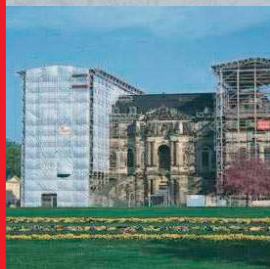


Modular Roof



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LOGIC · EASY · BETTER

Issue 04/2010

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Abbreviation:

H	= Height
L	= Length
W	= Width
LH	= Lift Height
BL	= Bay Length
SW	= System Width
PQ	= Packing Quantity

plettac modular roof 75 and plettac modular roof 100

The plettac modular roof is a saddle type roof with a fixed roof pitch of 10°. The roof is designed for the use as a weather protection. The main roof trusses are of a galvanized steel construction and have a system width of 2,50 m. The roof sheeting is made up from frames covered with trapezoidal steel panels. The plettac modular roof can be erected with free spanning widths up to 45,10 m (modular roof 75: 31,40 m).

The supporting structure for the modular roof can consist of the plettac SL 70 / SL 100 frame scaffolds, the plettac SSK 300 construction scaffold or the plettac contour modular scaffold.

Any other sub-structure is imaginable, but it must be considered, that the system width of 2,50 m is supported and capacity of the construction is sufficient.

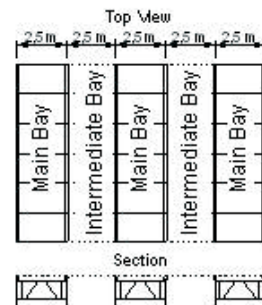
Note: Especially also for subcontractors: The assembly of the modular roof and the using of it must refer to the local building rules and safety guidelines as well as to instruction of the manufacturer for the erection and use.

system

The plettac modular roof consists of main, intermediate and make-up bays. The main and make-up trusses are assembled at ground level and lifted to the top of the sub-structure with a crane. Main bays are located at every other bay along the length of the sub-structure leaving a 2,50 m wide intermediate bay, that is simply covered with roof modules only. Make-up bays are necessary whenever an even number of bays is required.

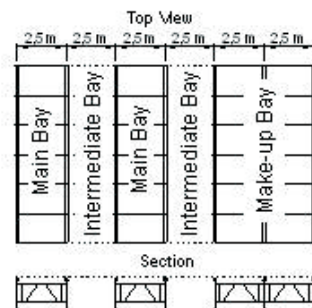
Uneven number of bays

The roof is completed using main and intermediate bays only, when the length of the substructure has an uneven number of 2,50 m bays.



Even number of bays

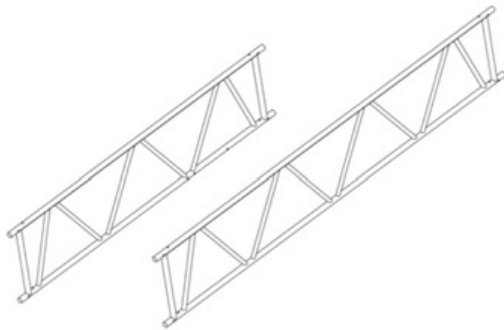
When the length of the area to be covered requires an even number of 2,50 m bays, then the roof must be completed using one make-up bay. This 5.00 m wide make-up bay is also assembled at the ground and lifted on to the remaining gap with a crane.



construction

Main components modular roof 75

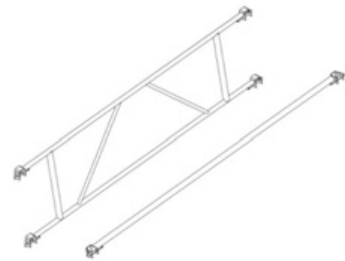
The main structural element of the plettac modular roof 75 is the **heavy duty lattice girder**.



The beam consists of an upper and lower chord, vertical tubular supports and diagonals. It has a construction height of 70 cm.

The heavy duty lattice girder is available in the length of 300, 400, 500, 600 and 700 cm and have to be connected head to head with tube connection spigots, where the bolts are secured with clips.

To build the main and make-up bays, the lattice girders are connected with transverse frames and stiffened with roof diagonals, which are secured by wedges.



Bearing rails and end rails are mounted to the upper chord with integrated halfcouplers.



These rails are carrying the roof modules, which are fixed with stress plates and wedges.

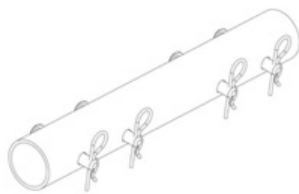
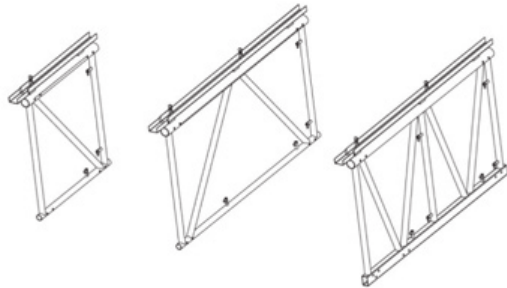
The use of the modular roof 75 has multiple benefits for the user

- High security – the construction allows a large span width up to 31,40 m
- Low investment costs – Standard-heavy duty lattice girders can be used
- The roof cover is completely walkable
- Long lifetime and usage circles – due to the construction in galvanized steel
- High flexibility – for a free access to the interior the roof can be opened at any desired position by removing just a single or more roof modules in the intermediate bays
- By mounting slot rail profiles instead of bearing rails the roof can also be closed with canvas covers. Certainly in this case the roof is not walkable

Main components modular roof 100

The main structural element of the plettac modular roof 100 is the modular beam. The beam is designed with an upper and lower chord, vertical tubular supports and diagonals. It has a construction height of 100 cm.

