

Suojatuote PROxA Weather Protection System Installation Manual



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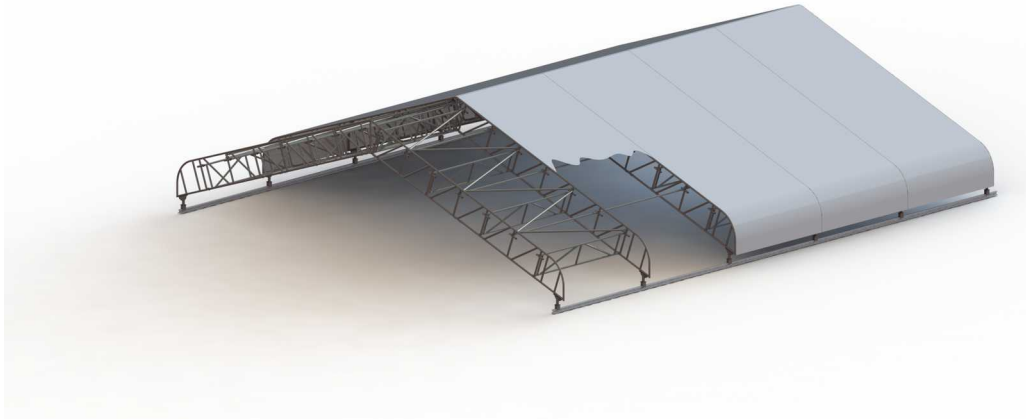


PROxA Weather Protection Installation Manual

General

The Weather Protection System is a temporary roof system that protects from rain, snow, wind and cold weather.

The PROxA weather protection system is a keder system which can be installed as a pitched roof or shed roof. The angel of the pitch is 20 degrees. The system is modular which makes it easy and quick to install. All parts of the system are made of aluminium.



The system consists of module components such as: lattice beams, ledgers, diagonals and ridge beams. The components are connected to each other with claws.

The system has been desinged according to european standards EN12810 / EN12811. With this system it is possible to create a safe roof with a span of up to 40 meters.

NOTE:

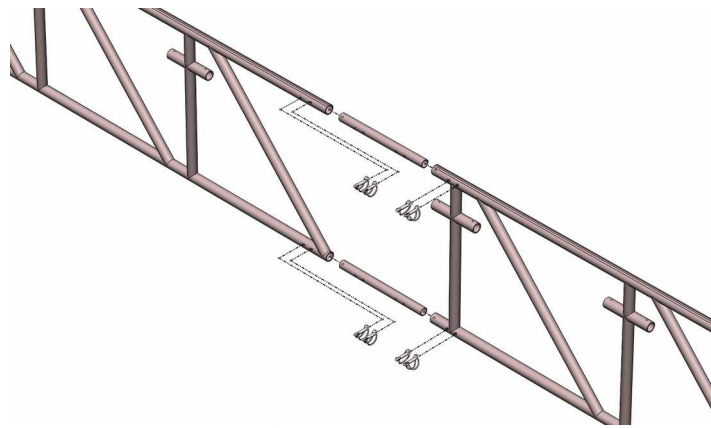
A competent engineer has to supervise the installation. All parts have to be visually inspected before installation. Damaged parts have to be replaced with new parts.

Installation

1. Mounting the beams

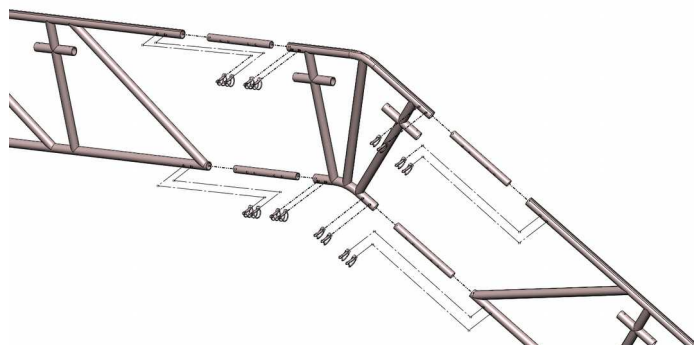
Mount the beams together at ground level, this way you will decrease work that is done on high level.

The lattice beams and the keder cover rails are mounted to each other by nuts and bolts. The spigots are connected with either locking pins or nuts + bolts. The size of the bolt is M10x80mm. Connecting two lattice beams together requires 2 spigots and 8 pcs of locking pins.



