

Support program 07

**Flat roof supports with mit optimized profile geometries
acc. to DIN 1055, part 4 (03/2005), part 5 (06/2005)**

- Testable structural analysis according the latest standards
- Maximum structural safety, minimum need for material
- Different designs for all kinds of applications

The market for photovoltaic plants has been going through a process of continuous professionalisation in the last years. For an increasing number of solar plants, especially for flat roofs of industrial buildings, thorough structural analyses that meet the requirements defined by structural engineers are required.

Description

Until now, almost all supports that were used on flat roofs were made up of normal angle profiles. However, the regulations contained in the DIN 1055 respectively the synchronized European standards that were implemented in 2007 prescribe much more complex load combinations that have to be verified for the respective support geometries. Especially the load concentrations in the so-called "quarter points" (see picture 2) can only be supported by profile geometries that are considerably more stable than the ones that have been used until now.

In summary, it has to be stated:

Even if very stable profile geometries already have been used so far for the supports of the Schletter unit assembly systems for flat roofs, these unsymmetrical profile geometries are not sufficient any more to verify the structural safety according to the current standards!

With our new support program 2007, we offer you optimized support geometries as part of our unit assembly system that meet the increasing requirements. Using optimized symmetrical profile geometries, structural verifications are possible even according to the more demanding load standards with only a slightly increased need for material.

Mounting information

- An extended ratchet insert (usually 15mm) is required for mounting.
- In order to equalize minor roof unevennesses, the rear support can be mounted in 3 different position. The normal position is shown on the measurement sketches.
- When the bottom beams are mounted onto solid floor, additional horizontal bracings usually are not compulsory. The mounting of diagonal struts (usually 1 or 2 per row, depending on the length of the rows) is recommendable for inclined elevations (for example on east-west roofs or if the supports are fastened to substructures that tend to vibrate (for example hanger bolts, etc.).



① Unfold the support



② Screw the module beam



③ Mount the module beam

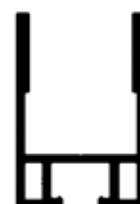


Important information on project planning

- Please also pay regard to our document "general information on flat roof mounting".
- The **support design "Light07"** is available with module beam lengths of 1m, 1.3m and 1.5m. This design is suitable for modules up to 1.6 m (vertical mounting) or for smaller module sizes or horizontal mounting. Numerous standard applications can be mounted with this light support design due to this improved profile geometry.
- The **support design "Profi07"** is suitable for module beam lengths of 1.5 m for areas with significant wind and snow loads. If you use the design with a module beam length of 2.2 m, the support can also be used for 2 module rows, for example for horizontal mounting.
- The **„XL07“ support design** has module beam lengths starting from 3 meters and is suitable for multi-row fastenings.
- For the standard rails, there are two different bottom beams available for different kinds of fastening. The **"Light U07"** design has a U-shaped basic angle that usually has to be fastened with drillings to the accordant fasteners. The support of the **"Light N07"** design has a basic angle with a groove that can be used for the insertion of M10 screw heads. This support can be fastened without drillings, for example on steel girders that are already on the site, on Fix2000 clamps, etc.
- The positions of the fastening drillings in the module girder have been structurally optimized for all support designs. With the **"flex"** design, the hole pattern can be determined by the customer using an order check list!
- All supports can be ordered in any desired angle.
- The **"upper part"** support designs (see the accordant list) include a module beam and a rear strut and are combined with the "fitting kit" for the mounting of the support arrangement **"CompactVario"** on so-called double groove profiles.
- We have our own structural analysis programs for all support designs and will be glad to create structural analyses according to the parameters of your solar plant on request, please consider our check lists!
- For all support design, there **is a structural analysis chart available** for the structural dimensioning.
- For flat roof plants with fastening solutions by loading, these support designs can be combined with different system components (for example SolRack, AluRack, loading kit)
- For the calculation of superimposed loads according to DIN 1055, part 4 (03/2005), part 5 (06/2005), Eurocode 1, there is a superimposed load calculation program available on the internet as a special service for our customers.
- In difficult cases with extreme wind loads, it can be structurally advantageous to equip the supports with wind deflectors (**WindSafe** system) - we will be glad to assist you!



