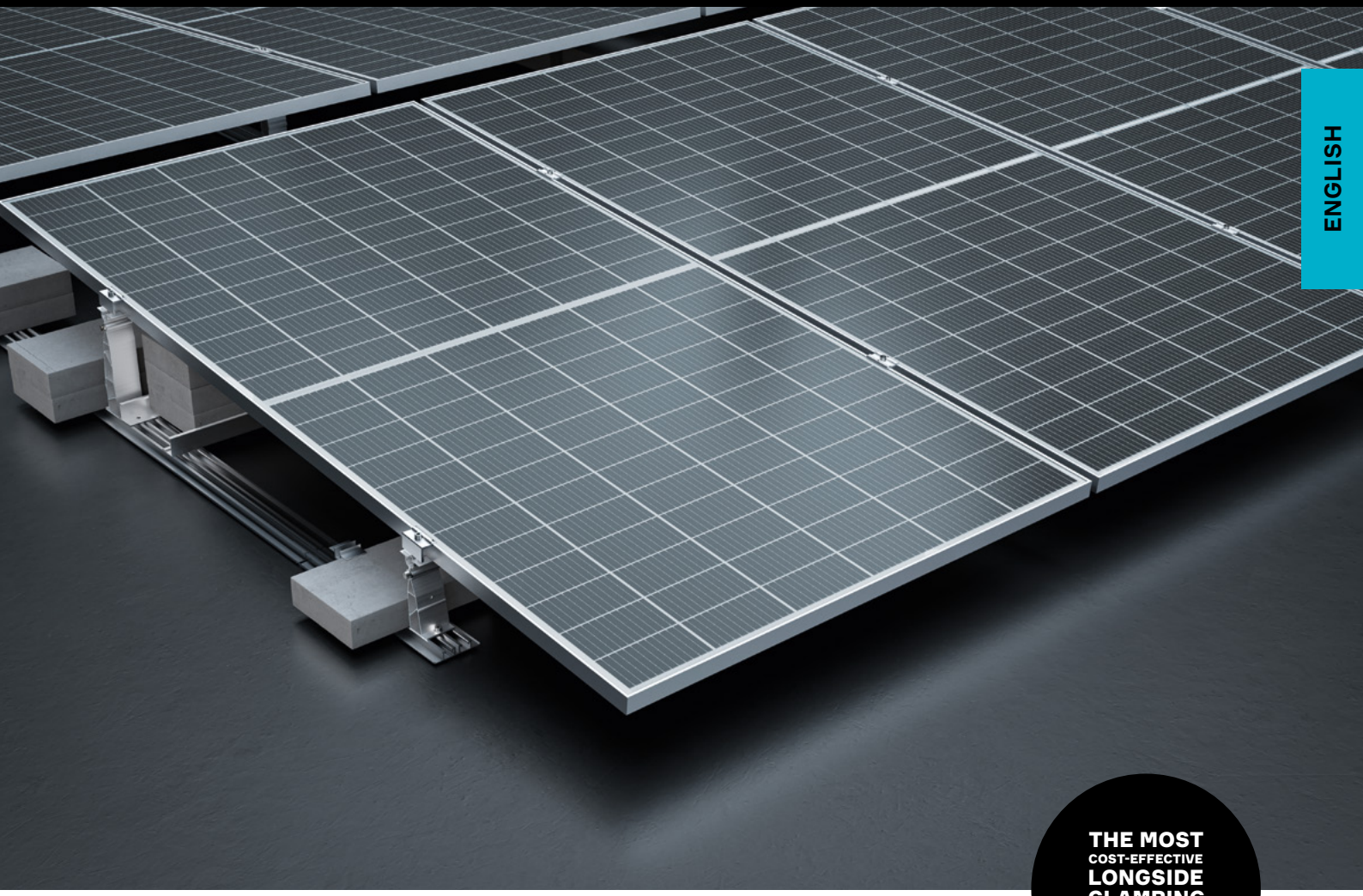
AEROCOMPACT®



ENGLISH

