS. Fix with disc and M12 double nut, premounted on wiren.

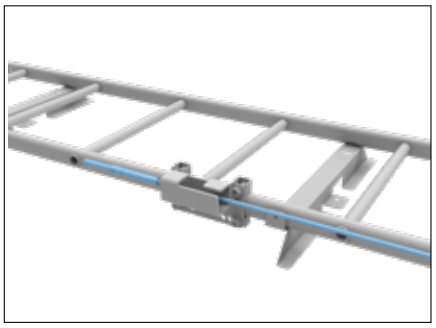
Installation requirements

- Roof pitch 0-15° - two end fasteners on each wire, wire support with 2500mm gap and wire support at 1000mm distance from eaves.
- Roof pitch 16-45° - two end fasteners on each wire, wire support with 1500mm gap and wire support at 1000mm distance from eaves.
- Roof pitch 46-55° - two end fasteners on each wire, wire support with 1000mm gap.
- Roof pitch 56°-75 - ttwo end fasteners on each wire, wire support with 300mm gap

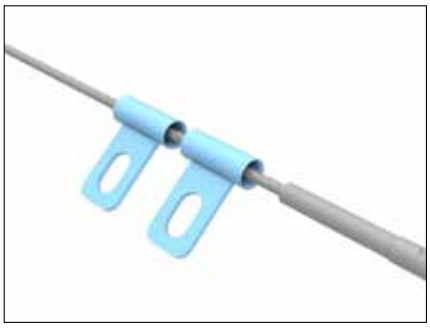
Maximum roof pitch for wire system on roof ladder 75°



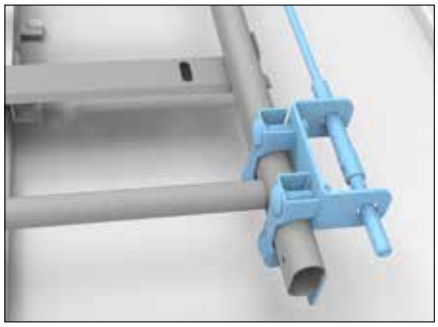
Install the correct number of wire support WFSTLTVS according to your roof pitch (see installation requirements). Install against roof ladder with 4 accompanying bolt and nut according to illustration. the wire support is fastened with 1 screw and nut from underneath.



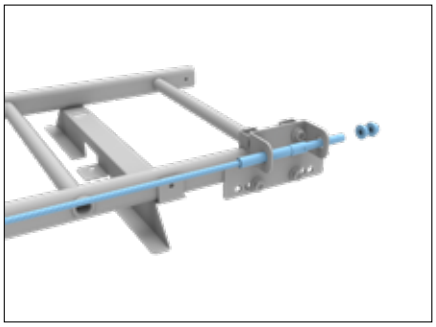
Thread the wire through all WFSTLTVS wire supports to the end of the wire assembly.



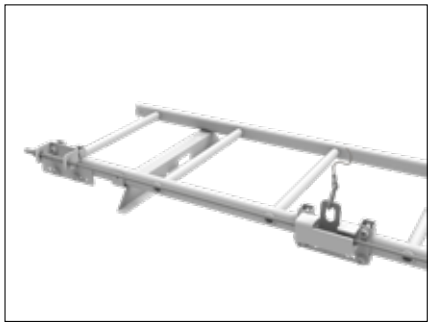
Thread the desired number of WLÖPL runners over the other end of the wire.



Mount the WENDTVS start/end fastener at the beginning and end of the wire strand. Installation takes place with 4 accompanying screw and nut according to illustration.



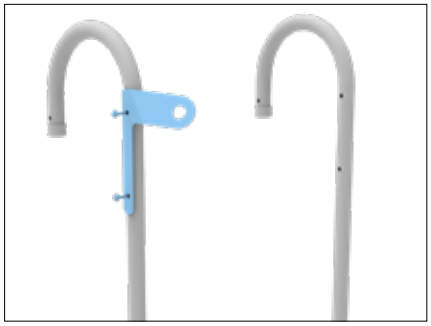
Guide wire end through WENDTVS start/end fastener and fix with disc and M12 double nut. The wire should only be tightened til it is streched.