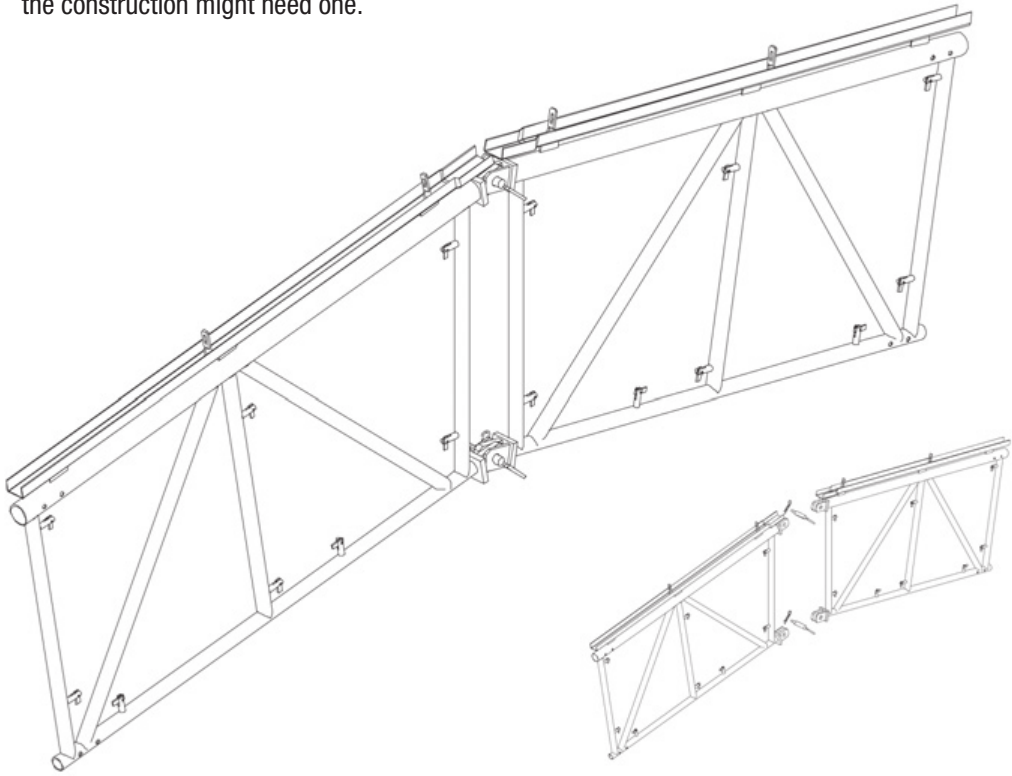
The beam has an U-profiled rail, welded to the upper tube. The U-rail is used to locate the roof modules on top of the beam. Once located in the track the modules are secured by wedges using stress plates.



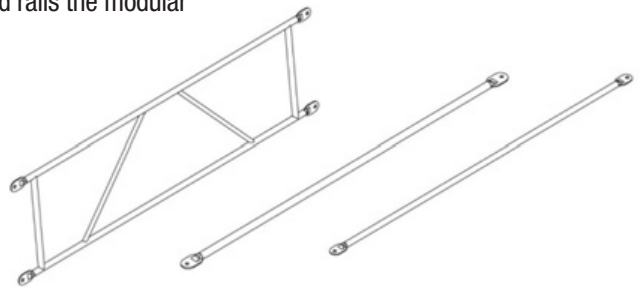
The modular beams are available in lengths of 1.0 and 2.0 m and are connected using tubular connection spigots secured with locating bolts and split pins.

The apex is built with a turnable ridge beam. It's including two modular ridge beams, which are connected with special bolts and clips.

The construction enables an easy and quick assembly of almost the entire roof truss at the flat ground by reducing the time of using a crane. The ridge is pre-assembled using only the upper connection between both halves of the turnable ridge beam. A crane is only necessary to realize the pitch of the roof and to complete the ridge just before the main or make-up bays have to be lifted up onto the supporting structure. The tension band has to be assembled to these bays before they are lifted up to the roof into the correct position, in case of the construction might need one.



The structural stiffness of main and make-up trusses is realized by transverse frames secured to the parallel modular beams. SL Diagonals and guard rails to the lower chord are required according to the length of the trusses. For all connections of transverse frames, diagonals and guard rails the modular beams are equipped with gravity pins.



