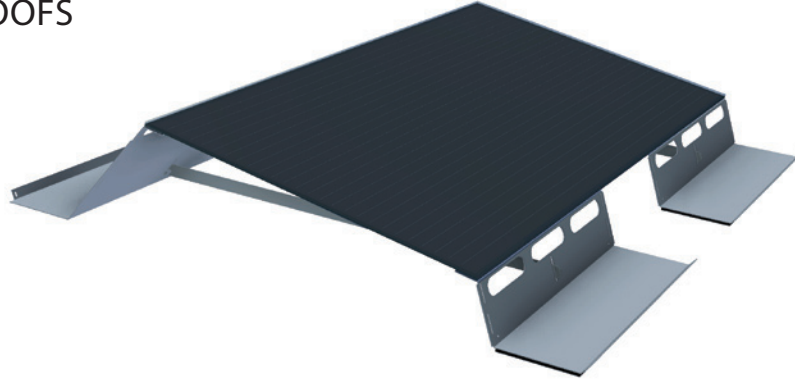


## THE TOOL-FREE SOLUTION FOR FLAT ROOFS



- Quick installation**
- Flat roof system from a single element: Linion L laminate module and a completely preassembled aluminium substructure
  - Tool-free installation
  - No roof penetration
- 
- Lightweight**
- System's mass per unit area  $< 12,3 \text{ kg/m}^2$
  - Aerodynamic system optimized in a wind tunnel
  - Can be used on many roofs without ballast
- 
- High yields**
- High power output per area (72 kWp per  $1000 \text{ m}^2$ )
  - Southern orientation can be achieved without additional effort, as this does not depend on the building orientation
  - Frameless surface and smooth cover glass ensure optimal self-cleaning

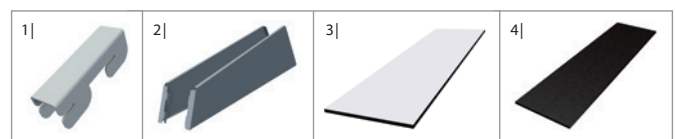
### Quality made in Germany

Solstructure transforms plain flat roofs into solar energy power plants, regardless whether they are covered with roofing membranes\*\*\*, bituminous sheeting or gravel. Where other system solutions are too heavy, Solstructure's Tectum flat roof system provides the only solution. It is hardly exposed to the wind and is so lightly constructed that it can also be installed on lightweight roofs with low load-bearing capacities, proven by comprehensive wind tunnel tests and static loading calculations.

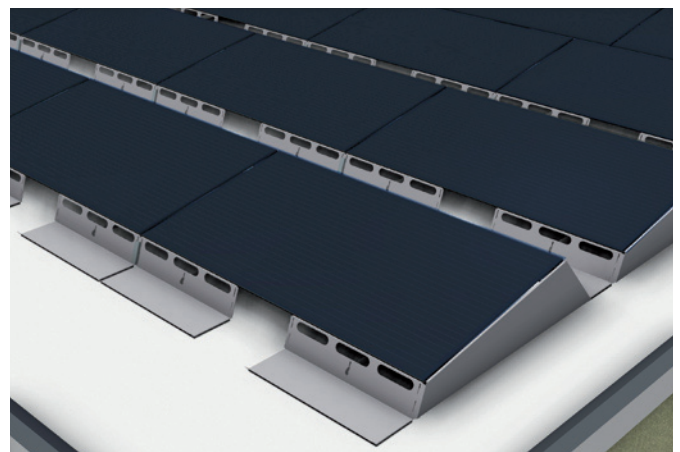
The solar modules and installation system are pre-assembled, enabling the system to be installed on the roof in just a few easy steps. This reduces the installation effort to a fraction of that required for systems where the substructure must be constructed before the modules can be installed.

Various planning tools enable the system layout to be designed in just a few minutes in accordance with the specific site.