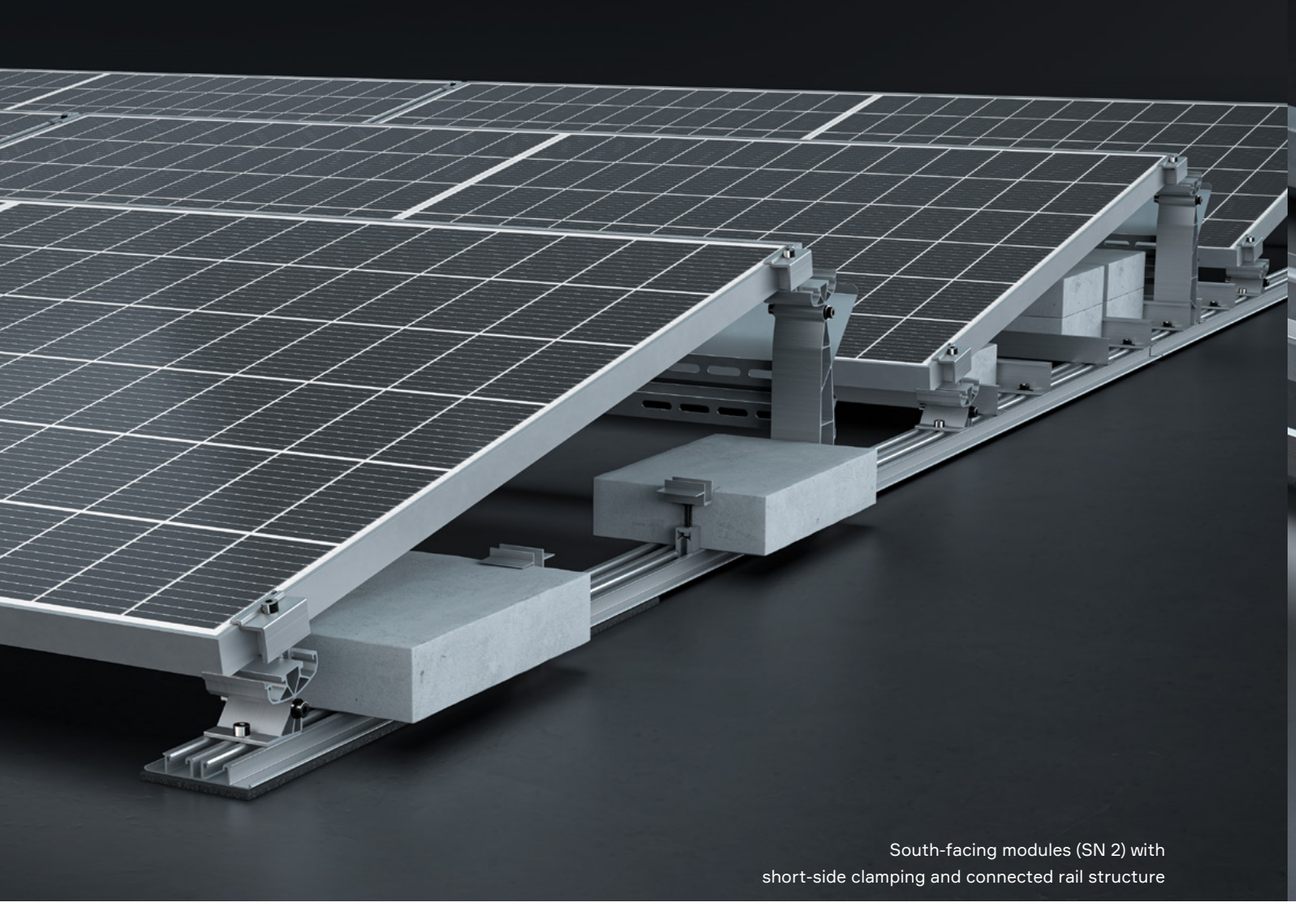
THE MOST
COST-EFFECTIVE
LONGSIDE
CLAMPING
SYSTEM