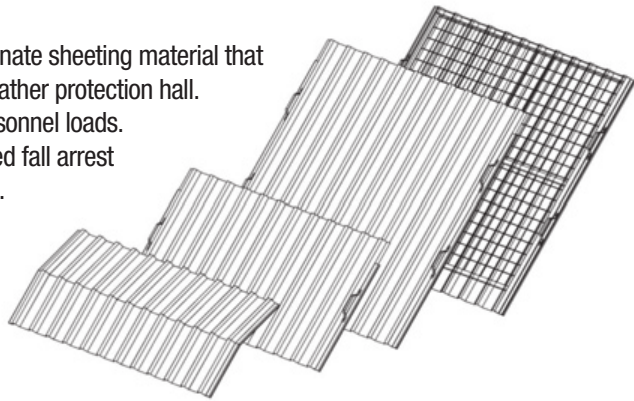
The use of the modular roof 100 has multiple benefits for the user:

- High security– the construction allows a large span width up to 45,10 m
- Low assembly costs - the possibility to pre-assemble the roof at ground level reduces the installation expenses and crane costs Even a transport of pre-assembled trusses to the construction site by using trailers is possible
- The roof cover is completely walkable
- Long lifetime and usage circles – because of the construction in hot dip galvanized steel
- High flexibility– for a free access to the interior the roof can be opened at any desired position by removing just a single or more roof modules in the intermediate bays

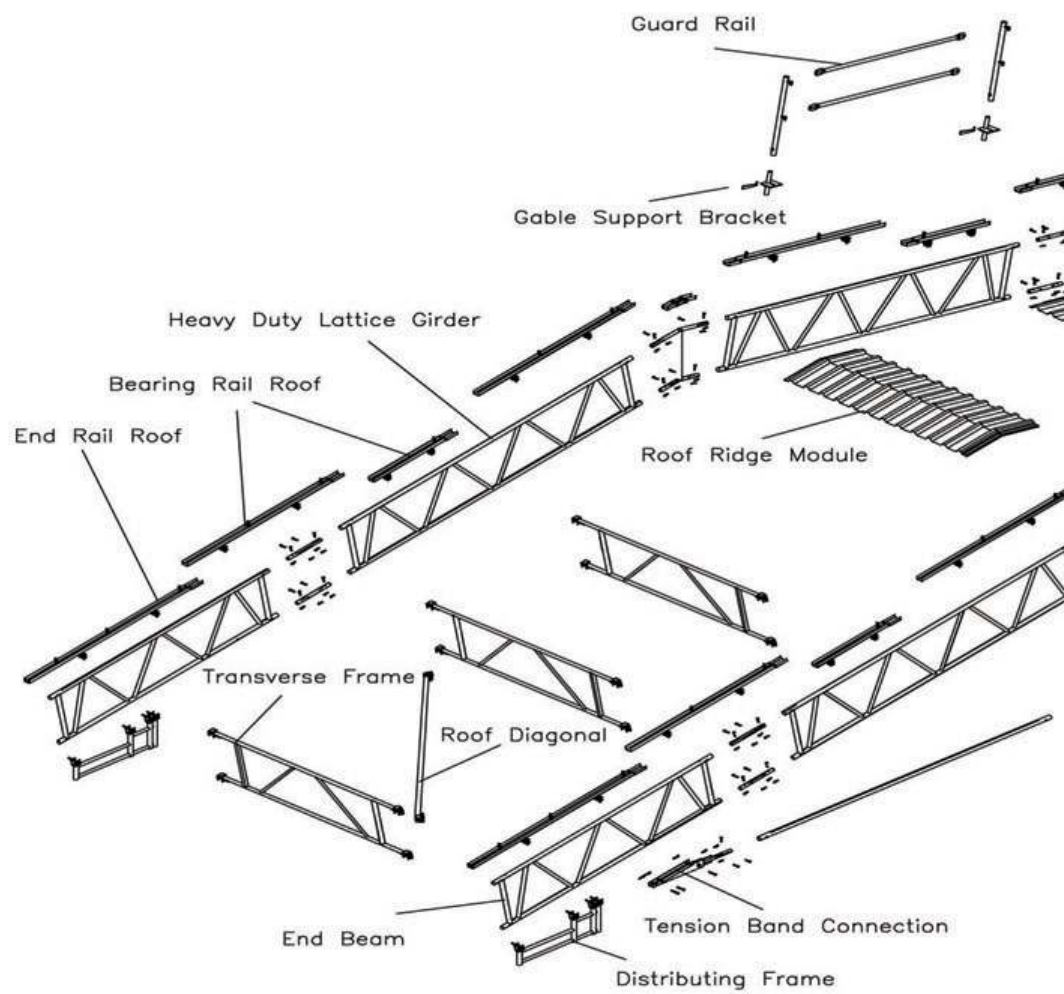
Main components for the modular roof 75 as well as for the modular roof 100

The roof modul consist of a steel frame with transport handles, which is covered with trapezoidal steel sheeting. The modules are located into the U-rail on top of the beams. The modules will carry a personnel load and provide horizontal rigidity to the roof construction.

Skylight modules have a polycarbonate sheeting material that allows daylight coming into the weather protection hall. They are not designed to carry personnel loads. Skylight modules have an integrated fall arrest mesh in order to prevent accidents.

