IsoTop

A system for membrane roofs on industrial buildings and special constructions

- Possible span of supports: up to 10m
- Less ballast required on the roof substructure
- Direct transmission of load into the supporting structure of the building
- Object planning using individual structural analysis software
- Improved connection details
- Optimization and thus minimization of required roof penetrations

Areas of application

Foil roofs of industrial buildings usually consist of a substructure with wide-area grid spacing (5 to 8 meters) and a relatively soft roof covering. The structural dimensions of the roofs and the maximum permitted pressure load on the insulation are generally so low that ballasting solutions for securing the modules cannot be considered.

Schletter IsoTop is a modular construction kit with details and solutions for supporting constructions on membrane roofs of industrial buildings. IsoTop can be adapted to any roof by using components from the standard system construction kit or by compiling a completely tailored solution. At the proposal stage, we offer individual consulting for the planning of the photovoltaic supporting structure in order to identify an economic solution for the respective roof construction. In general the constructions are designed to require the fewest possible penetration points placed large distances apart. These can be welded safely and cost-effectively by a roofer. The trade warranties are thus clearly separated.

- For the planning of individual constructions, we work with internal, product-specific statics programs, allowing us to compile cost-efficient solutions quickly.
- Solutions can be compiled to fulfil the widest range of requirements by selecting from a number of complete profile ranges.
- A competent supplier of standard solar-fastening technology with a wide range of experience and welding certifications according to DIN 18800; we are therefore the ideal partner for building tailored constructions.

Information on dimensioning

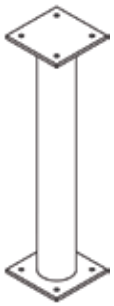
- Loading solutions are not usually viable as, in general, neither roof substructure nor roof covering are able to withstand additional, large loads.
- When choosing a solution based on the IsoTop design, the roof covering is generally not loaded with additional ballast!
- In all cases, it must be verified that the substructure can withstand the weight of the mounting rack plus the PV module, plus a proportion of the load induced by external forces such as snow.
- In areas subject to specific environmental conditions (coast, proximity to swimming pools, factory fumes), appropriate materials must be calculated and deployed.

*The terms of guarantee can be referenced at www.schletter.de/AGB_en

Penetrations

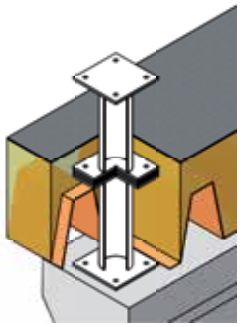
Cold penetration

- ☑ Bolted to the primary load-bearing system of the building
- ☑ Application on warehouses, for example
- ☑ Material: high-grade steel
- ☑ Also available as a rectangular pipe
- ☑ Tailored connecting plates for the respective construction - optional
- ☑ Dimensioning at the point of system design



Warm penetration

- ☑ Bolted to the primary load-bearing system of the building
- ☑ Support is thermally separated
- ☑ Application e.g. in cold stores
- ☑ Material: high-grade steel
- ☑ Also available as a rectangular pipe
- ☑ Tailored connecting plates for the respective construction - optional
- ☑ Dimensioning at the point of system design



Support designs

The various support designs are distinguished as follows:

Warm roof support with standard base plate - slotted hole

Thermal separation is built into the insulation layer (min. 60 mm) to prevent a thermal bridge between the girder and the PV plant

Warm roof support with a special base plate

As in prev. example. Here the base plate is tailored to the individual girder structure.

Warm roof support with TR trapezoidal shoe

Deployment of trapezoidal shoe base plate negates the need to open the metal sheet (substructure), thus avoiding the soiling of the inner roof cavity.

Cold roof support with standard base plate

Thermal separation is not integrated into non-insulated roofs or roofs with insufficient insulation height (min. height 60 mm).

Cold roof support with special base plate

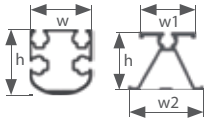
As in prev. example. Here the base plate is tailored to the individual girder structure.

Cold roof support with TR trapezoidal shoe

Deployment of trapezoidal shoe base plate negates the need to open the metal sheet (substructure), thus avoiding the soiling of the inner roof cavity

The load-bearing structure

In the majority of cases, the application of steel girders can be avoided by choosing, instead, from our wide range of load distribution beams. Aluminium is therefore the material of choice for the supporting structure. The self-weight of the structure is hereby reduced to an absolute minimum. Furthermore all components are intercompatible. You can find an overview of our special profiles on the internet. The module-bearing profiles can be clamped individually using our proven **Klick System**. The system connections are manufactured with corresponding accessories.



Load distribution profiles

BF0	b	h
mm	80	85
inches	3.15	3.35
Item number	124500-...	

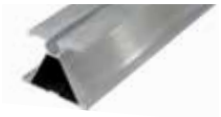
BF1	b	h
mm	80	133
inches	3.15	5.24
Item number	124501-...	

BF2	b	h
mm	80	161
inches	3.15	6.34
Item number	124502-...	