COMPACT**FLAT SN 2**

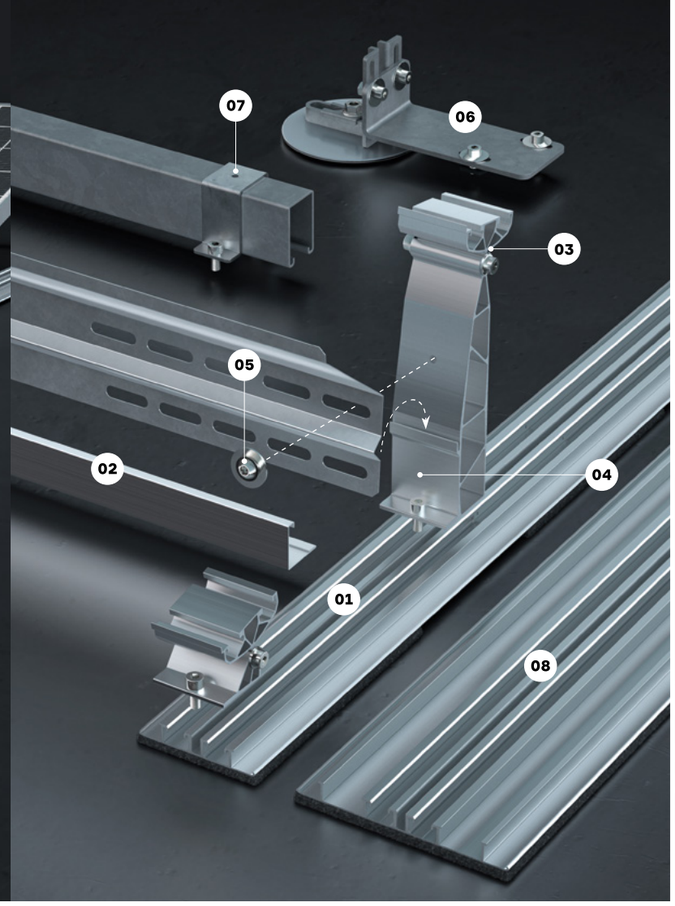
THE COMPACTFLAT SN 2 IS BASED ON THE PREVIOUS SYSTEM AND ALLOWS THE USE OF EVEN LARGER PV-MODULES. THE FLEXIBLE, RAIL-BASED MODULAR SYSTEM OFFERS A SOLUTION FOR EVERY CONCEIVABLE FLAT ROOF APPLICATION AND ENABLES SHORT-SIDE AND LONG-SIDE CLAMPING. THE SAME COMPONENTS ARE USED IN THE SOUTH-FACING SYSTEM AS IN THE EAST / WEST-FACING SYSTEM.