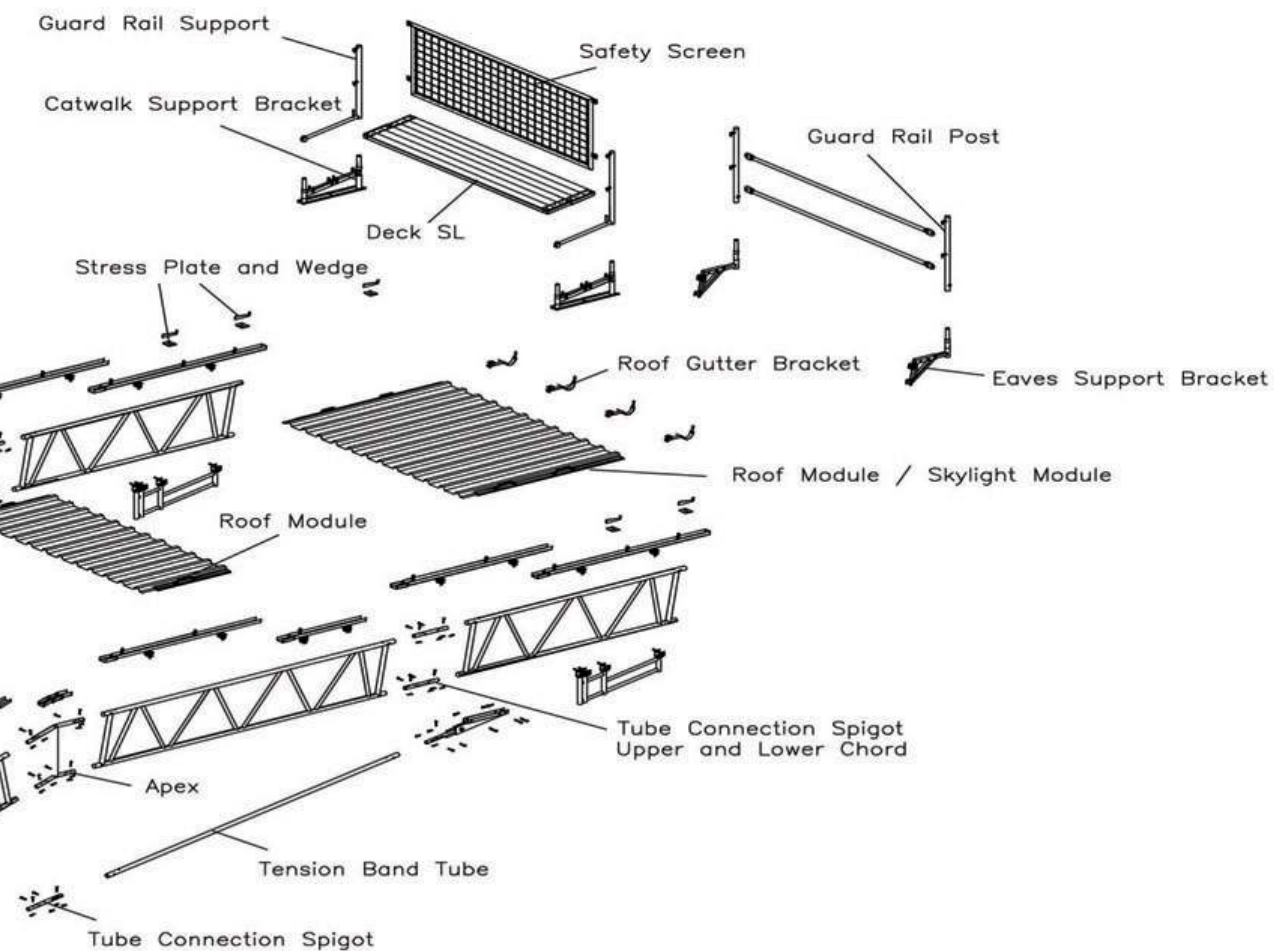


Static calculations are existing for all span widths, which are mentioned in the guide of the manufacturer for the erection and use of the modular roof system.



Special supports for large spans and increased

The main supporting element of the plettac modular roof 75 is the plettac heavy duty lattice girder. Bracing is provided by transverse frames and roof diagonals, which are secured by wedges. The roof modules, tension band and edge protection are the same for both systems.

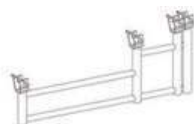


Connection to Support Scaffold

The supporting frame ensure the proper connection between the roof construction and the scaffolding.

Supporting Frame

The supporting frame is the connection between supporting scaffold, which can be either the SL 70 or 100 scaffolds or the SSK building scaffold, and the roof truss. The roof construction is placed into the locating rail on the bearing frame and secured with wedges. Wedges are secured using steel bolts and spring pins.



Code	Dimensions [cm]	Weight [kg]
5FMD03501 SL 70, SL 100, SSK 300		12,0 kg

Supporting Elements

The supporting elements are building the basic construction of the plettac modular roof.

Heavy Duty Lattice Girder

Heavy duty lattice girder with a constructive height of 70 cm are the main structural elements of the modular roof. The design of the reinforcing lattice enables two lattice girders to be supported by transverse frames in steps of 50 cm.