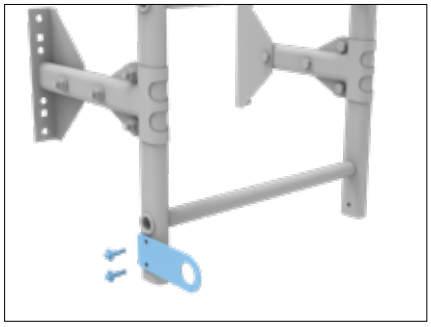
Wire system
- facade ladder

Installation requirements

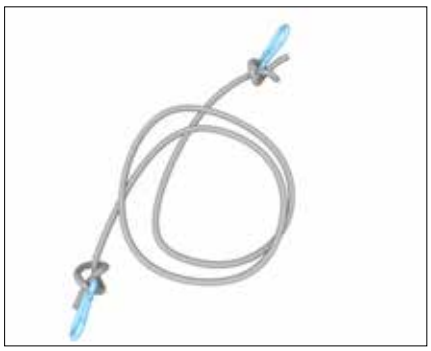
- The package includes everything needed for wire systems for façade ladders (façade height up to 8 m).
- Mount the accompanying instruction sign on the wall or similar directly adjacent to the ascension point.



Mount the upper wire fastener (VSWFÖ) at the top of the left side of the façade ladder with the two accompanying screws and nuts.



Mount the lower wire fastener (VSWFN) at the bottom of the façade ladder on the same side with the accompanying screw.



Attach the two small accompanying carabiner hooks at each end of the thin accompanying tension rope.

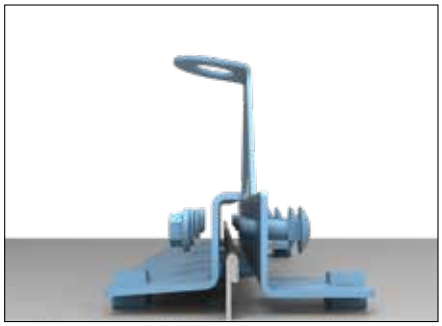
Fasten the thin tension rope's carabiner hook in the lower fastener and in the wire pulley's carabiner hook.

Anchorage point

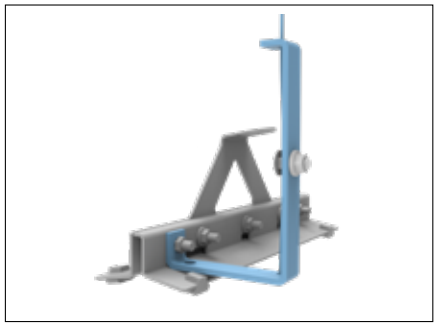
Installation requirements

- Anchorage point may only be used by one person at a time.
- Anchorage point may only be used as single attachment point for roofs with roof pitch <6°.

Installation on standing seam long strip roofing or SRP25N

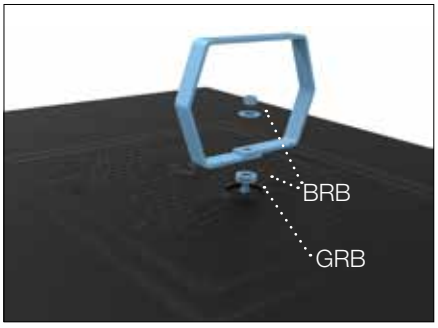


Mount LLFDF around the steel panel seam. Ensure that the seam fastener's heels rests on the roof. Tighten the bolts to 20 Nm. Anchorage point LLFDF to be mounted on alumnium or copper roofs must be supplemented with I insulation profile IPLLF.

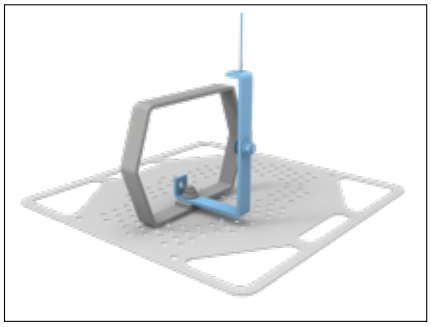


When mounting a snow depth indicator, attach it to LLFDF by loosen the premounted nut and thread it over the screw, then tighten the nut again.

Installation on felt roofing

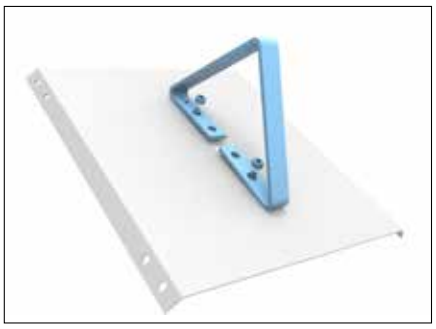


Mount LLF150 towards the roof surface and choosen fastening plate. Apply in the following order: rubber disc GRB, disc BRB, LLF150, disc BRB and finally a nut. Use bolt set 27.