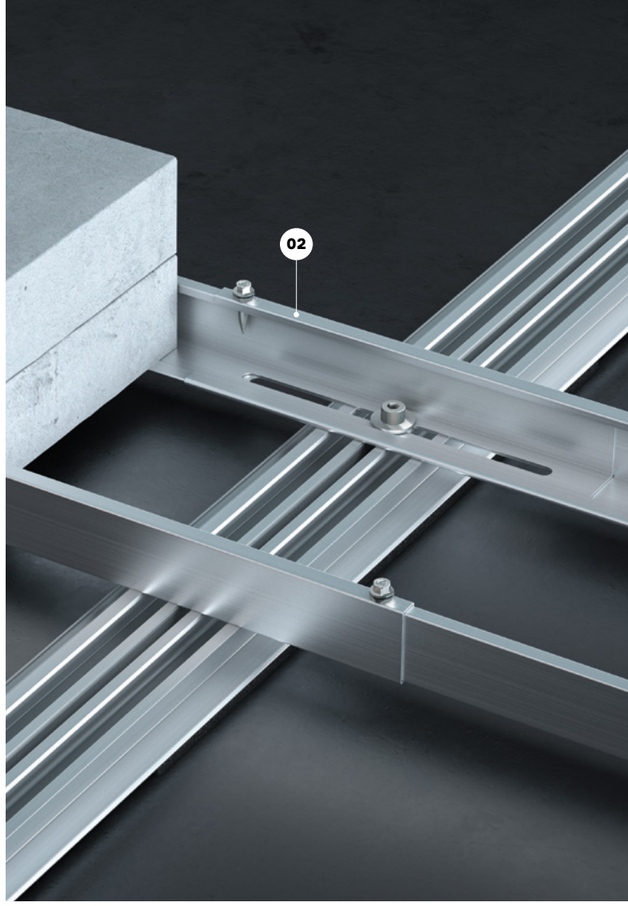
INTELLIGENT SOLAR RACKING

+ Module sizes up to 1.310 x 2.500 mm
+ Low point loads
+ Short-side and long-side clamping
+ Suitable for high wind and snow loads
+ Flexible system with few components
+ Preassembled components, plug & play



South-facing modules (SN 2) with
short-side clamping and connected rail structure





THE CHALLENGE

The steadily growing size of modules poses particular challenges for manufacturers of racking systems. There is an increasing demand for racking systems that are not only reliable and flexible enough to endure heavy snowfall and severe winds but also facilitate swift and straightforward mounting, ultimately resulting in cost savings during assembly.

THE SOLUTION

The trimmed-down product concept for the COMPACTFLAT SN 2 is impressive due to its high load-bearing capacity and resistance to extreme weather conditions. This cost-optimized system can be quickly and easily attached to flat roofs in just a few simple steps. It now allows PV-module sizes of up to 1.310 x 2.500 mm. Thanks to pre-assembled components of the further developed fastening system, only one fitter is required for installation. This effectively saves both time and costs during assembly.

31
SYSTEM COMPONENTS

=

21
SYSTEM VARIANTS

01 The base rail enables extremely flexible mounting of the system. The continuous threaded channel allows each base to be mounted at any point. All base rails are supplied with pre-assembled building protection mats.

02 The cross struts can be infinitely adjusted and fixed for quick and easy pre-assembly of the system. They are also used to connect the system for long-side clamping and as ballast supports.

03 To prevent tension in the module frame, the pre-assembled foot rocker adjusts to the correct angle depending on the module width. Two grooves enable short-side and long-side clamping and provide tolerance compensation during assembly.

04 Statically optimized feet enable the highest snow and wind loads.

05 The wind deflector can be set down in the guide and is then fastened with just one magnetic combi screw.

06 The single anchor is a cost-optimized solution for fastening to the roof. It can be adjusted in three directions and is mainly used at the edge of the field.

07 The double anchor was developed to cope with larger loads with fewer anchors. It is mainly used in the center of the field and can cover larger areas of the field.

08 By using the wider 173 mm base rail, which has pre-installed protection mats, snow loads of up to 3.6 kN/m² can be covered on roofs with soft insulation such as Durock (Rockwool).

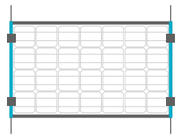
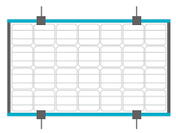
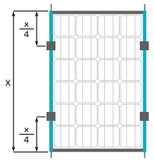
THE OPTIONS

The systems variety allows perfect adjustments for every single project. Two clamping options can be combined with three rail structure options as desired. This means all advantages are used in an optimal matter. Despite all these possibilities, only a few components are required.

IT'S YOUR CHOICE

1. CLAMPING OPTION

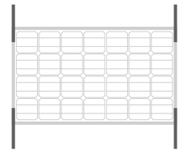
In the event of moderate snow loads, the PV modules can be clamped on the short side, saving material. Long-side clamping is recommended if the pressure load increases or large modules are used. Quarter Clamping offers higher loads than short-side clamping with a lower cost than long-side clamping.