Code	Dimensions [cm]	Weight [kg]	PQ
5FSOG35003	70 H x 400 L	43,1 kg	10
5FSOG35002	70 H x 500 L	52,9 kg	10
5FSOG35001	70 H x 600 L	62,6 kg	10
5FSOG35000	70 H x 700 L	73,2 kg	10

End Lattice Girder

Similar in design to the normal heavy duty lattice girder with extra drill holes to accommodate a tension band connection.



Code	Dimensions [cm]	Weight [kg]
5FMD06500	300 L	33,4 kg

Roof Edge Piece

Forms a roof edge between lattice girders with a pitch of 10°.



Code	Dimensions [cm]	Weight [kg]
5FMD06000 Roof Edge Piece 70 for end lattice girder		9,0 kg
5FMD06001 Roof Edge Piece 40 for lattice girder		8,5 kg

Connection Spigot

Tube connection spigots allow trusses and lattice girders to be extended at will.



Code	Dimensions [cm]	Weight [kg]
5FSOG02101 inclusive 4 connection bolts and spring clips per spigot		2,2 kg

Bearing Rails

Roof Modules are fitted inside the bearing rails and secured with wedges. The bearing rails are connected to the lattice girders by means of welded on half couplers. Their position on the beam is pre-determined by the design of the lattice within the beam.



Code	Dimensions [cm]	Weight [kg]
5FMOD11001	100 L	5,9 kg
5FMOD11000	200 L	9,9 kg

End Rail

Similar in design to the bearing rail but with a lower stop for easier positioning of the roof modules.



Code	Dimensions [cm]	Weight [kg]
5FMOD11500	200 L	11,0 kg

Ridge Rail

The ridge rails connects the bearing rails in the ridge area and also secures the roof ridge module.



Code	Dimensions [cm]	Weight [kg]
5FMOD16000 Ridge Rail		1,0 kg

Reinforcing Elements

Parts for the assembly in the main and make-up bays. An installation in the intermediate bays is not necessary.

Transverse Frames

The transverse frames connect the lattice girders at the same time stiffening the roof construction. They are connected by means of special wedge connections positioned at the junction points of the beam lattice.



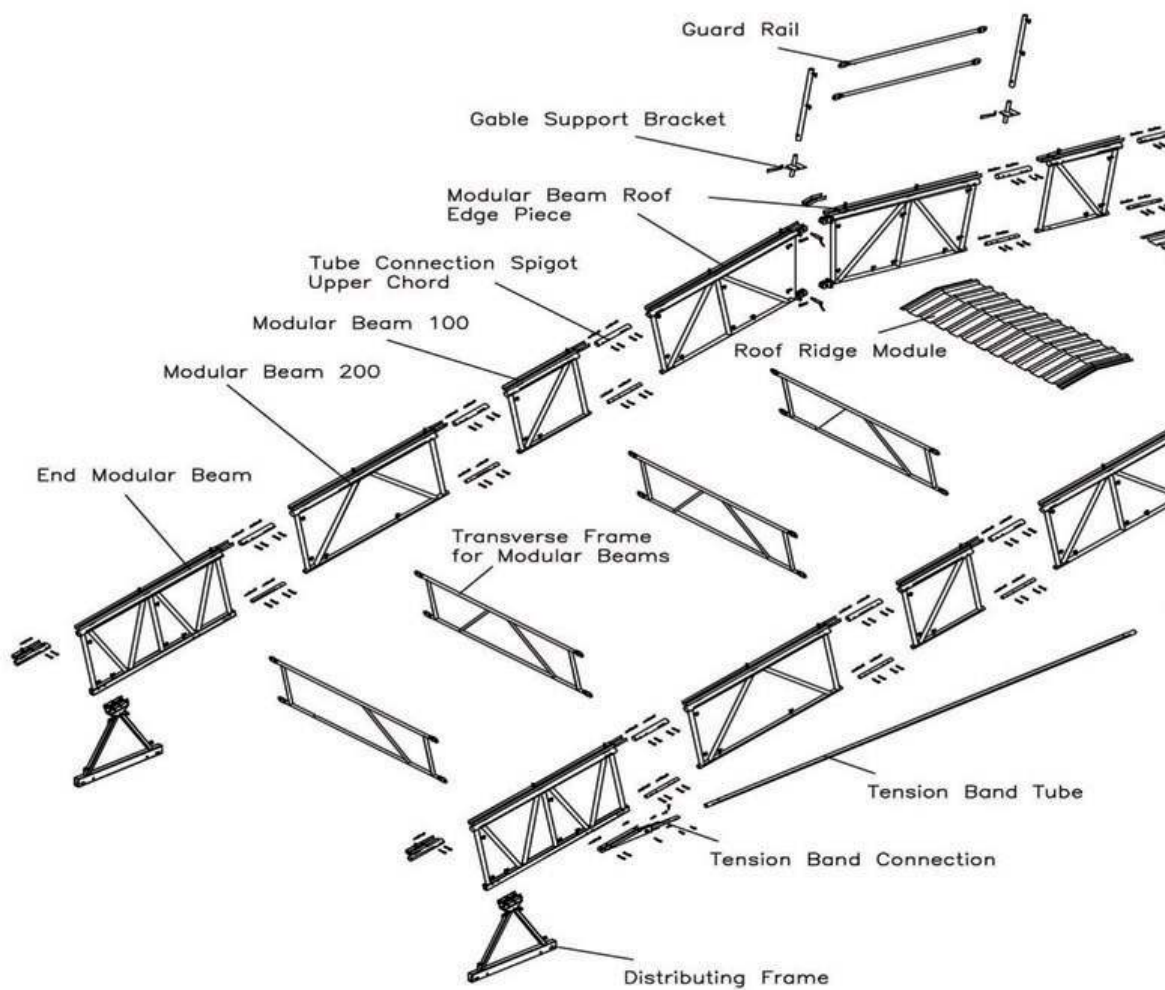
Code	Dimensions [cm]	Weight [kg]
5FMOD04000	70 H x 250 L	19,6 kg
5FMOD04001	40 H x 250 L	16,9 kg

