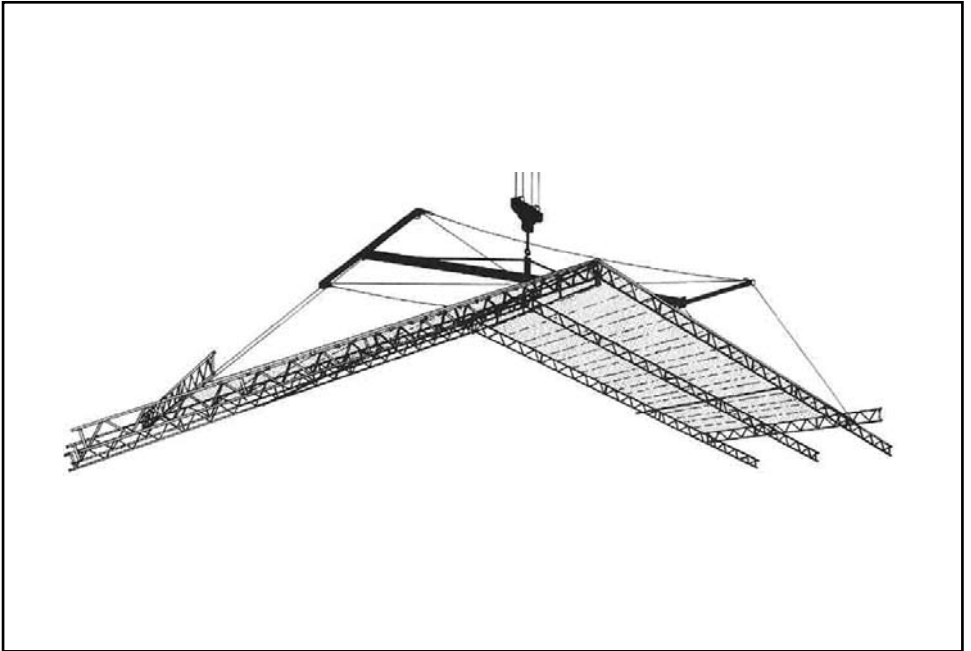


MONZON®

Monzon Protect®

Installation instructions



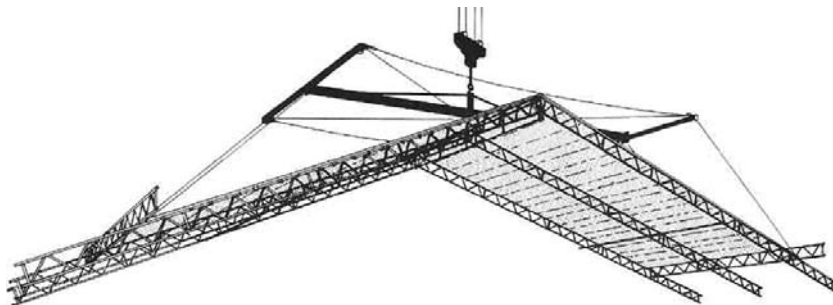
Protect® – among the latest innovations in covers

An Protect® roof is easy to work with and can be used over and over again. It is constructed from impact resistant, transparent PVC sheets that are mounted on aluminium profiles fitted with 4 self-locking quick couplers.

It is extremely lightweight – one sheet measuring 3.07 m in length and 1.25 m in width covering 3 m² weighs only 18 kg.

The Protect® weather protection roof is designed to cope with a wind or snow load of 0.4 kN/m² (40 kg/m²).