			2. Rail structure (see below)		
			Short	Connected	Long
SHORT-SIDE CLAMPING + Quick assembly + Reduced material costs		South-facing modules (SN 2)	●	●	●
		East / west-facing modules (SN 2 PLUS)	●	●	●
LONG-SIDE CLAMPING + High loads + Large modules		South-facing modules (SN 2)	○	●	●
		East / west-facing modules (SN 2 PLUS)	○	●	●
LONG-SIDE QUARTER CLAMPING + High loads + Reduced material costs		East / west-facing modules (SN 2 PLUS)	○	●	●

2. RAIL STRUCTURE

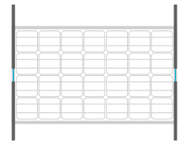
As there are different possibilities for the rail structure, the system can be individually configured to suit the respective application, regardless of the project's scale.

SHORT RAIL STRUCTURE
+ Reduced material costs
+ Easy shipping
+ No caterpillar effect



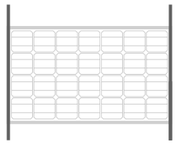
MAX. 900 mm RAIL LENGTH

CONNECTED RAIL STRUCTURE
+ High load capacity
+ Preassembly without module
+ Easy shipping

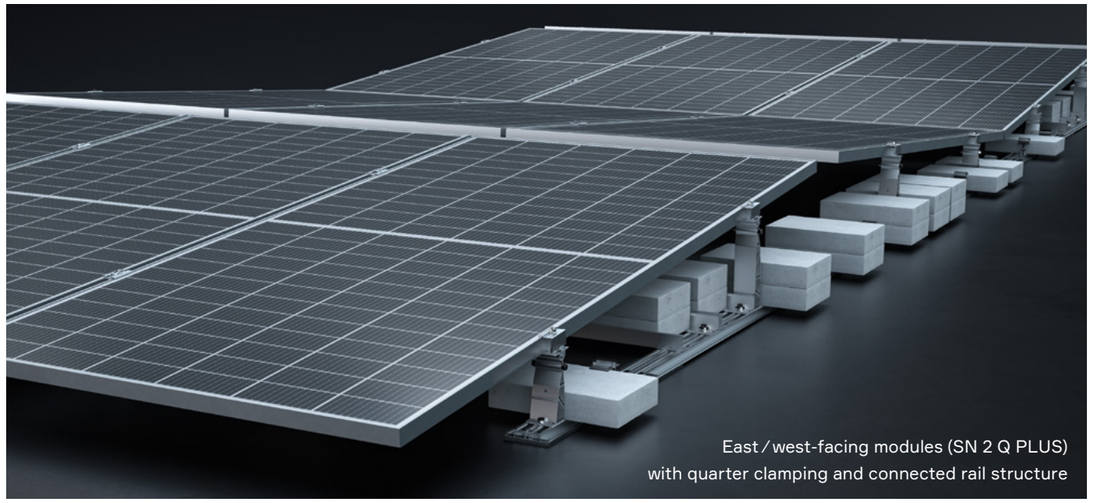


MAX. 1.980 mm RAIL LENGTH

LONG RAIL STRUCTURE
+ Fastest assembly time
+ High loads
+ Preassembly

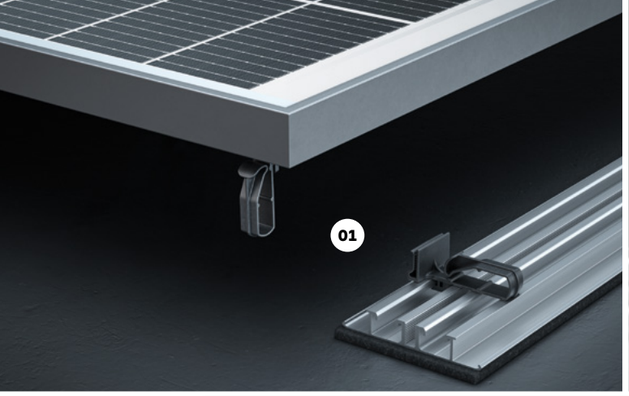


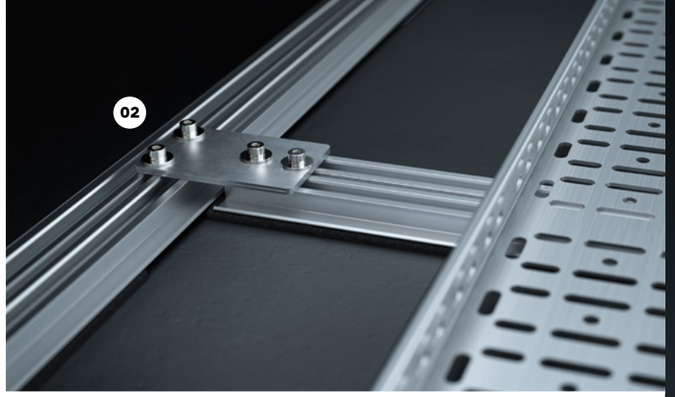