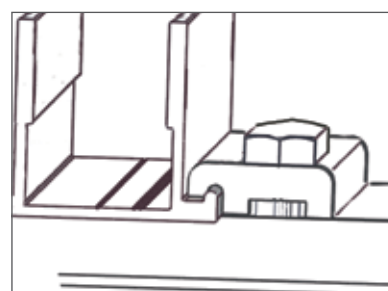
Bottom beam
LightU07



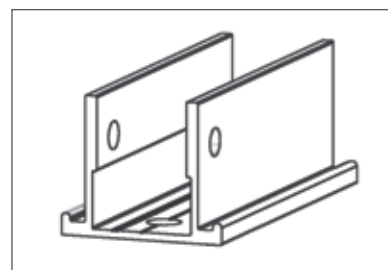
Bottom beam
LightN07



Bottom beam
ProfiU07

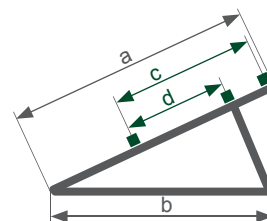


Bottom beam ProfiU07
Fastening example with clamps



Fastening kit for **CompactVario**

Support series 07, 30 degrees - other angles on request



Bottom profile

Light U07 30 degrees, aluminium, screwed



Module height	a	b	c	d
150001-100 up to 1000 mm / 39.4 inches	965 mm / 38.0 inches	841 mm / 33.1 inches	530 mm / 20.9 inches	360 mm / 14.2 inches
150001-130 up to 1300 mm / 51.2 inches	1195 mm / 47.0 inches	995 mm / 39.2 inches	850 mm / 33.5 inches	600 mm / 23.6 inches
150001-150 up to 1500 mm / 59.1 inches	1445 mm / 56.9 inches	1360 mm / 53.5 inches	960 mm / 37.8 inches	690 mm / 27.2 inches

Light N07 30 degrees, aluminium, screwed



Module height	a	b	c	d
150002-100 up to 1000 mm / 39.4 inches	965 mm / 38.0 inches	841 mm / 33.1 inches	530 mm / 20.9 inches	360 mm / 14.2 inches
150002-130 up to 1300 mm / 51.2 inches	1195 mm / 47.0 inches	995 mm / 39.2 inches	850 mm / 33.5 inches	600 mm / 23.6 inches
150002-150 up to 1500 mm / 59.1 inches	1445 mm / 56.9 inches	1360 mm / 53.5 inches	960 mm / 37.8 inches	690 mm / 27.2 inches

Profi U07 30 degrees, aluminium, screwed

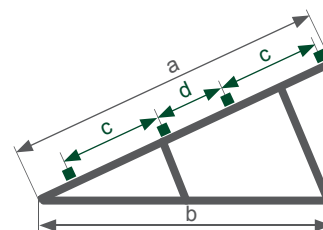


Module height	a	b	c	d
151001-150 up to 1500 mm / 59.1 inches	1445 mm / 56.9 inches	1360 mm / 53.5 inches	960 mm / 37.8 inches	690 mm / 27.2 inches

Profi N07 30 degrees, aluminium, screwed



Module height	a	b	c	d
151002-150 up to 1500 mm / 59.1 inches	1445 mm / 56.9 inches	1360 mm / 53.5 inches	960 mm / 37.8 inches	690 mm / 27.2 inches



Profi U07 30 degrees, aluminium, screwed



Module height	a	b	c	d
151001-220 up to 2200 mm / 86.6 inches	2200 mm / 86.6 inches	1995 mm / 78.5 inches	747 mm / 29.4 inches	460 mm / 18.1 inches

Profi N07 30 degrees, aluminium, screwed



Module height	a	b	c	d
151002-220 up to 2200 mm / 86.6 inches	2200 mm / 86.6 inches	1995 mm / 78.5 inches	747 mm / 29.4 inches	460 mm / 18.1 inches

XL07 30 degrees, aluminium, screwed

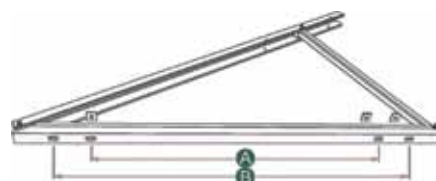


Module height	a	b	c	d
155001-300 up to 3000 mm / 118.1 inches	2995 mm / 117.9 inches	2765 mm / 108.9 inches	1000 mm / 39.4 inches	700 mm / 27.6 inches
155001-320 up to 3200 mm / 126.0 inches	3195 mm / 125.8 inches	2795 mm / 110.0 inches	about 1080 mm / 42.5 inches	733 mm / 28.9 inches
155001-360* up to 3600 mm / 141.7 inches	3595 mm / 141.5 inches	3495 mm / 137.6 inches	variable drill hole, 3-rowed arrangement possible	

* Special application:

- 3-row arrangement
- 5-row arrangement of thin-film modules with linear support (please also see the LaQ product sheet)
- Measures and hole pattern according to order (see check list)

Bottom beam Hole distances		Light U07 1m Item no. 150001-100	LightU07 1.3m Item no. 150001-130	Light U07 1.5m Item no. 150001-150	Profi U07 1.5m Item no. 151001-150
A	mm	537	+/- 8	635	+/- 8
	inches	21.14	+/- 0.315	25	+/- 0.315
B	mm	757	+/- 8	855	+/- 8
	inches	29.8	+/- 0.315	33.66	+/- 0.315



Information on structural dimensioning



Structural analysis program for the verification of the supports



Structural analysis program for the calculation of the superimposed load

Structural analysis chart for selecting the appropriate supports

Technical data

Material	Supports: Aluminum EN AW 6060 T6 F25 or EN AW 6063 TF / AlMgSi 0,5, F25; Fastening material: High-grade steel 1.4301
Structural analysis and loading	System structural analysis acc. to DIN 1055, part 4 (03/2005), part 5 (06/2005), Eurocode 1 (accordant tables are available on our website)

Get all system prices fast and easy with our auto-calculator!