

AEROCOMPACT®

ENGLISH



COMPACT**METAL TR**

THE PATENTED COMPACTMETAL TR SYSTEM IS A SELF-SUPPORTING RAIL PV SUBSTRUCTURE FOR SANDWICH SHEET METAL ROOFS. THE INNOVATIVE FASTENING CONCEPT FOR THE SAFE INTRODUCTION OF FORCES INTO THE SUBSTRUCTURE IS RECOMMENDED BY WELL-KNOWN SANDWICH PANEL MANUFACTURERS. THE PROTECTED STATIC ALGORITHM IN THE AEROTOOL PREVENTS THE SANDWICH COVERING FROM BEING OVERLOADED - EVEN WITH THE HIGHEST SNOW LOADS.

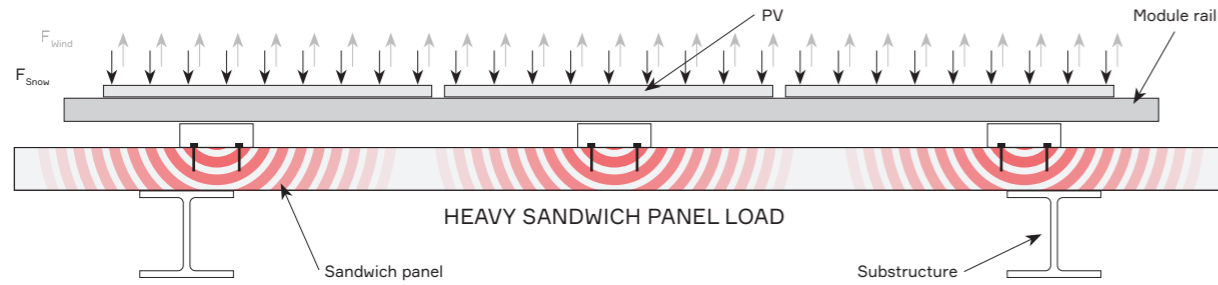
INTELLIGENT SOLAR RACKING

- + For high snow and wind loads
- + Self-supporting system
- + No approval by panel manufacturers needed
- + Recommended by panel manufacturers
- + Safety and quality tested
- + Patented support system

THE CHALLENGE

A common way of attaching PV systems to sandwich panels is to screw the substructure directly onto the top layer of the panels with thin sheet metal screws. The interaction of forces caused by snow and wind can in the long run lead to permanent damage to the upper level.

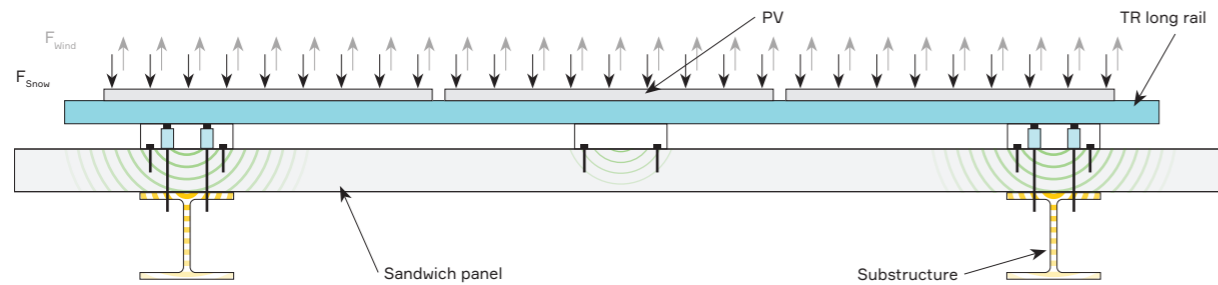
The result is leakage, detachment of the outer shell and the resulting "static uncertainty". Sandwich panel manufacturers report of extensive damage to building roofs.



THE SOLUTION

AEROCOMPACT has developed a revolutionary fastening solution for PV modules on sandwich sheet metal roofs. By using innovative and patented components from the COMPACTMETAL modular system, the panels are only activated up to their permitted load limit.

The main role in the system is assumed by the TR long rail, which can assume loads over large distances. Wind loads are only absorbed via the sandwich fasteners and the rail. Snow loads are introduced directly into the substructure using a patented support concept. A patented structural algorithm regulates the maximum permissible bearing load for the intermediate bearings.