5.800 mm RAIL LENGTH

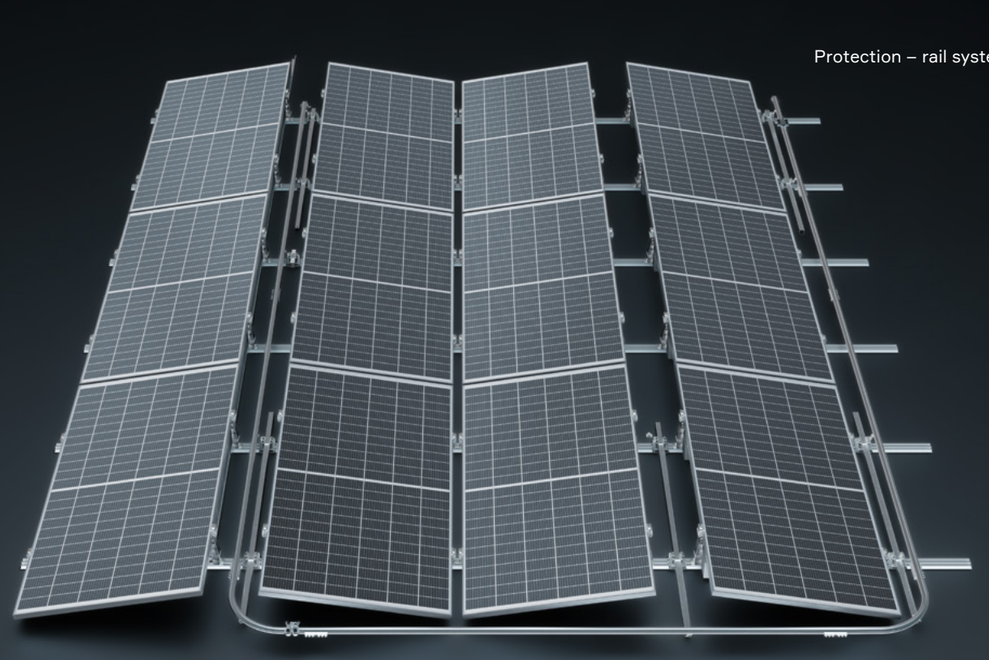


East / west-facing modules (SN 2 Q PLUS)
with quarter clamping and connected rail structure

East / west-facing modules (SN 2 PLUS)
with long-side clamping and long rail structure







INTELLIGENT CABLE MANAGEMENT SYSTEM

The COMPACTFLAT SN 2 range is extended with a high-quality cable management system, fall protection and lightning protection elements. The assembly is, as usual, simple and time-saving.

01 The universal cable clip enables an easy fixing of the cables. It can be fixed either to the module frame or to the rails. The universal cable clip can be used for all existing flat roof systems.

02 The cable connection plate allows the adaptation of a 450 mm rail to the SN 2 system. Any cable tray can be attached to this rail.

03 The rail clip is ideal for laying cables along the SN 2 rail. The cables can be laid directly on the rail or protected in a cable conduit.

LIGHTNING PROTECTION OPTION

The mounting system features certified lightning current carrying connections with which the SN2 system can be integrated into lightning protection systems.