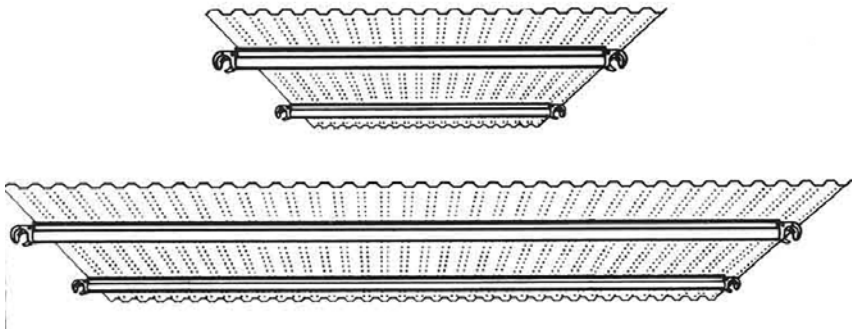
- Rapid assembly
- Low dead weight
- Lets in light
- Fire-resistant
- Can be used over and over again



Protect® sheeting

Impact resistant PVC sheets mounted on aluminium profiles fitted with 4 self-locking quick couplers.

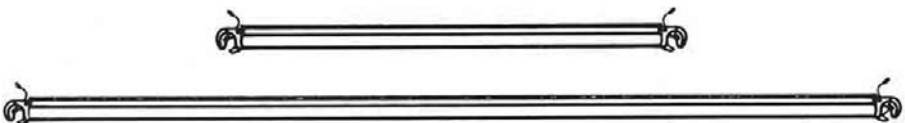
Length 1.09 m	Width 1.25 m	Weight 8 kg
Length 1.57 m	Width 1.25 m	Weight 10 kg
Length 2.07 m	Width 1.25 m	Weight 13 kg
Length 2.57 m	Width 1.25 m	Weight 16 kg
Length 3.07 m	Width 1.25 m	Weight 18 kg



Protect® profiles

Made of aluminium, fitted with 2 self-locking quick couplers.

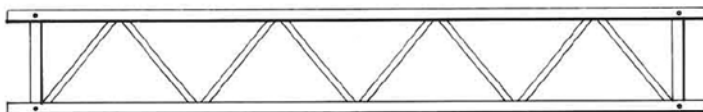
Length 1.09 m	Weight 2.5 kg
Length 1.57 m	Weight 3 kg
Length 2.07 m	Weight 4 kg
Length 2.57 m	Weight 5 kg
Length 3.07 m	Weight 6 kg



Lattice beam 450 of aluminium

45 cm high lattice beam of aluminium used as roof truss/U-transom.

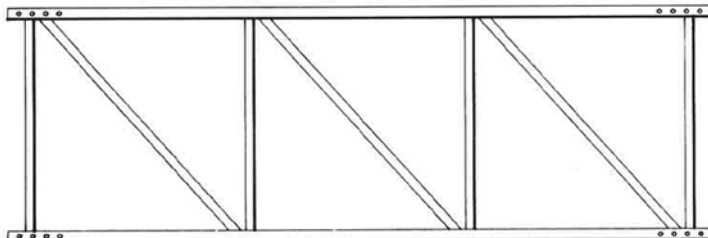
Length 3.25 m	Weight 13.1 kg
Length 4.25 m	Weight 16.9 kg
Length 5.25 m	Weight 21.0 kg
Length 6.25 m	Weight 24.9 kg
Length 8.20 m	Weight 32.5 kg



Lattice beam 1000 of aluminium

1 m high lattice beams joined to the roof trusses using tube connectors. Serves as a carrier of the Protect® sheets. Used for larger spans and special solutions.

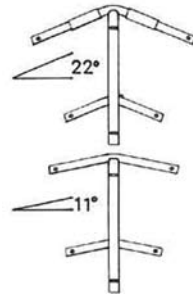
Length 3.2 m	Weight 18 kg
Length 4.2 m	Weight 24 kg
Length 5.2 m	Weight 29 kg
Length 8.2 m	Weight 45 kg



Ridge beam 11 - 22 degrees

Used in the ridge for joining with aluminium beams of 45 cm.

Ridge beam 22 degrees Weight 9.9 kg
 Ridge beam 11 degrees Weight 7.7 kg

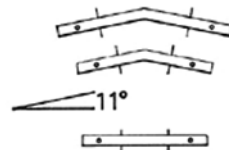


Tube connector 11 degrees – short, long or straight, for aluminium beams of 45 cm

Used for joining aluminium beams of 45 cm – short for top edge, long for bottom edge and straight for support joints.