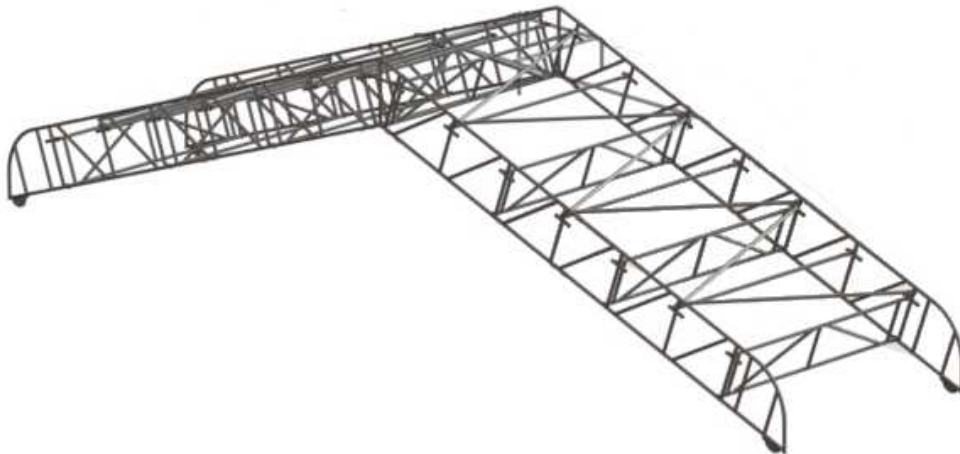
2. Mounting the ridge beam

The ridge beam is connected in the same way as the lattice beams. It is locked in place with locking pins.



3. Mounting a section

After the ridge beam and lattice beams have been connected they will be locked to each other by ledgers and diagonals. By following this procedure one section will be created.



Mount a double ledger at every other vertical mounting point (2m distance from each other) and a normal ledger at every other vertical mounting point. Diagonals will be mounted at every mounting point. This section is called a supported section.

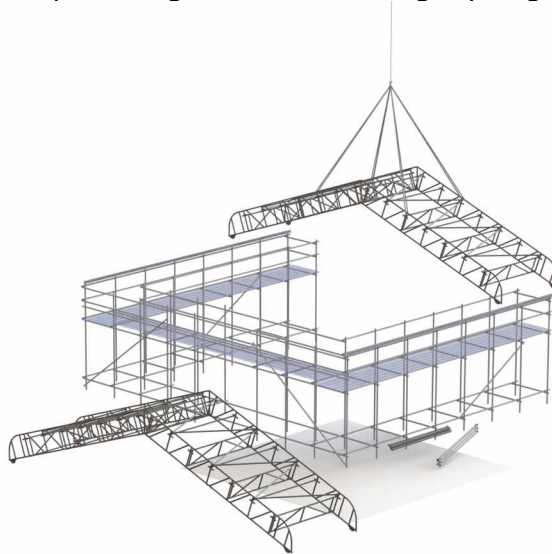
A section can be mounted entirely on top of a scaffold or by lifting it upwards at the same time when it is mounted from below.

PROxA Weather Protection Installation Manual

4. Installation of sections

The sections are normally installed with a crane. The sections are mounted at ground level and lifted into position one by one. The system can also be mounted directly on the scaffold but this will increase the work at high levels and is much more dangerous.

Mounting the sections requires a space on ground which is slightly larger than one section.



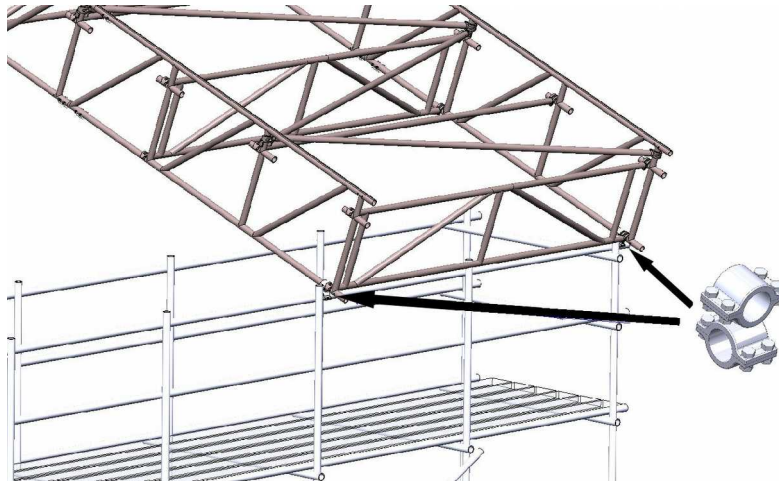
It is important that the sections that are lifted with a crane are supported sections. The intermediate sections (a section between 2 supported sections) only needs ledgers at 2 meter distance (no diagonals or double ledgers are required).

To minimize work at high levels all material used for the intermediate section can be lifted up at the same time as the supported section is lifted in place. Material can be connected with the claw to the supported section. After the supported section is fastened into position the intermediate section ledgers can be mounted into position.

