SUNOVA
FLATROOF SOLAR POWER

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

System Description

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The SUNOVA SCG 3.0 system

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:
(please inquire for other SUNOVA systems)

- Glass–glass PV module laminates
- Plastic profile roof lights

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.

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 thicknes	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	

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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)
- Riveter 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.


Drilling with drill jig


Riveting the carrier profile with seal to high bead


Anti-slip fixture


Fixing the SCG 3.0 module retainers with bending gage


Cable duct fixing clamp

Components for mounting


Carrier profile SCG 3.0

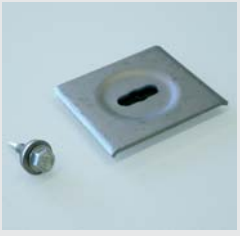

EPDM seal

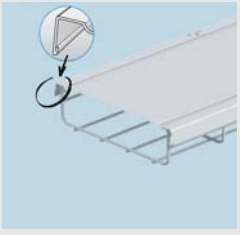

Expanding rivet


Anti-slip fixture


Module retainer SCG 3.0

Components for DC cabling


SUNOVA SCG cable duct clamp


Cable duct cover


Cable ties
UV- and temperature-resistant

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.

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SUNOVA's services at a glance

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)

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

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