Tube connector, short 11 degrees Weight 3.5 kg
 Tube connector, long 11 degrees Weight 2.5 kg
 Tube connector, straight 11 degrees Weight 2.5 kg

4 pcs. M14x65 bolts/joint

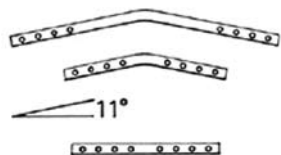


Tube connector 11 degrees – short, long or straight, for aluminium beam 1000

Use for joining aluminium beams 1000 – short for top edge, long for bottom edge and straight for support joints.

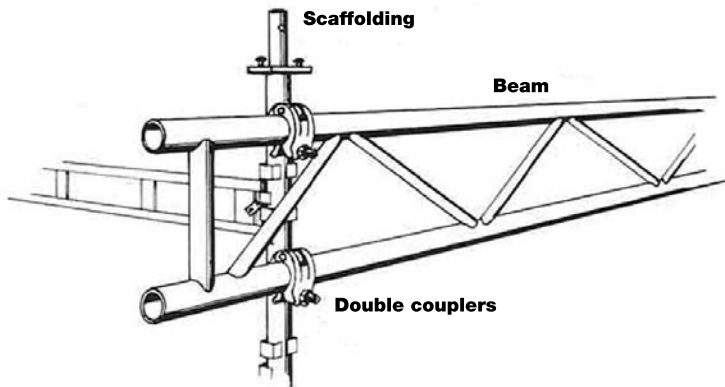
Tube connector, short 11 degrees Weight 5 kg
 Tube connector, long 11 degrees Weight 3 kg
 Tube connector, straight 11 degrees Weight 3 kg

8 pcs. M16x60-bolts/joints



U-transom

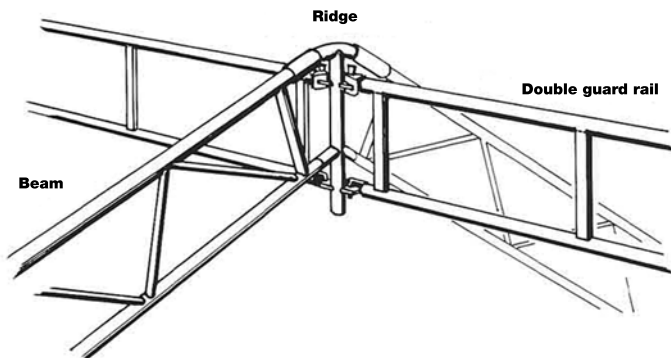
Fit the lattice beams as U-transoms at the top of the scaffolding's two long sides (internal). Secure the beams using two NK double couplers 48/48 mm per scaffolding pole. Fix the roof trusses on top of these beams using double couplers.



Ridge

The roof trusses are joined with the aluminium lattice beams at the required length and then joined with 2 straight tube connectors and 8 nuts and bolts per joint.

For gable roofs a ridge beam is used for each roof truss and is also fitted using 8 bolts. The roof trusses are supported internally by fitting double bars between all the ridge beams.

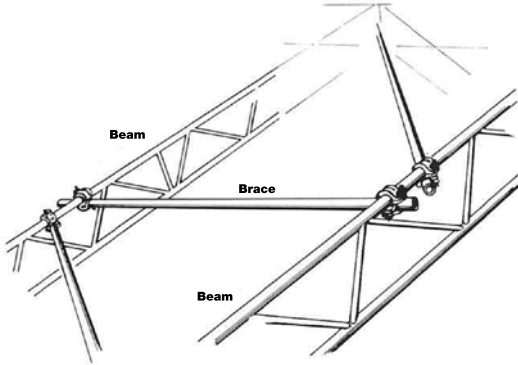


Bracing module

You build up at least two bracing modules in the roof. These are made of tubing and variable swivel couplers that are fitted at a 45 degree angle from truss to truss.

Secure the bracing tubing on the underside of the beams' top tubes.

