

RHEINZINK®

RHEINZINK® - "Solar PV Standing Seam" and - "Solar PV Click Roll Cap System"

The RHEINZINK® - "Solar PV Standing Seam" and "Solar PV Click Roll Cap System" are the optimum combinations of ecological solar energy extraction and architectural roof design using conventional seaming techniques. Efficient UNI-SOLAR® modules are fixed to RHEINZINK® panels using durable, full-surface adhesive technology. These modules can be installed on roofs and façades using proven RHEINZINK® seaming techniques such as the Double or Angled Standing Seam and the Click Roll Cap System. The benefits:

Prefabricated RHEINZINK® panel, including UNI-SOLAR® cells

Roof-integrated solar panel without additional fastening components

Proven seaming techniques in combination with ecological solar energy extraction

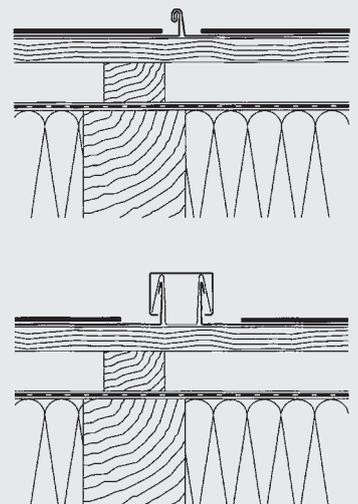
Durable, full-surface adhesive technology

High energy production, even with diffused or diminished light, using Triple Junction technology

Suitable for roofs and façades

Lightweight

Roofing/façade cladding with energy extraction, in one





RHEINZINK®-“Solar PV Standing Seam” on the roof...



... and façade.

Photovoltaic (PV) – energy from sunlight
Photovoltaic is the term for direct conversion of sunlight into electrical energy. Solar cells extract electrical power from sunlight using semi-conductors, without any mechanical wear and tear or emission of any kind. They are compounded to form solar modules; several modules form a heavy-duty solar generator. The output of this type of photovoltaic system is given in Kilowatt Peak (KWp). PV systems supplement the main power supply system and are linked to the public utility power grid.

RHEINZINK®-Solar PV on the Roof and Façade

The RHEINZINK®-“Solar PV Standing Seam” and RHEINZINK®-“Solar PV Click Roll Cap System” are the optimum combinations of roofing and façade cladding using conventional seaming techniques and ecological solar energy extraction. UNI-SOLAR® modules are fixed to individual RHEINZINK® panels using durable, full-surface adhesive technology. The result: a tenacious bond of the modules with RHEINZINK® material, distinguished by its exceptional resistance to moisture and media (Tested by the TÜV Rheinland Group). German standards require mechanical fasteners in addition to durable, full-surface adhesion within the façade. UNI-SOLAR® thin-film modules are prefabricated using rivets to fix to the RHEINZINK® panel. RHEINZINK® solar modules are always installed vertically; to accommodate expansion, the rivet connection is always located at the top end of the panel.

RHEINZINK®-Double /Angled Standing Seam

The term “Double Standing Seam” describes a type of lengthwise connection between adjacent sections. With a mini-

imum seam height of 25 mm, double standing seams provide a connection that is rainproof without applying additional measures. The seams can either be closed manually or by using a seaming machine. The angled standing seam is used for roof surfaces with a pitch greater than 25°. The forming of this seam is particularly easy as the seam is only profiled to the first turn to create the angled profile. The angled standing seam appears to be slightly wider than the double standing seam. Thus, large surface projects are vibrant and striking when the angled standing seam is used.

RHEINZINK®-Click Roll Cap System

The click roll cap system is considered the most traditional of sheet metal working techniques still used today. Panel and seam caps are produced in the factory using profilers, achieving lengths of up to 6 m in a single operation. For the production of longer panels, mobile profilers can be leased. The RHEINZINK®-Click Roll Cap is available in the standard 3 m length. The system is suited for façades and roofs with a minimum pitch of 3°.

Professional Sheet Metal Technology

Panels equipped with PV-modules are installed in a similar way to standard roofing. Clips are used within the seam to prevent slipping and to resist wind suction loads; these clip locations must not deviate from the static requirements for standing seam covers. The Click Roll Cap System is fixed using batten brackets, which simultaneously serve as adhesion profiles for the panels and as brackets for the roll cap. The UNI-SOLAR® module, which is fastened in the middle of a 4000 mm long pre-profiled panel, is 2848 mm long. Because of the length, the lower as well

as the upper termination can be designed in many variations. Direct connections to eaves and ridges, as well as integration into the standing seam using “seam-in-seam” cross joints, can be implemented without difficulty, even on roof pitches starting at 10°. Areas with inclinations of 3° or more can be used, if they are to be covered completely by 4000 mm long panels. The fact that electric connections between individual roofing components are carried out during installation using only two electric plug and socket connections, allows for quick and safe roof installation. Depending on the project, several photovoltaic modules are connected in series. The parallel connection of several series connections to the current converter/s is done by a professional electrician.

Module data for “Standing Seam” and „Click Roll Cap System”

Cell type	Triple Junction solar cells made of thin-film silicon
PV-module	394 mm x 2848 mm
Nominal output	68 Wp ± 5 %
Operating voltage V _{MPP}	16.5 V
Nominal current I _{MPP}	4.13 A
No-load voltage V _{oc}	23.10 V
Short circuit current I _{sc}	5.10 A
Certificate	IEC 61646 (CEC 701) Protection class 2 (TÜV Rheinland)
Connection	MC-box, including 800 mm cable

RHEINZINK®-“Solar PV Standing Seam”

Dimensions	430 mm x 4000 mm
Roof area	430 mm x 3000-3900 mm
Weight/m ²	9.65 kg

RHEINZINK®-“Solar PV Click Roll Cap”

Dimensions	475 mm x 4000 mm
Roof area including	515 mm x 3000-3900 mm
Roll cap	515 mm x 3000-3900 mm
Weight/m ²	10.23 kg



UNI-SOLAR®

Triple Junction Technology



ENVIRONMENTAL-PRODUCT-DECLARATION BY THE ASSOCIATION FOR ENVIRONMENTALLY PROOFED BUILDING PRODUCTS NUMBER OF CERT. AUB-RHE-11105-0

