

AENOR

Keymark Certificate Solar thermal energy



078/000361

AENOR certifies that the organization

TERMICOL ENERGÍA SOLAR, S.L.

registered office **POLIGONO INDUSTRIAL LA ISLA - CL RIO VIEJO, 39 41703 DOS HERMANAS (Sevilla - España)**

supplies **Solar collectors**

in compliance with **UNE-EN 12975-1:2006+A1:2011 (EN 12975-1:2006+A1:2010)**

Trade Mark **S26, S26H**
Technical information **Specified in Annexes to the Certificate**

Production site **POLIGONO INDUSTRIAL LA ISLA - CL RIO VIEJO, 39 41703 DOS HERMANAS (Sevilla - España)**

Certification scheme **In order to grant this Certificate, AENOR has tested the product and has verified the quality system implemented for its manufacture. AENOR performs these tasks periodically while the Certificate has not been cancelled, in accordance with Specific Rules RP 078.01.**

First issued on **2020-07-23**
Validity date **2025-07-23**

Rafael GARCÍA MEIRO
Chief Executive Officer

Original Electronic Certificate

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Product certification body accredited by ENAC, number 1/C-PR271





Annex to Solar Keymark Certificate Supplementary Information	Licence Number	078/000361
	Issued	2020-07-23

Annual collector output in kWh/collector at mean fluid temperature ϑ_m													
Standard Locations		Athens			Davos			Stockholm			Würzburg		
Collector name	ϑ_m	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C
S26H		2.949	2.033	1.276	2.193	1.464	879	1.625	1.022	591	1.771	1.105	629
S26		2.949	2.033	1.276	2.193	1.464	879	1.625	1.022	591	1.771	1.105	629
Annual output per m ² gross area		1.166	804	504	867	579	348	642	404	234	700	437	249
Annual efficiency, η_a		66%	46%	29%	53%	36%	21%	55%	35%	20%	56%	35%	20%
Fixed or tracking collector		Fixed (slope = latitude - 15°; rounded to nearest 5°)											
Annual irradiation on collector plane		1765 kWh/m ²			1630 kWh/m ²			1166 kWh/m ²			1244 kWh/m ²		
Mean annual ambient air temperature		18,5°C			3,2°C			7,5°C			9,0°C		
Collector orientation or tracking mode		South, 25°			South, 30°			South, 45°			South, 35°		
The collector is operated at constant temperature ϑ_m (mean of in- and outlet temperatures). The calculation of the annual collector performance is performed with the official Solar Keymark spreadsheet tool Scenocalc Ver. 6.1 (September 2019). A detailed description of the calculations is available at http://www.estif.org/solarkeymarknew/													

Additional Information						
Collector heat transfer medium					Water-Glycole	
The collector is deemed to be suitable for roof integration					Yes	
The collector was tested successfully under the following conditions:						
Climate class (A+, A, B or C)					A	--
G (W/m ²) >	1000	ϑ _a (°C) >	20	H _x (MJ/m ²) >	600	
Maximum tested positive load					3000	Pa
Maximum tested negative load					2500	Pa
Hail resistance using ice balls (diameter)					25	mm

Additional collector attribute(s)	
☐ Using external power source(s) for normal operation	☐ Active or passive measure(s) for self-protection
☐ Co-generating thermal and electrical power	☐ Façade collector(s)

Energy Labelling Information		Additional Informative Technical Data	
	Reference Area, A _{sol} (m ²)	Hydraulic Designation Code	Aperture Area, A _a (m ²)
S26H	2,53	18-H-1234S-A:7,1115-C:16,2108-D	2,44
S26	2,53	11-V-1234S-A:7,1915:16,1308-D	2,44

Data required for CDR (EU) No 811/2013 - Reference Area A _{sol}		Data required for CDR (EU) No 812/2013 - Reference Area A _{sol}	
Collector efficiency (η_{col})	56%	Zero-loss efficiency (η_0)	0,73
Remark: Collector efficiency (η_{col}) is defined in CDR (EU) No 811/2013 as collector efficiency of the solar collector at a temperature difference between the solar collector and the surrounding air of 40 K and a global solar irradiance of 1000 W/m ² , expressed in % and rounded to the nearest integer. Deviating from the regulation η_{col} is based on reference area (A _{sol}) which is aperture area for values according to EN 12975-2 or gross area for ISO 9806:2017.		First-order coefficient (a_1)	3,86
		Second-order coefficient (a_2)	0,011
		Incidence angle modifier IAM (50°)	0,94
		Remark: The data given in this section are related to collector reference area (A _{sol}) which is aperture area for values according to EN 12975-2 or gross area for ISO 9806. Consistent data sets for either aperture or gross area can be used in calculations like in the regulation 811 and 812 and simulation programs.	