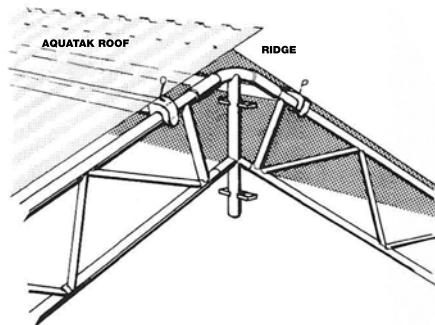
The number of bracing modules depends on the span/height above ground level. Contact the technical department at Mon.Zon AB.



Installing Protect® sheets

Always mount the Protect® sheets with the long, projecting end facing upwards to the ridge. Start the installation using a horizontal row at the bottom of the roof – from left to right. This means you are sure to have the right distance between the roof trusses prior to attachment. Erect a vertical up to the ridge to check the placement of the row. You can now lay the roof in horizontal rows from the left-hand side. Cover the ridge by overlapping the roof surfaces with each other.

In special cases it may be necessary to protect the top row of sheets from sliding using a standard coupler behind the quick couplers.



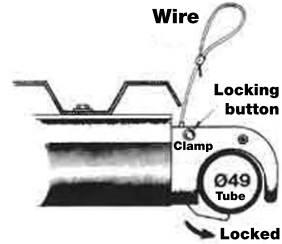
Inspection/dismantling

When the sheets have been snapped in place around the top sections of the beams, check that all of the quick couplers for the Protect® sheets are locked in place (lock by pressing the lock button).

Dismantling

Start dismantling from the top of the roof. Open the quick couplers for the sheets with a gentle pull of the wire, and the coupler will remain open.

Dismantle in reverse order to the installation process.



Weather protection systems installed by crane

Installation by crane

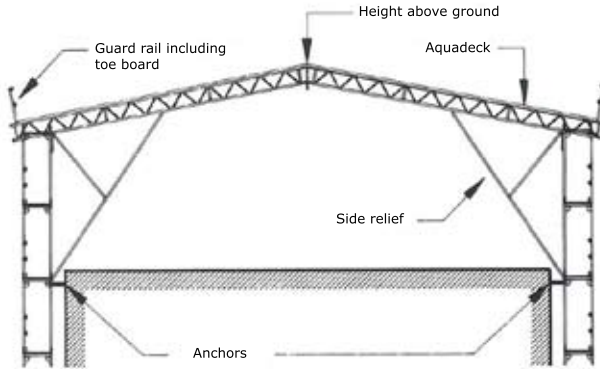
In many cases it may be more rational to assemble the Protect®ET roof in sections on the ground and then lift them into place. To do this you need a small assembly platform as support under the ridge. You then install one section at a time in the required length/span, consisting of roof trusses covered with Protect® sheets. Lift the sections into place using a crane and lifting yoke, and place them at intervals that correspond to the length of an Protect® sheet between each section. Complete the installation from the top of the roof, by filling the spaces with loose Protect® sheets.

Mobile weather protection roof

Where major casting work is required it is beneficial to shield the work site from the forces of nature. It may be prudent to erect a smaller, sealed weather protection system that can be moved as and when the casting work requires. You erect side walls using modular scaffolding and construct the roof trusses of lattice beams; after adding side supports seal the entire covering using Protect® sheets. You now fit rollers to the weather protection that enable you to move it on rails that have been laid on the cast foundations.



Side relief/Snow clearance/Safety guard rail



Side relief

Side relief is necessary to achieve a maximum span.

You can select from two solutions for this:

Scaffolding tube with VK-swivel couplers or with NK-double couplers.

In both cases the lattice beams used as transoms must be assembled using double couplers.

Contact Mon.Zon AB for estimates.

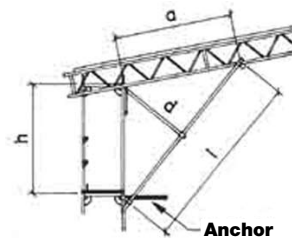
Snow clearance/Safety guard rail

As the Protect® system is designed to handle a snow load of 40 kg/m², snow clearance is necessary if the snow depth exceeds 20 cm.

