

TecSolaris Datasheet



TecSolaris



Suitable for new construction or renovation

The requirements for modern buildings are increasing: EU targets such as Fit for 55, the German Building Energy Act (GEG), and international initiatives like Canada's Solar Homes Program or the Green Energy Act send a clear message:

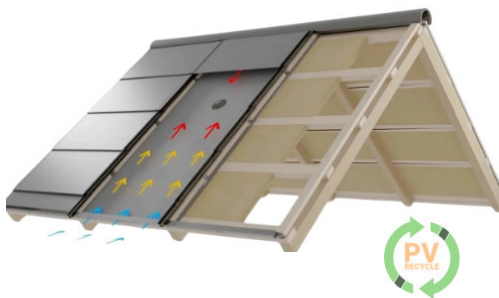
The building sector must become more climate-friendly.

The challenge: Combining energy efficiency, sustainability, and economic viability.

The answer: TecSolaris – the fully integrated climate roof system.

Key Benefits at a Glance

- Complete roof replacement without tiles
- Chamber module cooling for maximum efficiency
- Compatible with heat pump integration
- Durable stainless steel substructure
- Integrated thermal insulation
- Integrated second waterproofing layer
- 30-year frame and 15-year module warranty
- Fully walkable surface
- Eligible for subsidies under GEG, EnEV, and BEG regulations



Scope of Delivery / Accessories

- Laminated safety glass (VSG)
- Prismatic PV modules
- Stainless steel frame elements
- Complete counter-battening system
- Integrated gutter connection
- 60 mm insulation elements
- compliant with GEG
- Optional in-between-rafter flexible
- insulation for BEG standard



TECHNICAL DATA¹

Electrical Data (STC)	TecSolaris ATC Diamond Modul 150
Nominal Power (P _{nom})	150 Wp (+5 Wp)
Cumulative Power Output (per m ²)	174 Wp (+5 Wp)
Module Efficiency Net (P _{nom})	20,89%
Voltage at Maximum Power Point (U _{mpp})	34,60 V
Current at Maximum Power Point (I _{mpp})	10,75 A
Open-Circuit Voltage (U _{oc})	17,50 V ± 2%
Short-Circuit Current (I _{sc})	11,39 A ± 2%
Thermal Behavior of the Modules	
Temperature Coefficient (P _{mpp})	– 0,4% / °C without passive cooling
Temperature Coefficient (U _{oc}) – Percentage	– 0,3% / °C without passive cooling
Operating Temperature	-40 to +85°C
Module Data	
Module Dimensions Gross (L × W × H) ²⁾	1.230 x 702 x 78 mm
Cell Dimensions	6x6"
Number of Cells	28 (4x7 Cells)
Cell Type	Monocrystalline PERC cell, VDE-certified
Thermal Specifications of the Air Chamber³⁾	
Active / Passive Cooling	Optional/Yes
Nominal Output (per m ²)	196 W
Air Volume Flow Rate	1200 m ³ /h
Efficiency (Derived)	19,6%
Total Efficiency under GEG Compliance ⁴⁾	35,19%
Total Efficiency under BEG Compliance ⁴⁾	40,49%
Other Specifications	
Front Glass	3.2mm tempered prismatic glass for extremely high yields even under diffuse irradiation
Film Layer 1	PVB UltraClear 0,76 mm
Film Layer 2	PVB UltraClear 0,76 mm
Back Glass	3.2 mm tempered and printed solar glass in black
Cables	2 × 400 mm length, 4 mm ² cross-section
Connector Type	Multi Contact MC4
Junction Box	IP67
Module Weight ⁵⁾	14,5 kg
Certification	According to IEC 61730 and IEC 61215 According to DIBt Z70.3-285
Maximum Permissible System Voltage	1.000 V
Maximum Load (according to IEC 61215)	Pressure: 3600 Pa, Suction: 1600 Pa, Safety Factor: 1.5 (Preliminary Result – Ongoing Testing)
Reverse Current Load Capacity (IR)	25 A
Frame Material	Frameless – Designed for TecSolaris Stainless Steel Mounting Frame
Efficiency Reduction from 1000 W/m ² to 200 W/m ² According to EN 60904-1	At 200 W/m ² , 97.5% of the STC efficiency is achieved
Warranty ⁶⁾	15-year product warranty; performance warranty: minimum 98% in year 1, followed by a maximum annual degradation of 0.55%; after 25 years, at least 82% of the nominal power under STC with passive cooling

1) Under standard test conditions: irradiance (1000 W/m²), spectral distribution (AM 1.5), cell temperature 25 °C.

2) Tolerance (± 3 mm).

3) Assumed values based on internal data from the reference installation under various operating temperatures, accumulated at irradiance of 900 W/m², ambient temperature of 20 °C, and wind speed of 0.5 m/s.

4) In conjunction with heat pump relief via intake of chamber air.

5) Tolerance (± 0.5 kg).

6) According to the warranty terms of Antec Solar GmbH valid at the time of purchase. Warranties are provided exclusively by Antec Solar GmbH; Energyhaus GmbH is not a warranty provider. Statutory and contractual warranty rights remain unaffected by these warranties.

Air Chamber Substructure and Rafter Compensation Layer	
Konterlatten zum Ebenenausgleich	KVH Spruce 60x120x2500mm
Konterlattenzwischendämmung	Universal, lightweight insulation board 60mm – Type: 140
Anwendungsbereich nach DIN1408-10	DAD, DAA-ds, DI, DEO-ds, WAB ds, WAP, WI, WH, WZ, DZ
Wärmeleitfähigkeit AB DE	0,043 W/(mK)
Brandverhalten nach DIN EN 13501-1	E
Kennzeichnung	WF-EN 13171-T5-CS(10/Y)100-TR20-DS(70,-)3-AFr60-WS1,0-MU3
Regensicherheit	UDP-A as a rainproof sub-roof according to ZVDH guidelines from a roof pitch of 15°
Air Chamber Insulation and Second Waterproofing Layer	
Vollflächendämmung	Robust insulation board, 40mm – Type: 180
Anwendungsbereich nach DIN1408-10	DAD, DAA-ds, DI, DEO-ds, WAB ds, WAP, WI, WH, WZ, DZ
Wärmeleitfähigkeit AB DE	0,045 W/(mK)
Brandverhalten nach DIN EN 13501-1	E
Kennzeichnung	WF-EN 13171-T5-CS(10/Y)150-TR30-DS(70,-)3-AFr100-WS1,0-MU3
Regensicherheit	UDP-A as a rainproof sub-roof in accordance with ZVDH regulations, from a pitch of 15°
Besonderheit	Weather-resistant for up to 12 weeks without additional covering
Rahmenstruktur der Luftkammer und Modulhalterung	
Rahmensystem Typ	Patented trapezoidal mounting system for PV glass modules
Materialbeschaffenheit (außer Schub-rinnen)	1.4301 (X5CrNi18-10)
Materialstärke	1,0 - 2,5mm
Brandverhalten nach DIN EN 13501-1	A1
Rastermaß für den technischen Aufbau	1260 x 675 mm
Optionale Zwischensparren Dämmung (Notwendig für BEG Standard)	
Anwendungsbereich nach DIN1408-10	DZ, DI-zk, WH, WI-zk, WTR
Wärmeleitfähigkeit AB DE	0,038 W/(mK)
Brandverhalten nach DIN EN 13501-1	E
Kennzeichnung	WF-EN 13171-T3-MU1/2-AFr10
Anwendung als	In-between rafter insulation
Materialstärke	200mm und 50 kg/m3

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