A lightning protection clamp specially developed by AEROCOMPACT saves time and costs in the installation process.

The rails of the SN2 system allow for the versatile installation of down conductors or connections. This guarantees environmentally friendly and cost-effective planning of external lightning protection.

SYSTEM-INTEGRATED FALL PROTECTION

The demand for an effective fall protection is increasing. If the guarding is not attached directly to the system, valuable space is lost. The integrated solution is available for all SN 2 variants with long rails and is produced and supplied by Innotech.

SOPV-AERO-TAURUS RAIL SYSTEM
This rail system can be installed with a mounting distance of up to 3 m along the outside of the PV system. In addition, a separate connector in the rail system compensates for the expansion joint of the PV system. Suitable for roofs with a pitch of up to 5°.

SOPV-AERO-AIO ROPE SYSTEM CAN BE DRIVEN OVER
A cable glider enables the intermediate brackets and curves to be driven over. This means that it is no longer necessary to change or unhook the rope. The fall protection cable system secures not only the the PV system and the rest of the roof area thanks to modular components and a fastening distance of up to 7.5 m. Suitable for roofs with a pitch of up to 5°.

AEROCOMPACT®

- + One-man installation possible
- + Minimal storage
- + Optimized for pre-assembly
- + PV module positioning support
- + Wind tunnel tested
- + Developed in Austria

TECHNICAL DATA

DESCRIPTION	Rail-based racking system for mounting framed PV modules on flat roofs. Optimal load distribution for any built-up roof. Positioned on continuous rails. Preassembly even without PV modules. The clamping on the long module side allows the system to withstand high wind or snow loads as well as the use of large scaled PV modules.
AREA OF APPLICATION	On membrane and bitumen roofs with and without thermal insulation under the membrane, as well as on concrete and gravel roofs
MODULE DIMENSIONS	950 – 1.310 mm x 1.550 – 2.500 mm (width x length)
INSTALLATION ANGLE	5° and 10° (may vary slightly depending on module width)
CLAMPING OPTIONS	Long-side clamping; short-side clamping
DISTANCE TO ROOF SURFACE	Approx. 70 mm, less on gravel roofs if necessary
DISTANCE FROM THE ROOF EDGE	Without parapet to roof edge, with parapet, dependent on height
MAX. BUILDING HEIGHT	100 m (adaptation to higher buildings on request)
MAX. ROOF INCLINATION	Up to 3° in the case of long rail structure, 5° in the case of connected or short rail structure; With anchoring, up to 10° *
MAX. FIELD SIZE	23 x 20 m
MIN. FIELD SIZE	2 modules side by side or behind one other
WIND LOAD	Up to 2.4 kN/m² **
SNOW LOAD	Up to 5,4 kN/m² **
DESIGN / PROOF OF STABILITY	Supported by software based on wind tunnel tests as well as code and construction standards
ON-SITE REQUIREMENTS	It must be ensured on site that the roof structure and building structure have the sufficient structural load-bearing capacity and that the roof structure has sufficient compressive load-bearing capacity. The general terms and conditions, warranty conditions and the user agreement apply. The module release must also be checked by the customer.
COMPONENTS	Module clamps with grounding pins, base rails, front foot, back foot, cross struts, building protection pads, wind deflectors, ballast blocks (provided by the customer); optional ballast angle, roof anchor, earthing and lightning protection clamp, grounding and bonding protection, optimizer mount.
MATERIALS	Load-bearing connecting parts and module clamps made from EN AW–6063 T66 aluminum, screws made from A2–70 stainless steel, cross struts, wind deflectors and ballast trays made from steel with protective coating against corrosion, building protection mat made from polyester fleece.

* For all rails that run at right angles to the roof pitch, anchor fastening may be dispensed with up to a roof pitch of 5°.
** depending on the system variation and PV modules used

PB SN2 EN V7 06-2024

AEROCOMPACT.COM

AEROCOMPACT® Europe GmbH
Gewerbestrasse 14
6822 Satteins, Österreich
T: +43 5524 22 566
E: office@aerocompact.com