You should always fit a safety guard rail on the edge, which should be the first thing you fit before laying the Protect® sheets. This serves as protection during snow clearance and it is a very good idea to install a fall-arrest system (safety harness) at the same time.

Dimensioning

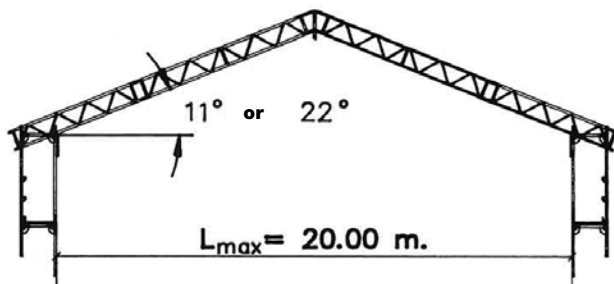
As factors such as height above ground, distance between trusses, span, roof pitch, roof type, topography and snow load have a major impact on dimensioning for the actual project, you must make detailed calculations for all weather protection systems. Contact Mon.Zon AB.



Gable roof principle

The Protect® system can be fitted as a gable roof with double pitch. The roof pitch is then 11 or 22 degrees.

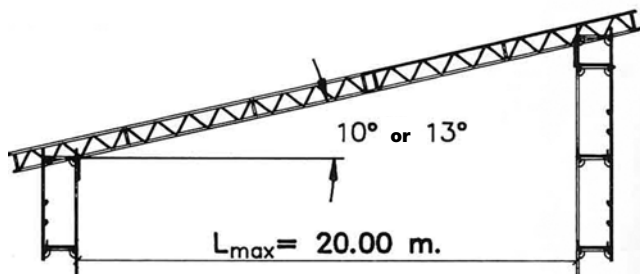
The maximum span for standard constructions is 20 metres, measured between the lattice beams that are fitted as U-transoms.



Lean-to roof principle

The Protect® system can be fitted as a lean-to roof with pitch on one side. The roof pitch is then a maximum of 13degrees.

The maximum span for standard constructions is 20 metres, measured between the lattice beams that are fitted as U-transoms.



Technical information

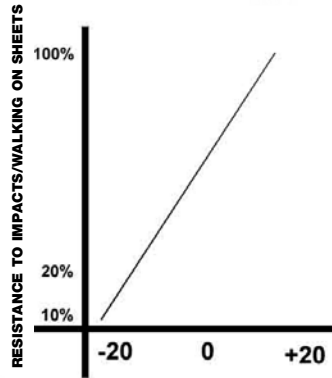
Protect® all-round protection, like all covering solutions, is a construction that consists of lattice rafters, ridges and roof sheeting/tarpaulin

Protect® at low temperatures

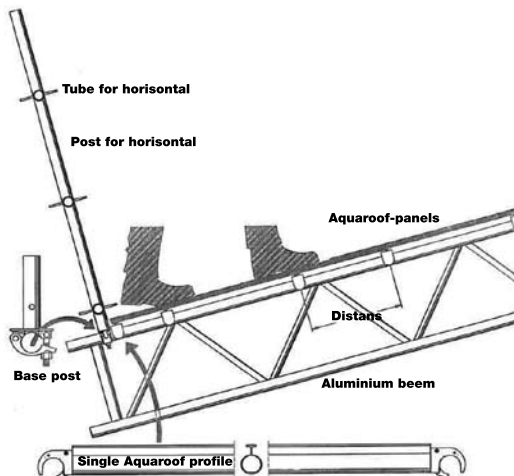
It is a well-known problem that plastic becomes brittle at low temperatures.

Among the many different criteria used by Mon. Zon AB for selecting plastic profiles is that they must retain the highest possible strength in all temperature conditions.

Nevertheless, the ability of the sheeting to absorb the load when walking on it reduces at lower temperatures (see the diagram).



Naturally the sheeting/tarpaulin represents the weakest link when installing or maintaining, and is particularly weak/brittle in cold conditions, which means you should exercise the utmost caution during colder periods.



MONZON®