Roof Diagonal

Connected to the transverse frames by way of wedges. Stiffen the construction in the horizontal plane.



Code	Dimensions [cm]	Weight [kg]
5FMOD04500	190 W x L 200	6,8 kg

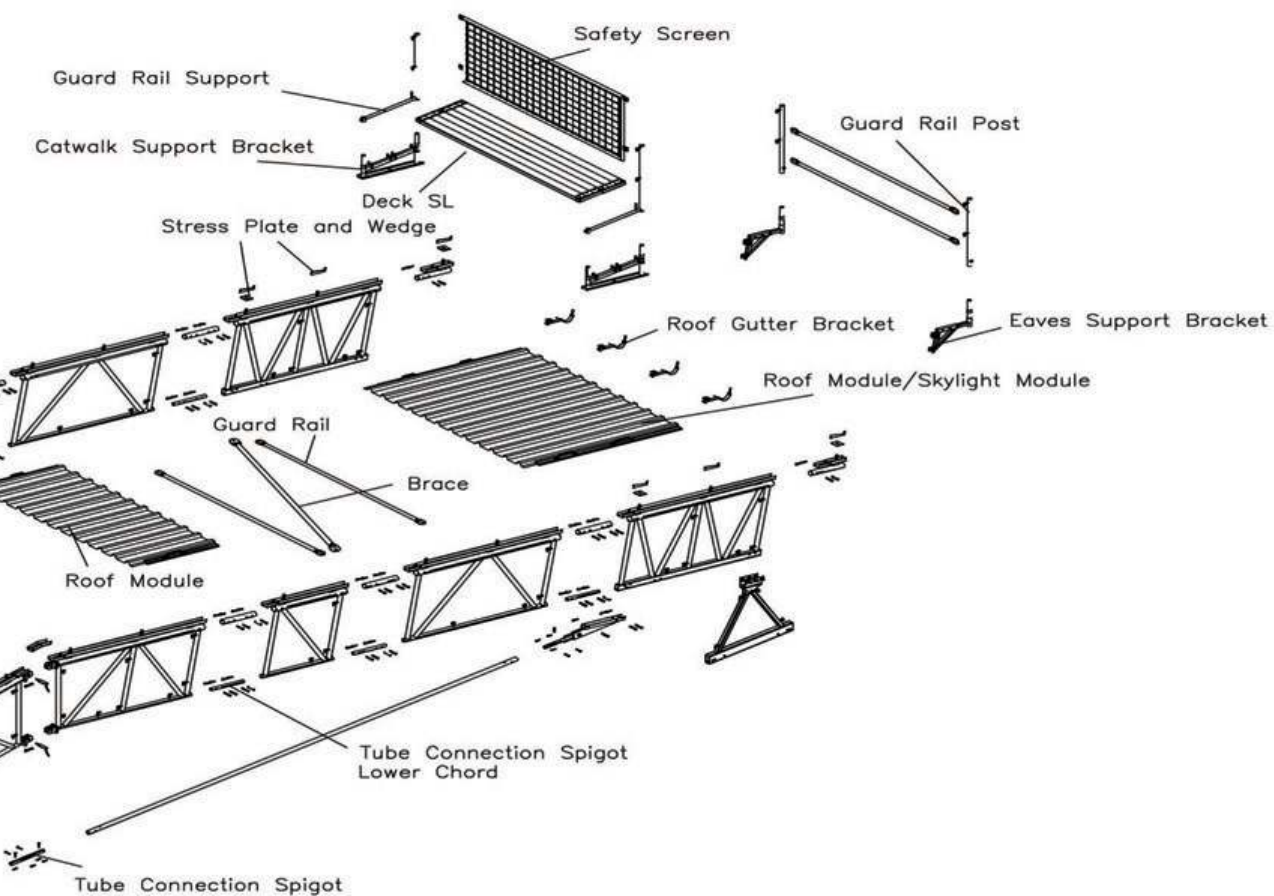


Special supports for large spans and increased loads

The main supporting element of the plettac modular roof 100 is a specially designed modular beam with integrated bearing rail.

Bracing is provided by transverse frames that are assembled over gravity locks located on the beam.

The roof modules, tension band and edge protection are the same for both systems.



