



Keymark Certificate



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.

This certificate supersedes 078/000361, dated 2020-07-23

First issued on 2020-07-23


Modified on 2022-07-21

Validity date 2025-07-23

Rafael GARCÍA MEIRO
Chief Executive Officer





Annex to Solar Keymark Certificate		Licence Number		078/000361							
		Date issued		2022-07-21							
		Issued by		AENOR							
Licence holder		TERMICOL ENERGÍA SOLAR, S.L.		Country SPAIN							
Brand (optional)		--		Web http://www.termicol.es							
Street, Number		C/ Rio Viejo 39		E-mail info@termicol.com							
Postcode, City		41703 Dos Hermanas - SEVILLA		Tel +34 954 930 545							
Collector Type				Flat plate collector							
Collector name		Gross area (A_G)	Gross length	Gross width	Gross height	Power output per collector					
						G _b = 850 W/m ² , G _d = 150 W/m ² & u = 1.3 m/s θ _m - θ _a					
		m ²	mm	mm	mm	0 K	10 K	30 K	50 K	70 K	81 K
						W	W	W	W	W	W
S26H		2,53	1.240	2.040	49	1.840	1.739	1.522	1.282	1.020	866
S26		2,53	2.040	1.240	49	1.840	1.739	1.522	1.282	1.020	866
Power output per m² gross area						727	687	601	507	403	342
Performance parameters test method		Steady state - indoor									
Performance parameters (related to A_G)		η ₀ , b	a1	a2	a3	a4	a5	a6	a7	a8	Kd
Units		-	W/(m ² K)	W/(m ² K ²)	J/(m ³ K)	-	J/(m ² K)	s/m	W/(m ² K ⁴)	W/(m ² K ⁴)	-
Test results		0,736	3,86	0,011	0,000	0,00	4.164	0,000	0,00	0,0E+00	0,95
Incidence angle modifier test method		Steady state - outdoor									
Incidence angle modifier		Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
Transversal		K _{θT, coll}	1,00	0,99	0,99	0,97	0,95	0,91	0,83	0,58	0,00
Longitudinal		K _{θL, coll}	1,00	0,99	0,99	0,97	0,95	0,91	0,83	0,58	0,00
Heat transfer medium for testing				Water							
Flow rate for testing (per gross area, A_G)				dm/dt		0,020		kg/(sm ²)			
Maximum temperature difference during thermal performance test						(θ _m -θ _a) _{max}		51		K	
Standard stagnation temperature (G = 1000 W/m²; θ_a = 30 °C)						θ _{stg}		201		°C	
Maximum operating temperature						θ _{max op}		210		°C	
Maximum operating pressure						ρ _{max, op}		800		kPa	
Testing laboratory		Fundación CENER, LEST					http://www.cener.com				
Test report(s)		30.3127.0-002 R 30.3505.0-01 R 30.3736.0-001 / 30.3736.0 R					Dated		15/06/2022 15/06/2022 26/05/2020 15/06/2022		
Comments of testing laboratory				Datashet version: 6.1, 2019-09-26							
--				 CENER							
AENOR INTERNACIONAL, S.A.U. - Génova, 6. - 28004 - Madrid, España - Tel. 91 432 60 00 - www.aenor.com											
Product certification body accredited by ENAC, number 1/C-PR271											



Annex to Solar Keymark Certificate Supplementary Information	Licence Number	078/000361
	Issued	2022-07-21

Annual collector output in kWh/collector at mean fluid temperature ϑ_m													
Collector name	Standard Locations ϑ_m	Athens			Davos			Stockholm			Würzburg		
		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)	
<input type="checkbox"/> Using external power source(s) for normal operation	<input type="checkbox"/> Active or passive measure(s) for self-protection
<input type="checkbox"/> Co-generating thermal and electrical power	<input type="checkbox"/> 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.	