### Flat roof components



- 1 | Connection clamp
- 2 | End plate
- 3 | Protective matting (membrane roofs)
- 4 | Protective matting (bituminous sheeting)



# TECTUM FLAT ROOF SYSTEM

Flat roof system	TECTUM 75	TECTUM 80	TECTUM 85	TECTUM 90
<b>Electrical characteristics at 1000 W/m<sup>2</sup>; 25 °C; AM1.5</b>				
Rated power P <sub>max</sub>	75.0 W	80.0 W	85.0 W	90.0 W
Tolerance (P <sub>max</sub> )	+5/-0 W	+5/-0 W	+5/-0 W	+5/-0 W
Module efficiency	9.2%	9.8%	10.5%	11.1%
Rated voltage* U <sub>mpp</sub>	50.5 V	52.2 V	53.8 V	55.4 V
Rated current* I <sub>mpp</sub>	1.48 A	1.53 A	1.58 A	1.63 A
Open circuit voltage* U <sub>oc</sub>	67.0 V	67.1 V	68.5 V	70.4 V
Short circuit current* I <sub>sc</sub>	1.68 A	1.72 A	1.74 A	1.79 A
Maximum system voltage	IEC 61730	1000 V	1000 V	1000 V
	UL 1703	600 V	600 V	600 V
Reverse current rating	3.5 A	3.5 A	3.5 A	3.5 A
Max. no. of modules connected in series per string (+10% tolerance; 1000 V [IEC]; -10 °C)	12	12	11	11
Maximum no. of modules in parallel**	Individual strings connected to a blocking diode in (+) and 3 A fuse in (-).			
<b>Electrical characteristics at 800 W/m<sup>2</sup>; NOCT; AM1.5</b>				
Power* P <sub>max</sub>	54.4 W	57.3 W	61.1 W	65.0 W
Voltage* U <sub>mpp</sub>	45.9 V	46.8 V	48.5 V	50.0 V
Current* I <sub>mpp</sub>	1.19 A	1.22 A	1.26 A	1.30 A
Open circuit voltage* U <sub>oc</sub>	59.9 V	59.9 V	61.3 V	63.1 V
Short circuit current* I <sub>sc</sub>	1.35 A	1.38 A	1.39 A	1.43 A
<b>Electrical characteristics at 200 W/m<sup>2</sup>; 25 °C; AM1.5</b>				
Maximum absolute reduction of efficiency	1.0%	1.0%	1.0%	1.0%

**Anmerkungen**

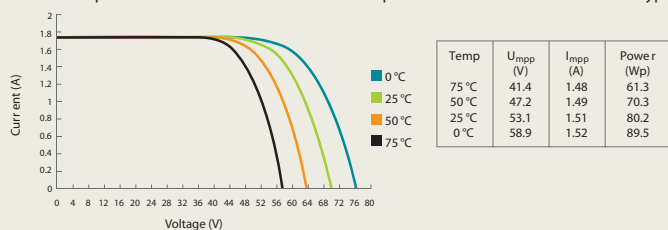
- \* Tolerance of the electrical parameters ± 10%
- \*\* Limited: See explanation in the Electrical Configuration section in the installation instructions for Soltecture PV modules.
- \*\*\* Please get in touch with us or the respective manufacturer of the roofing membrane to obtain approval for the system solution.
- \*\*\*\* Observe installation instructions for Soltecture PV modules.



Thermal behavior		
Working temperature (NOCT)	49 °C	
Power temperature coefficient T <sub>c</sub> (P <sub>max</sub> )	-0.50%/K	
Voltage temperature coefficient T <sub>c</sub> (U <sub>oc</sub> )	-0.35%/K	
Current temperature coefficient T <sub>c</sub> (I <sub>sc</sub> )	+0.01%/K	
Operating conditions		
Temperature range	-40 °C to +85 °C	
Maximum mechanical load***	IEC 61730	2400 Pa; 245 kg/m <sup>2</sup>
	UL 1703	1600 Pa; 33 lb/ft <sup>2</sup>
Maximum torsion	1.2°	
IP code (to DIN EN 60529)	IP65	
Protection class (to DIN EN 61140)	II	
Application class (to IEC 61730)	A	
Fire rating (to IEC 61730)	C	

Dimensions of the flat roof element	
Height / Width / Length	222 mm / 1163 mm / 1260 mm
Weight	15.5 kg
System's mass per unit area	12.3 kg / m <sup>2</sup>
Additional data	
Recommended string fuse	3 A (e.g. Socomec 60PV0003)
Included bypass diode	1 x Diotec BY550-1000
Connection cable	(+) 1000 mm; (-) 1000 mm
Plug connector	Y-SOL 4
Cell type	CIGSe thin-film
Front glass	3 mm tempered safety glass
Rear glass	3 mm float glass
Encapsulation	EVA

Example characteristic curves at various temperatures – Linion 80 module type



Example characteristic curves at various irradiances – Linion 80 module type