Connection to Support Scaffold

The supporting frame ensure the proper connection between the roof construction and the scaffolding.

Distributing Frame

The distributing frame ensures that the loads from the roof truss are equally deflected on to the inner and outer standards of the support scaffold. The distributing frames are braced using the same transverse frames 100 that are used to brace the modular beams.



Code	Dimensions [cm]	Weight [kg]
5FMOD23000 SL 70, SL 100, SSK 300	115 W	25,8 kg

Supporting Elements

The supporting elements are building the basic construction of the plettac modular roof.

Modular Beams

The main supporting element of the plettac modular roof 100 is a specially designed modular beam with an intergrated bearing rail for the fixing of the roof modules, Constructive height of the modular beam is 1.00 m.



Code	Dimensions [cm]	Weight [kg]
5FMOD18000	200 L	45,5 kg
5FMOD18001	100 L	26,4 kg

End Modular Beam

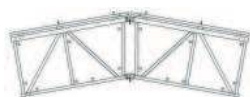
Similar in design to the normal beam but with extra drill holes to accommodate a tension band connection and a stronger than usual lower tube for connection to a support scaffold. The extension of the bearing rail as an end stop of the roof module maybe disassembled for special applications.



Code	Dimensions [cm]	Weight [kg]
5FMOD20500	200 L	65,8 kg

Modular Beam Roof Edge Piece

Forms a roof edge with a pitch of 10° between modular beams.



Code	Dimensions [cm]	Weight [kg]
5FMOD19500 fixed	200 L	56,4 kg
5FMOD28000 tilting	400 L	111,0 kg

Connection Spigot

Formed for the upper and lower chord. Spigot inclusive 4 connection bolts and spring clips.



Code.	Dimensions [cm]	Weight [kg]
5F MOD 2 0001 upper chord	45 L	2,9 kg
5F MOD 2 0000 lower chord	45 L	2,6 kg

Reinforcing Elements

Parts for the assembly in the main and make-up bays. An installation in the intermediate bays is not necessary.

Transverse Frames for Modular Beams

Transverse frames are used to increase the rigidity of the roof construction. They are connected to modular beams by means of gravity locks welded on to the beams.



Code	Dimensions [cm]	Weight [kg]
5FMOD18500	70 H x 250 L	14,5 kg

Vertical Brace SL

The lengths of the vertical braces suit to the scaffold bay lengths and heights. The bracing, once fitted, guarantees a perpendicular erection of the scaffold. The arrangement has to be taken according to the relevant Building Executive Authorisation. Braced bays at lowest level require 2 diagonal fixing brackets and 1 guard rail as horizontal transom.



Code	Dimensions [cm]	Weight [kg]
5FSNN60001 for bays 250 x 200 cm	326 L	10,1 kg
5FSNN60005 for bays 250 x 100 cm	275 L	8,5 kg

Guard Rail SL

The guard rails act as side protection and are connected to the frames by means of gravity pins without the need for tools. They are also required as side protection in combination with alu bridges.



Code	Dimensions [cm]	Weight [kg]
5FSNN05002	250 L	4,3 kg

Structural Elements 75 and 100

Roof Decking

The roof decking has been designed for use in both the modular roof systems 75 and 100.

Roof Module

The roof module consists of a welded frame covered with corrugated steel decking. the modules are strong enough to take the weight of erectors or other personal required to clear snow or inspect the roof. The roof modules overlap by 20 cm and guarantee an absolutely waterproof decking. Simple and safe erection of the modules is made easier by the ergonomic positioning of grips. The modules are held securely in place by wedge connections and the corrugated steel provides a long lasting and durable roofing material.



Code	Dimensions [cm]	Weight [kg]
5FMOD12000	250 B x 220 L	66,0 kg
5FMOD12001	250 B x 120 L	38,7 kg

Roof Ridge Module

Similar in design to the standard roof module to cover the ridge area of the roof.



Code	Dimensions [cm]	Weight [kg]
5FMOD14500	250 L	35,2 kg

Skylight Module

Skylight modules have a special hard wearing plastic sheeting in place of the normal corrugated steel. Skylight Modules are not designed to take personnel loads. To reduce the risk of accidents the skylight modules have a fall arrest screen welded to the underside of the frame.



Code	Dimensions [cm]	Weight [kg]
5FMOD12500	W 250 x 220 L	49,8 kg

Stress Plate and Wedge

Stress Plates and Wedges are used to locate and fix the roof modules into the bearing rails.



Code	Dimensions [cm]	Weight [kg]
5FZUS00834 stress plate		0,5 kg
5FZUS00830 wedge		0,4 kg

Roof Gutter Bracket

Accepts a 125 mm dia rain gutter and is attached to the roof module frame.



Code	Dimensions [cm]	Weight [kg]
5FMOD22000	125 L	0,9 kg

Tension Band

The tension band system is designed to be used in both the modular roof 75 and the modular roof 100. Triangular supports from the plettac range of scaffold accessories can be used as a tension/compression beam when building constructions of greater than usual spans or where a roof construction is subject to lifting loads.

Tension Band Connection

Connected by way of nuts and bolts to heavy duty lattice girders and modular beams and serves as a connection from tension band to roof construction.