Pulling ropes for mounting the cover sheet can also be installed on the supported section before lifting so that you don't later have to climb over the section to fit the rope.

5. Locking the section in place

Sections are locked into place by using scaffold couplers.



It is important that the locking position on each section is the same so that no crosstensions will appear in the system. This will make it difficult to install the cover sheets.

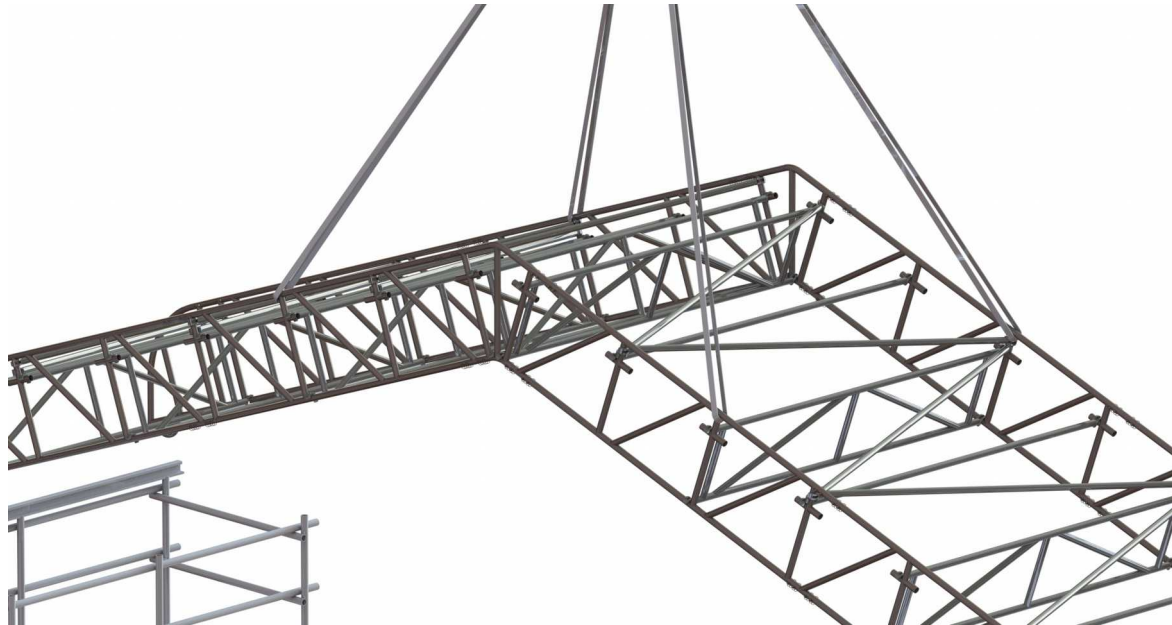
The supported sections and the whole system in general is flexible. The flexibility has to be removed by making sure that the whole section weight is sitting on the scaffold before tightening the couplers.

Fasten one end of the section while the crane is still holding the weight of the section. Then lower the section so that the whole section weight is sitting on the scaffold before tightening the couplers.

Installation of the roof continues by alternately installing a supported section and an intermediate section.

6. Lifting sections

Note that a section has to be attached at 4 points when lifting.

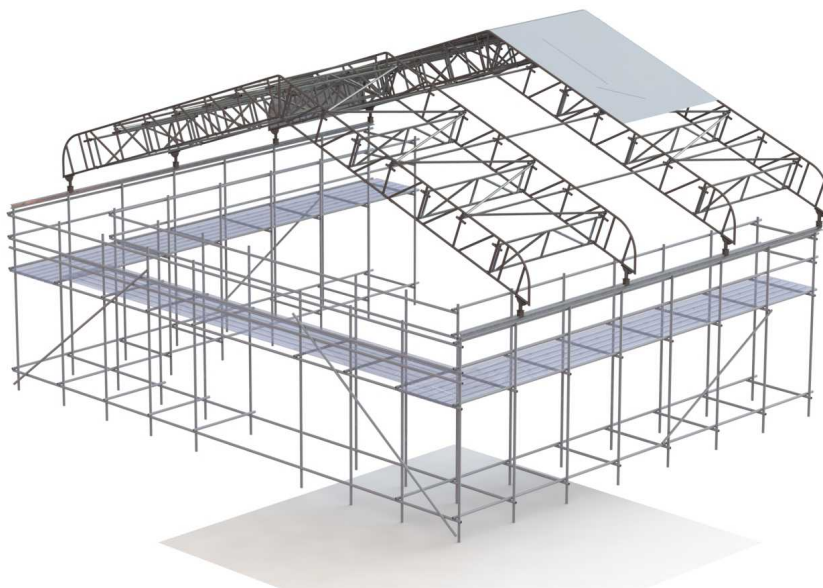


The attachment points have to be at a beam connection point and as close as possible to a double ledger. Take care not to damage the cover rails. It is only allowed to use lifting lines when lifting sections, chains or cables will damage the aluminium.

