

FixPlan

Filed at the German patent office

- **Reliable roof sealing**
- **10-year warranty**
- **High quality materials (VA 1.4301 and EPDM)**
- **Defined fixation to the substructure**



The new solution for sheet metal roofs

Flat sheet metal roofs often have standing seams. For the fixation of solar power plants on these roofs we offer suitable standing seam clamps. But fastening the plant to the standing seams is not always possible or recommendable:

- Not all sheet metal roofs have suitable standing seams that can be used for fixation.
- Some roofs are not appropriately fixed to the substructure. In these cases it is not recommendable to fix the plant to the sheet metal plates because of their little resistance to wind suction forces. It is better to fix the plant directly to the substructure.
- Roofs made of **titan zinc** sheet metal are very brittle at deep temperatures. Fastening plants to the standing seams is not recommendable because of thermal expansions of the roof cladding (danger of crack formation).

The **system FixPlan©** allows you to fix your plant to supporting parts of the substructure. At the same time, it works as a water-proof penetration through the metal sheets of the flat roof.

Thermal expansions...

usually restrict the application of roof penetrations respectively fixations to the substructure considerably. The metal sheets used on roofs are often very long. If there are big variations in temperature (day/night or summer/winter), the metal sheets move in relation to the wood substructure. So the sheet metal roof must be able to expand sufficiently under the sealing without the roof penetrations becoming leaky.

In case of the **FixPlan© system**, the sheet metal is cut out or drilled widely enough, so that the sheet metal can move sufficiently in relation to the fastening point. The sealing disc with a sealing edge around it guarantees a durable sealing.

For hints about the required size of the cut-out for fixation, see the paragraph „Technical details“.

Mounting example



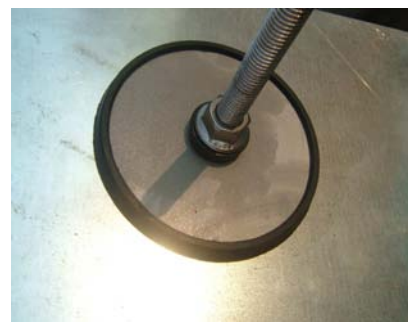
1st step

Drill the metal sheet. The diameter of the hole has to be sufficient (e.g. 30mm). Pre-drill the hole for the hanger bolt with 0.7 x diameter (app. 8.5mm). Use a suitable drilling jig to keep the vertical orientation.



2nd step

Place the sealing disc.



3rd step

Place the cone sealing. Screw the sealing nut with light pressing. Then you can fasten the mounting plate with two counter nuts and fix it to the supporting structure.

Technical details

Material	High-grad steel 1.4301, surface blasted and passivated EPDM rubber form parts, vulcanised und UV-resistant Aluminium mounting plate
Statics	Schletter system statics according to DIN 1055 new and EC1
Sizes	Diameter sealing disc: 100mm, available with hanger bolt M12x200 or M12x300, SW9 drive Art.Nr.: 400 879-2 FixPlan with hanger bolt 12x200 Art.Nr.: 400 879-3 FixPlan with hanger bolt 12x300
Application	Flat sheet metals on plane boarding. Only on sufficiently dimensioned parts of the substructure.
Hints for dimensioning the cut out	Two cases have to be distinguished: a) If the roofing metal sheet is fixed to the roof on one side, the distance of the fixing point to the furthest fastening point counts as the effective length. b) If the roofing metal sheet can slide freely on the roof, the effective length is the maximum distance between two fastening points on the same piece of sheet metal. For example, if the effective length is 10m and the assumed temperature range is 60K, the expansion of the sheet metal is app. +/- 5mm. If the cut-out of the sheet metal has a diameter of 30mm, for example, a maximum length expansion of +/- 9mm (radius 15mm – radius 6mm) can be tolerated.

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