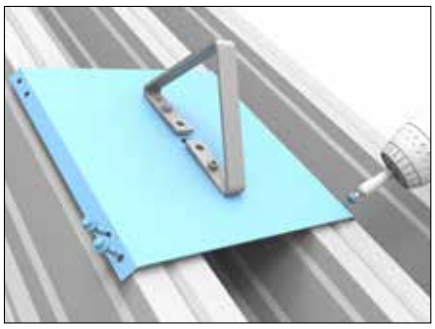


When mounting a snow depth indicator, attach it to LLF150 by loosen the premounted nut and thread it over the screw, then tighten the nut again.

Installation on trapezoidal profile 115



First mount LLF on IF115 according to illustration. Fasten with 2 screws and nut from bolt set 31.



Position IF115 on a profile top on the plate at least 200 mm from the edge of the plate. If steel sheet with maximum 0,9mm thickness is used, mount with 8 point screws from bolt set 31. Steel sheet 1,0mm or more use 8 drill bit screws from bolt set 31.

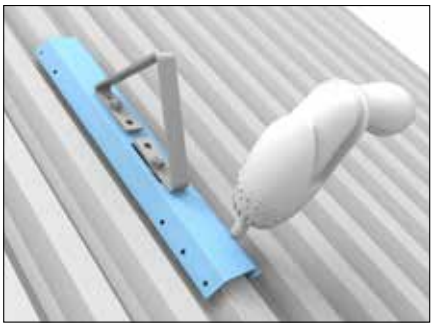
Anchorage point

Installation requirements

- Anchorage point may only be used by one person at a time.
- Anchorage point may only be used as single attachment point for roofs with roof pitch <6°.

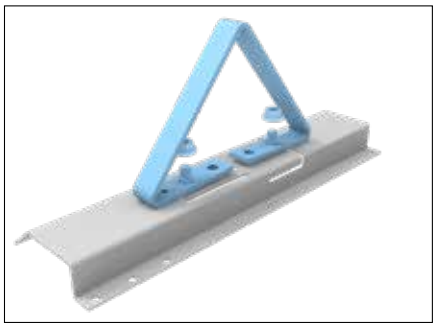
Installation on trapezoidal profile roofing

If LLF is to be used (anchorage point) , first mount it on IF20, IF35,IF45 according to illustration. Use 2 srews and nut from bolt set 23 to fasten.



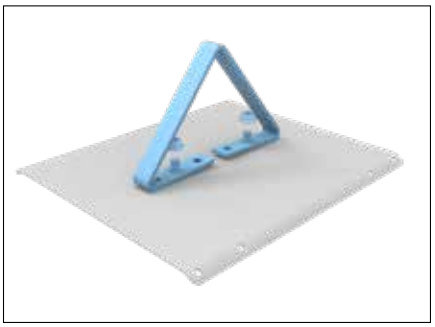
Position IF20, IF35, IF45 on a profile top on the plate at least 200 mm from the edge of the plate. Fasten with 8 screws from bolt set 23.

Installation on sinusoidal profile roofing



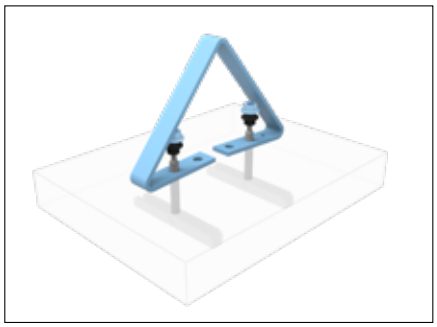
Mount LLF on IFSIN with 2 screws and nut from bolt set 29, fasten IFSIN against the roof profile with 10 screws from bolt set 29.

Installation on steel sheet LPP20



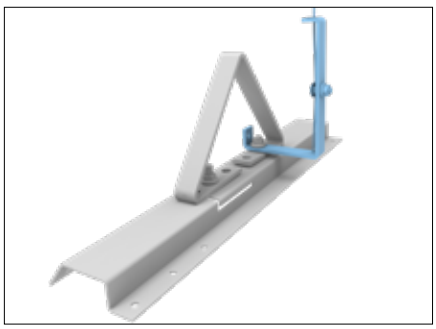
Mount LLF on IFLPP with 2 screws and nut from bolt set 23, fasten IFLPP against the roof profile with 8 drill bit screws from bolt set 23.

Installation with pivot bolt



Mount LLF with 2 pivot bolts, attach the bracket to the screws and tighten the bolts to 35-50 Nm.

Innstallation of snow depth indicator



When mounting a snow depth indicator, attach it to LLF by loosen the nut and threading it over the screw, then tighten the nut again.

Good Thinking

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2021-08-26

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