Lifting can only be done when wind speed is less than 10 ms (3ms if the cover sheet is still mounted on the section).

7. Mounting the cover sheet

The cover sheet is very sensitive to wind and thus can only be mounted when the wind conditions are good. It is good to reserve 4 people for cover sheet installation (especially at larger roofs). 2 persons to pull the cover sheet and 2 persons to feed the cover sheet from the other end.



Check that the cover sheet is clean and suitable for the target site.

Feed the cover sheet keder rods into the cover rails. Install the pulling bar. The pulling bar is mounted into the cover sheet pockets so that the pulling bar is visible from both ends and will rest on top of the cover rails. Tie the pulling ropes to the pulling bar.

Start pulling the the cover sheet into position. You have to pull slowly and evenly from both sides.

When the cover sheet is in place it is locked into position with ratchet straps or similar.

The gable end is installed with the same principle.

8. Bracing and anchoring

Each section have to be braced in all directions – up,down, side and lengthwise.

Normally bracing is done in the following way:

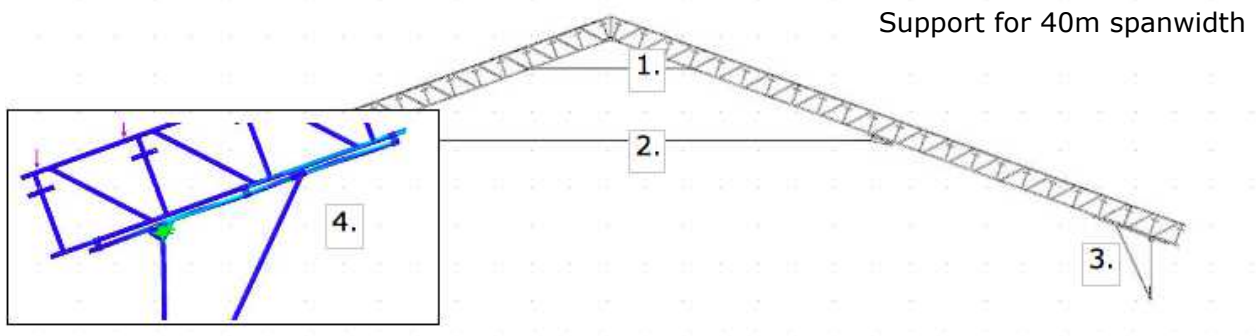
- side bracing; by anchoring the section to the scaffold (the scaffold is anchored to the wall)
- lengthwise; sections are braced between eachother and the system is braced with ratchet straps (the whole roof can be considered as one big supported section)
- up/down; each beam of the roof will be anchored to the wall with a ratchet strap

Wedge anchors and concrete screws can be used when anchoring to walls. The anchors have to be fastened to the plinth, vaults or concrete (tiles or bricks are not strong enough). The anchoring need is 40 Kg / m² (of roof). 2000 kg/4000 kg ratches straps must be used.

PROxA Weather Protection Installation Manual

9. Supports, loads and spans

A temporary roof must stand wind- and snowloads. Windload is 40kg/m² and snowload 25 kg/m². The system has to be anchored so that it can stand stormy winds (21 m/s). The force applied to gables and the roof is 40 kg/m².



1. 6m tension bar
2. 20m tension wire
3. Tension support diagonals
4. End support

Span	Height of section	Weight of section	Max load / m ²
15 m	3.6 m	488 kg	Yli 100 kg / m ²
20 m	4.3 m	520 kg	100 kg / m ²
25 m	5.3 m	625 kg	70 kg / m ²
30 m	6.4 m	878 kg	65 kg / m ² (1)
35 m	7.0 m	909 kg	65 kg / m ² (2) (4)
40 m	8.0 m	1042 kg	65 kg / m ² (3) (4)






- 1) Needs a 6m tension bar
- 2) Needs a 6m and a 20m tension wire
- 3) Needs a 6m, 20m tension wire and tension support diagonals
- 4) Needs end supports

Water, snow and ice that has accumulated on the roof must be removed at regular interwalls.







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10. Components

PROxA weather protection components are described below.

Picture	Description
	Spigot for connecting the beams
	Ridge beam
	Lattice beam 2m (1m also exists)
	Lattice beam 3m
	Eave beam

PROxA Weather Protection Installation Manual

	Diagonal
	Ledger
	Double ledger
	Coupler
	Cover rail (aka keder rail)
	PE based reinforced cover sheet.