Mounting System SCG 3.0 for Steel-Connected-Glass by Montavent

System Description
The SUNOVA SCG 3.0 system is a lightweight mounting system for lightweight trapezoidal sheet metal roofs.

The photovoltaic modules are laid parallel to the roof surface. Modern framed crystalline panels are specially suited for south-facing roof surfaces.

Standards and regulations
The applicable standards and regulations must be observed.

- Observe the manufacturers’ technical documentation and mounting instructions. If this system description differs in certain points from the manufacturer’s documentation, these deviations apply only to the SUNOVA system described in this documentation.
- The installer (roofer and electrician) and the planner are responsible for ensuring that the general acknowledged rules of technology and the applicable safety regulations are observed.

Applications on trapezoidal sheet metal roofs:
- Roofs that are to be rebuilt or resealed
- Roofs with 10 to 30 degrees inclination
- Lightweight roofs – weight-loading 14 kg/m²

Not suitable for:
- Glass–glass PV module laminates
- Plastic profile roof lights

Requirements for roof mounting

Wind suction according to DIN 1055-4 (2005-3)
The wind suction forces acting on the SCG 3.0 system are transmitted onto the trapezoidal metal sheeting, which, in turn, transmits them to the building’s substructure. The trapezoidal metal sheeting must be attached in compliance with to DIN 1055.

Snow load according to DIN 1055-5 (2005-07)
Snow loads must be reliably absorbed by the weight-bearing substructure.

Installation on sandwich panels
As a basic rule, the layers of the sandwich paneling must have sufficient adherence to each other.

Roof design New Existing
Supporting substructure Structural verification according to DIN 1055 taking into account:
an additional + 14 kg/m² for SCG 3.0 system
Trapezoidal metal sheeting – min. sheet metal thickness
Steel: 0.5 mm
Aluminum: 1.0 mm
Steel: 0.5 mm
Aluminum: 1.0 mm
Expected lifespan > 20 yrs.
Sandwich panels The layers must have sufficient adherence to each other
Inclination range 10° ... 30°
18% ... 58%
PV modules Glass–glass laminates
Only SUNOVA-approved products

Disclaimer regarding information about product and system
All data in our product information is based on our current knowledge and experience. Because of the wide range of possible influencing factors in the use of our products, the user must carefully inspect the application and strictly observe the installation and usage instructions. The product information does not represent legally binding assurances of any particular properties of the product or its suitability for specific applications other than those described in our product-specific documentation. The recipient or user of our products is responsible for observing any industrial property rights and applicable laws and regulations relating to the product and its use. In addition, our General Terms of Sale and Delivery and our Warranty Conditions apply.

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Installing the SCG 3.0 system

Tools:
- Chalk line/tape measure
- Cordless drill with 6.5 mm bit
- Drill jig/bending tool
- Riveter:
  GESIPA Power Bird (Art. Nr. 724 0031)
  KVT MCS 5800 (Art. Nr. 122 326)
- Rivet insert:
  GESIPA 17/42 BT (Art. Nr. 724 2229)
  KVT 17/42 BT (Art. Nr. 102 103)

Installation:
The modules can be fitted edgewise or crossways to suit the roof’s layout.
1. Set the drill jig for the respective roof; drill the holes (6.5 mm) through the built-in bore sleeves.
2. Using the riveter, fix the SCG 3.0 carrier profiles to the roof’s high beads with the expanding rivets, placing the seal between mounting foot and carrier profile.
3. Snap-fit the anti-slip fitting.
4. Slide the SCG 3.0 module retainers into the carrier profile so that they hold the modules. After every five modules secure the SCG 3.0 carrier profile to the high bead on one side with the bending gage to secure the SCG 3.0 module retainer from sliding out of position.
5. At the ends of each row of modules, secure the end stop in the SCG 3.0 carrier profile with the bending tool.

DC cabling:
Tools:
- Akkuschrauber mit Aufsatz SW 8

Installation:
Secure the cable duct every 1.5 meters. Lay the DC cables in the cable duct if necessary, secure them with cable ties. Also using cable ties, secure all connectors to the cable duct or substructure above the water level. Finally fit and secure the cover with cable ties.
Innovative lightweight roof solar technology – Determination of key data (shade analysis, determination of sunlight values, building electrical installation, coordination with mains operator)
– Planning of optimum mounting and module components for the roof construction
– Layout drawings for efficient roof area usage
– Cost efficiency analysis
– Perfect installation
– Services (on-site maintenance, remote maintenance and installation insurance)
– Solar modules have 20 years’ manufacturer’s performance guarantee

SUNOVA solar power lightweight roof as complete solution
– backed by an efficient international partner network
– with first-class system components
– in-house and external quality monitoring
– with attractive rate of return
– environmentally valuable

First-class lightweight roof sealing technology
– Site survey (building structure survey, heat protection, gradient situation, drainage)
– Sealing design using long-lived flat roof components
– Convincing component and installation quality
– Leaktightness guaranteed for 20 years in combination with regular maintenance (maintenance contract)

Maintenance and operational management

Accessibility
Where possible, the photovoltaic generator should be easily accessible for maintenance and operational management. Provide suitable protection against falling, such as anti-drop devices.

Stepping on the generator
The generator should be stepped on only when absolutely necessary. To distribute loads evenly, place cushioned wooden planks onto the PV modules.

Cleaning the generator
If environmental dirt accumulates on the generator, it may have to be cleaned. We recommend an inspection at least once every year. Clean the generator only with fresh water. Do not use chemical cleaning agents and avoid the use of hard or sharp tools on the PV modules’ surface, as this will damage them.

Snow clearing
If it becomes necessary to clear snow off the building roof, leave a thin layer of snow on the generator. Do not use sharp-edged snow removal equipment.

Operational management of the solar installation
To ensure a reliable, high yield of solar power over many years, remote management of the solar power installation is strongly recommended. SUNOVA or one of its partner companies will be pleased to provide this service.

Maintaining the roof waterproofing
The roof should be inspected at least once a year. To ensure a reliable function of the waterproofing, remove any accumulations of dirt in corners and drains. SUNOVA or one of its partner companies will be pleased to provide this service.