Code	Dimensions [cm]	Weight [kg]
5FMOD07000		6,1 kg

Tension Band Tube

Tension band is made up of drilled lengths of 48,3 mm scaffold tube. Available lengths correspond to the various spans that are possible. Tension band tubes are connected together with spigot connections from plettac range of scaffold accessories.



Code	Dimensions [cm]	Weight [kg]
5FMOD07500	300 L	13,8 kg
5FMOD07501	400 L	18,4 kg
5FMOD07502	500 L	23,1 kg
5FMOD07503	600 L	27,7 kg

Swivel Tension Band Connection

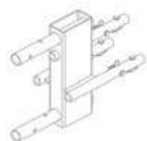
Similar in design to the tension band connector but with a swivel joint that will allow the connection of tension bands on roof beams that are not symmetrical.



Code	Dimensions [cm]	Weight [kg]
5FMOD25000 adjustable		11,0 kg

Tension Band Adapter

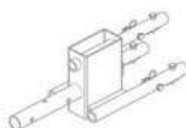
Enables a triangular support tension band to be connected at two points to the roof construction. Connection is by way of two tension band connections and a tension band extension.



Code	Dimensions [cm]	Weight [kg]
5FMOD24500 tension band adapter		16,5 kg
5FMOD26000 tension band connection	200 L	9,1 kg

Tension Band Adapter - Standard

Enables a triangular support tension band to be connected at a single point on the roof construction.



Code	Dimensions [cm]	Weight [kg]
5FMOD24000 single		12,0 kg

Triangular Support

Builds a tension/compression band when constructing roofs of large spans where possible loading from underneath the roof may occur.



Code	Dimensions [cm]	Weight [kg]
5FSOG03001	300 L	36,2 kg
5FSOG03002	400 L	47,5 kg
5FSOG03003	500 L	60,0 kg
5FSOG03004	600 L	71,2 kg

Tension Band Extension

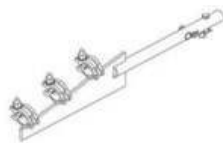
Extends and connects the triangular support to from a length to the roof span.



Code	Dimensions [cm]	Weight [kg]
5FMOD23500 for tension band		7,0 kg

Tension Band Clamp Connection

Enables a tension band to be connected to the roof beams at any along their length.



Code	Dimensions [cm]	Weight [kg]
5FMOD25500		7,3 kg

Fall Prevention

People working on roofs must be protected against falls. This can take the form of harness and lifeline for erectors or edge protection along the gables and eaves of the roof construction

Available for this purpose are

In the eave area: Edge protection without catwalk or Edge protection with catwalk

In the gable area: Edge protection without catwalk

The fall prevention systems are independent of the type of roof system being employed.

Eave Support Bracket

Provides a basis for edge protection without a catwalk. The support bracket is connected to the end lattice girder or the modular beam. An edge protection can then be assembled from standard plettac guard rails, safety mesh and posts.



Code	Dimensions [cm]	Weight [kg]
5FMOD21500		5,5 kg

Gable Support Bracket

Provides a basis for edge protection without a catwalk in the gable area of the roof. The gable support is located over the existing wedge connections of the bearing rails. An edge protection can then be assembled from standard plettac guard rails, safety mesh and posts.



Code	Dimensions [cm]	Weight [kg]
5FMOD22500		2,3 kg

Catwalk Support Bracket

Provides a basis for edge protection with a catwalk along the length of the roof. The catwalk support is located over the existing wedge connections of the bearing rails. An edge protection can then be assembled from standard plettac guard rails, safety mesh and posts, whilst standard plettac decks can be used as a catwalk platform.



Code	Dimensions [cm]	Weight [kg]
5FMOD15500		9,4 kg

SL-support for 2 decks

Timber Deck SL W32

depending on length up to load class 6



Code	Dimensions [cm]	Weight [kg]	Load class
5FSLN04004	4,8 H x 250 L	18,3 kg	4

Steel Deck SL W32

height 7,5 cm, hot-dip galvanised, perforated



Code	Dimensions [cm]	Weight [kg]	Load class
5FSLN47001	7,5 H x 250 L	17,4 kg	5


Guard Rail SL

The guard rails act as side protection and are connected to the frames by means of gravity pins without the need for tools. They are also required as side protection in combination with alu bridges.


	Code	Dimensions [cm]	Weight [kg]
	5FSNN05002	L 250	4,3 kg
	5FSNN05001	L 200	3,5 kg

Steel Guard Rail Support SL

to be secured by pig tail pin.

	Code	Dimensions [cm]	Weight [kg]
	5FSL764000	74 W x 100 H	5,2 kg


Fall Arrest Mesh Panel

	Code	Dimensions [cm]	Weight [kg]
	5FSNN38001	100 H x 250 L	21,5 kg
	5FSNN38002	100 H x 200 L	18,2 kg

Storage and Transport

Pallets for roof moduls. It is recommended to use special pallets for the transporting and storage of roof moduls.

Pallets for roof moduls

	Code	Dimensions [cm]	Weight [kg]
	5FMOD16800	100 W x 270 L	82,3 kg
	Capacity: 10 modules 220		



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