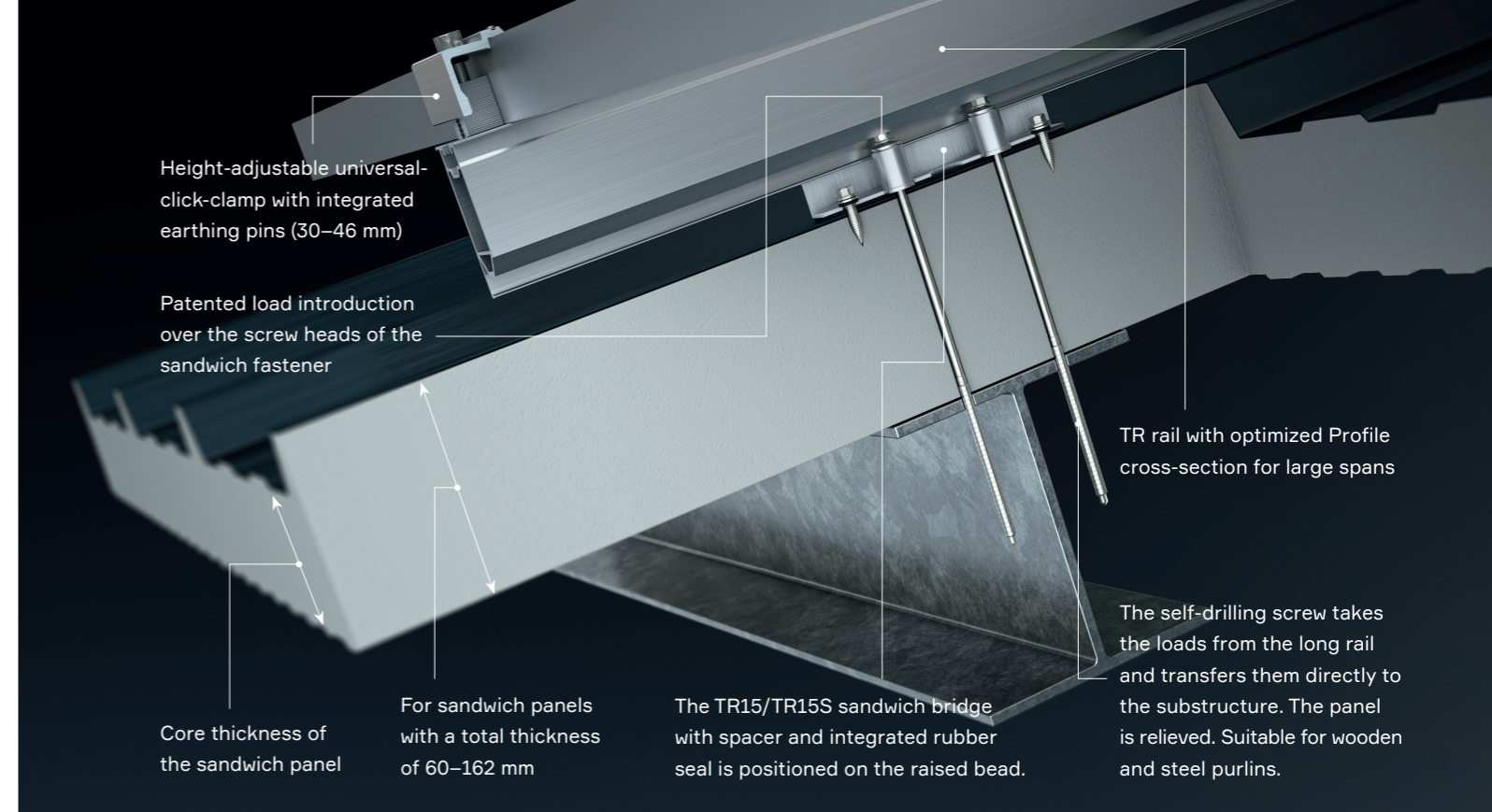
Intermediate support positions are statically determined and prevent the rail from touching the roof. This prevents damage to the panel. Self-tapping screws make assembly quick, easy and efficient. The clearly structured concept of the system is easy to understand and assembly errors are therefore minimized. Only self-tapping screws are used.



THE VERSIONS

Version	TR74	TR59
Legend		
a [mm]	60	60
b [mm]	99	87
c [mm]	78	63
d [mm]	67	52
Application	With high wind and snow loads	With reduced snow load

The PV modules can be attached to the TR long rails using the click clamp with integrated earthing pins. The cross-system universal clamp is height adjustable between 30 and 46 mm and can be conveniently clicked into place.



AEROCOMPACT®

- + Self-tapping screws
- + For large purlin spacings
- + Planable with AEROTOOL
- + Integrated in the modular system
- + CE approval
- + Developed in Austria

DESCRIPTION	Rail system for the roof-parallel mounting of PV modules on sandwich roofs. Suction forces only into the purlins, pressure forces only up to the permitted load limit. Rails on short bases, base fastened with long self-drilling screws plus thin sheet metal screws. For locations with snow loads allowed. Only sandwich elements with the property „walkable“ according to EN 14509.
AREA OF APPLICATION	For sandwich panels with a total thickness of 60 – 162 mm; upper shell steel at least 0.4 mm; purlins steel 1.5 – 12 mm and wood; purlin spacing over 3 m depending on wind load, snow load and roof structure
MODULE DIMENSIONS	Any length and width, frame height 30 – 46 mm (other heights on request)
RAIL LENGTH	5.800 mm
INSTALLATION ANGLE	Parallel to the roof
ROW SPACING	No elevation, no row spacing distance to roof
DISTANCE TO ROOF SURFACE TR74	99 mm (between raised bead and module)
DISTANCE TO ROOF SURFACE TR59	84 mm (between raised bead and module)
DISTANCE FROM ROOF EDGE	No minimum distance, all roof areas allowed
MAX. BUILDING HEIGHT	200 m (Eurocode, may vary depending on the country)
MAX. ROOF PITCH	70°
MAX. FIELD SIZE	Unlimited horizontally, 11 m vertically
MIN. FIELD SIZE	No lower limit
WIND LOAD	Up to 250 km/h (depending on the purlin spacing, substructure and roof zones)