

TECTUM FLAT ROOF SYSTEM

EASY ACCESS TO FREE ENERGY

Quick installation, lightweight, high yields



-  SOLAR CONSTRUCTION
-  SUSTAINABILITY
-  TECHNOLOGY

TECTUM – EASY ACCESS TO FREE ENERGY

Intelligent System – Well-engineered and lightweight

Soltecture transforms plain, unused flat roofs into solar energy power plants, even those covered with roofing membranes*, bituminous sheeting, or gravel. Where other system solutions prove too heavy, Soltecture's flat roof system, weighing <math><12.3\text{ kg/m}^2</math>, provides the only solution. The aerodynamically designed system, minimally exposed to the wind, is so lightly constructed that it can also be effectively installed on lightweight roofs with low load-bearing capacities.

Excellent performance – High yield

Tectum guarantees the highest yield. With a performance of approximately 79 kWp per 1000 m², this system does not compromise. Southern orientation, providing maximum solar exposure, can be achieved without additional effort and does not depend on site limitations. The smooth, frameless glass surface guarantees optimal self-cleaning, preventing yield cuts caused by dust or grime.

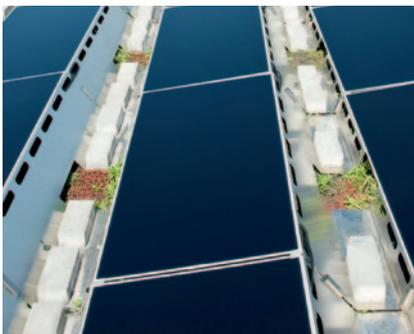
Easy installation – Quick assembly

The solar module Linion L and installation system are preassembled, allowing roof installation in just a few easy steps, without tools, and with no roof penetration. The installation effort is reduced to a fraction of that required for systems where the substructure must be in place before the modules can be installed. Various planning tools enable the system layout to be designed in just a few minutes in accordance with the specific site.

Simple maintenance

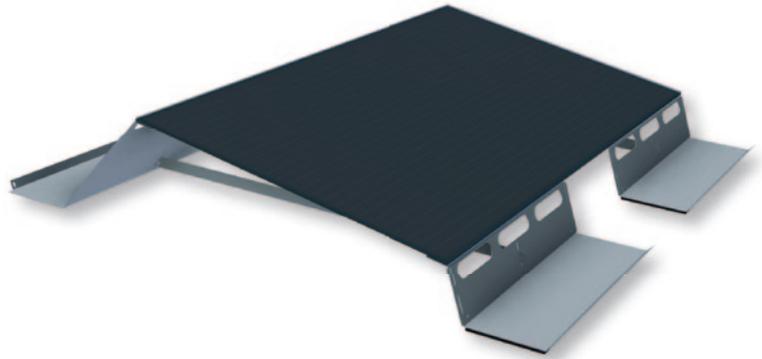
Just like all systems by Soltecture, the Tectum system requires very low maintenance of its modules and electrical system. If desired, Soltecture will supervise the installation site to ensure immediate attention in case of a yield loss.

* Please contact us or the respective manufacturer of the roofing membrane to obtain approval for the system solution.

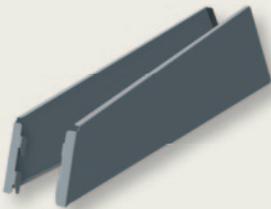
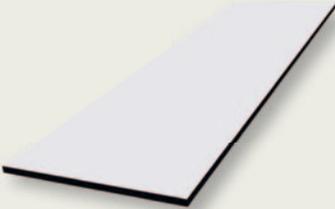


The functional and intelligent system solution

The Tectum flat roof system stands out among its competitors with its uncompromising functionality. Tectum offers the optimal solar solution with the highest economic yield, and is the best-suited energy system for large-scale commercial roofs. All components are perfectly synchronized, developing their full energy capacity every day of the year.



Flat roof components

Connection clamp	End plate	Protective matting (membrane roofs)	Protective matting (bituminous sheeting)
			