BF3	b	h
mm	80:	200
inches	3.15	7.87
Item number	124503 -	

Module bearing profiles

S0	b1	b2	h
mm	62	83	65
inches	2.44	3.27	2.56
Item number	124300-...		



S1 In	b1	b2	h
mm	69	80	60
inches	2.72	3.15	2.36
Item number	124302-...		

S1 Out	b1	b2	h
mm	49	54	60
inches	1.93	2.13	2.36
Item number	124301-...		

S2	b1	b2	h
mm	87	146	105
inches	3.42	5.75	4.13
Item number	124304-...		

S3	b1	b2	h
mm	87	160	125
inches	3.42	6.30	4.92
Item number	124305-...		

S4	b1	b2	h
mm	103	200	187
inches	4.06	7.87	7.36
Item number	124306-...		

Connection components

Hinge	
Item number	181990-001

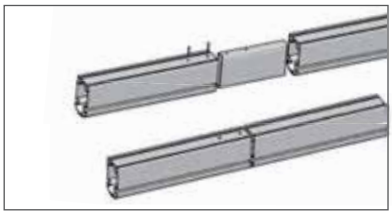
Mounting claw	
Item number	146001-000

Connection angle Bracing	
Item number	181990-002

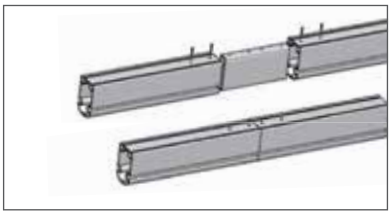
Hinge connector PvMax	
Item number	147004-002

Mounting:

Connection of struts

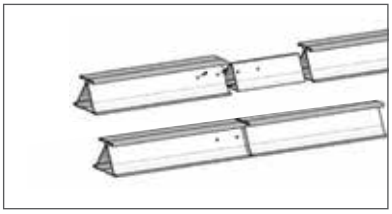


Connection of insertion connectors **with thermal separation**

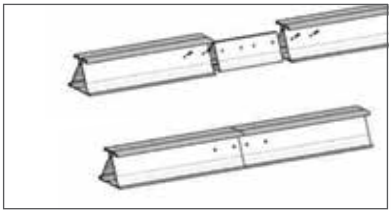


Connection of insertion connectors - **Fixed joint**

Connection of purlins



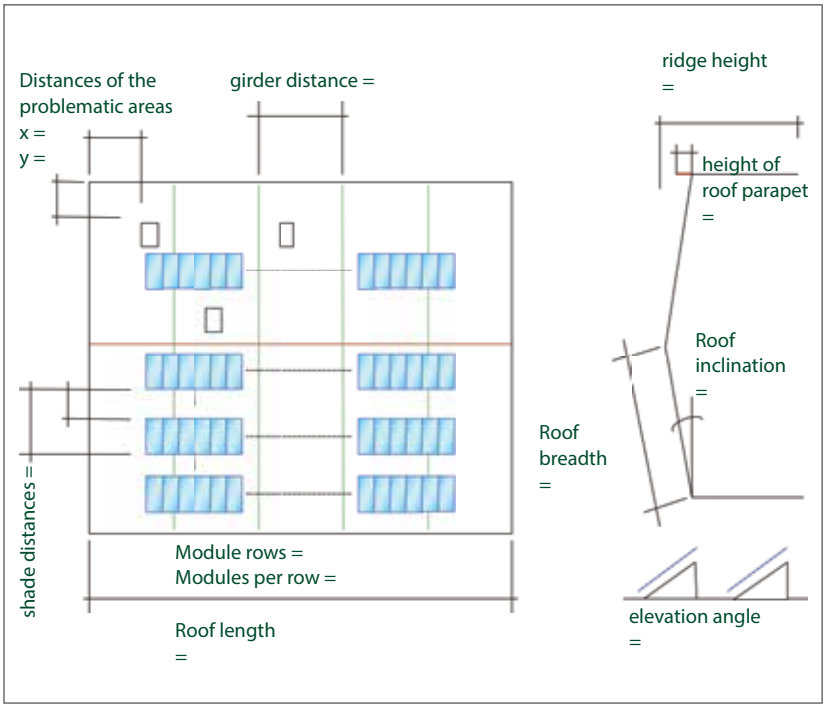
Connection of insertion connectors **with thermal separation**



Connection of insertion connectors - **Fixed joint**

Design example

To enable us to offer you the optimal and therefore most economically efficient system possible, please provide us with a plan of your desired module arrangement. If complete, such information is the best possible basis upon which we can create an appropriate and quick solution. The example on the following pages should help you to focus your effort on the most significant points and to leverage from this plan if you place an order. The most important information you need for your plan can also be found on the internet. Information relating to location, height of building and other details are queried here.



Particularly in the case of larger span widths, pre-defined load distribution points or customized constructions, please supply a diagram to illustrate your requirements. This image shows an example illustration.
By deploying a combination of **reference diagram plus IsoTop checklists** you will optimize effort, you will be in possession of important interfaces for the continued planning of your construction and you will be in the best possible position to engage with your customer.

We look forward to your inquiry.

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