Flat roof system	TECTUM 90	TECTUM 95	TECTUM 100
Electrical characteristics at 1000 W/m²; 25 °C; AM1.5			
Rated power P _{max}	90.0 W	95.0 W	100 W
Tolerance (P _{max})	+5/-0 W	+5/-0 W	+5/-0 W
Module efficiency	11.1%	11.7%	12.3%
Rated voltage ¹⁾ U _{mpp}	56.2 V	57.2 V	58.2 V
Rated current ¹⁾ I _{mpp}	1.64 A	1.67 A	1.70 A
Open circuit voltage ¹⁾ U _{oc}	72.2 V	73.1 V	74.0 V
Short circuit current ¹⁾ I _{sc}	1.80 A	1.82 A	1.83 A
Maximum system voltage	IEC 61730	1000 V	1000 V
	UL 1703	600 V	600 V
Reverse current rating	3 A	3 A	3 A
Max. no. of modules connected in series per string +10% toL, 1000 V, -10 °C [IEC] [600 V, 14 °F [UL]]	11 (UL: 6)	11 (UL: 6)	11 (UL: 6)
Maximum no. of modules in parallel ²⁾	Individual strings connected to a blocking diode in (+) and 3 A fuse in (-).		
Electrical characteristics at 800 W/m²; NOCT; AM1.5			
Power ¹⁾ P _{max}	65.2 W	67.8 W	70.5 W
Voltage ¹⁾ U _{mpp}	49.6 V	50.8 V	51.9 V
Current ¹⁾ I _{mpp}	1.31 A	1.34 A	1.36 A
Open circuit voltage ¹⁾ U _{oc}	64.7 V	65.9 V	67.1 V
Short circuit current ¹⁾ I _{sc}	1.44 A	1.45 A	1.47 A
Electrical characteristics at 200 W/m²; 25 °C; AM1.5			
Maximum absolute reduction of efficiency	0.8%	0.8%	0.8%
Thermal behavior			
Working temperature (NOCT)	49 °C [120 °F]	49 °C [120 °F]	49 °C [120 °F]
Power temperature coefficient T _c (P _{max})	-0.45%/K	-0.43%/K	-0.41%/K
Voltage temperature coefficient T _c (U _{oc})	-0.35%/K	-0.33%/K	-0.31%/K
Current temperature coefficient T _c (I _{sc})	+0.01%/K	+0.01%/K	+0.01%/K
Operating conditions			
Temperature range	-40 °C to +85 °C [-40 °F to 185 °F]		
Maximum mechanical load ³⁾	IEC 61730	2400 Pa; 245 kg/m ²	
	UL 1703	1600 Pa; 33 lbs/ft ²	
Maximum torsion	1.2°		
IP code (to IEC 60529)	IP65		
Protection class (to IEC 61140)	II		
Application class (to IEC 61730)	A		
Fire rating (to IEC 61730)	C		

Notes

- ¹⁾ Tolerance of the electrical parameters ± 10%
 - ²⁾ Limited: See explanation in the Electrical Configuration section in the installation instructions for Soltecture PV modules.
 - ³⁾ See Soltecture GmbH's independent manufacturer warranty for Linion PV modules (last revised October 2011).
- The modules are not suitable for mobile or maritime applications. Please note that if the Linion PV modules are stored in dark spaces for long periods, they must then be exposed to sufficient solar radiation to attain their rated output. **Please refer to our user information at www.soltecture.com/download-centre. As we continually optimize our solar modules, related data pertinent to these changes will be cited in the technical data sheet.** All information applies exclusively to modules produced during the most recent product revision. The modules are certified for use in the following countries: EU countries, Switzerland, Norway, Turkey, Liechtenstein, Israel, Lebanon, Croatia, Bosnia and Herzegovina, Serbia. [09/2010]
- For technical questions, please contact us at: service@soltecture.de**

Dimensions of the flat roof element

Height / Width / Length	222 / 1163 / 1260 mm [8.74 / 45.8 / 49.6 in]
Weight	15.5 kg [34.2 lbs]
System's mass per unit area	12.3 kg/m ² [2.52 lbs/ft ²]
Additional data	
Maximum string fuse	3 A (e.g. Socomec 60PV0003)
Included bypass diode	1 x Diotec BY550-1000
Connection cable	2 x 1000 mm [39.4 in] / 4 mm ² [AWG 11]
Plug connector	Y-SOL 4
Cell type	CIGSe thin-film
Front glass	3 mm [0.12 in] tempered safety glass
Rear glass	3 mm [0.12 in] float glass
Encapsulation	EVA

Certificates and warranties

TÜV certificates:
IEC 61646, IEC 61730
Manufactured in the EU
CE-marking



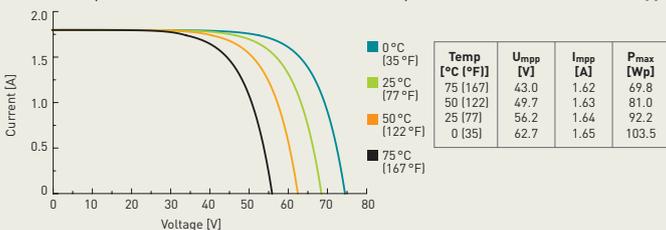
- Qualified, IEC EN 61646
- Safety tested, IEC 61730
- Periodic Inspection



Further information at www.tuv.com ID: 000033202 and www.soltecture.com/download-centre

Independent product warranty	10 years (for Linion L modules) ³⁾
Independent output warranty	25 years (for Linion L modules) ³⁾

Example characteristic curves at various temperatures – Linion 90 module type



Example characteristic curves at various irradiances – Linion 90 module type

