

Annex to Solar Keymark Certificate					Licence Number		011-7S3225 R							
					Date issued		2025-03-24							
					Issued by		DIN CERTCO							
Licence holder		SIDITE ENERGY CO., LTD			Country		China							
Brand (optional)		Sidite			Web		www.sidite-solar.com							
Street, Number		Yuxin Industrail Park, Yuxin Town			E-mail		info@sidite.com							
Postcode, City		Jiaxing City, Zhejiang Province			Tel		+0573 83225522							
Collector Type					Evacuated tubular collector									
Collector name					Gross area (A_G) m ²	Gross length mm	Gross width mm	Gross height mm	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					
									0 K	10 K	30 K	50 K	70 K	82 K
SC-H-10					1.63	2,009	810	190	670	639	543	404	220	91
SC-H-15					2.37	2,009	1,179	190	976	930	791	588	321	133
SC-H-18					2.82	2,009	1,404	190	1,162	1,108	942	700	382	158
SC-H-20					3.12	2,009	1,554	190	1,286	1,226	1,043	775	423	175
SC-H-24					3.72	2,009	1,854	190	1,534	1,463	1,244	925	505	208
SC-H-25					3.88	2,009	1,929	190	1,596	1,522	1,294	962	525	217
SC-H-30					4.64	2,009	2,309	190	1,911	1,821	1,549	1,151	629	260
Power output per m² gross area					412	393	334	248	136	56				
Performance parameters test method					Steady state - outdoor									
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					0.410	1.59	0.034	0.000	0.00	8,423	0.000	0.00	0.00	1.03
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}	1.02	1.03	1.15	1.26	1.33	1.40	0.93	0.47	0.00
Longitudinal					K _{θL, coll}	1.00	0.99	0.98	0.95	0.90	0.81	0.66	0.41	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}		51.9		K					
Standard stagnation temperature (G = 1000 W/m²; θ_a = 30 °C)					θ _{stg}		210		°C					
Maximum operating temperature					θ _{max op}		230		°C					
Maximum operating pressure					p _{max,op}		1000		kPa					
Testing laboratory					Intertek Testing Services Shenzhen Ltd. Guangzhou Branch					http://www.intertek.com				
Test report(s)					231027147GZU-001					Dated		2025/3/24		
Comments of testing laboratory					Ver. 6.2 (13.01.2022)									
<i>All test results in this datasheet are tested from model SC-H10.</i>					 Stamp & signature									
DIN CERTCO ● Alboinstraße 56 ● 12103 Berlin, Germany Tel: +49 30 7562-1131 ● Fax: +49 30 7562-1141 ● E-Mail: info@dincertco.de ● www.dincertco.de														

Annex to Solar Keymark Certificate Supplementary Information	Licence Number	011-7S3225 R
	Issued	2025-03-24

Gross Thermal Yield 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
SC-H-10		1,215	844	429	919	555	220	690	413	172	751	447	189
SC-H-15		1,769	1,229	625	1,337	808	320	1,005	601	251	1,093	651	275
SC-H-18		2,107	1,464	744	1,592	962	381	1,196	715	299	1,302	776	328
SC-H-20		2,332	1,620	823	1,762	1,064	422	1,324	792	331	1,441	859	363
SC-H-24		2,782	1,933	982	2,103	1,270	503	1,580	944	394	1,720	1,024	433
SC-H-25		2,895	2,011	1,022	2,188	1,321	524	1,644	983	410	1,789	1,066	450
SC-H-30		3,465	2,407	1,223	2,619	1,582	627	1,968	1,176	491	2,142	1,276	539
Gross Thermal Yield per m ² gross area		747	519	264	564	341	135	424	254	106	462	275	116
Annual efficiency, η_a		42%	29%	15%	35%	21%	8%	36%	22%	9%	37%	22%	9%
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. 6.2 (13.01.2022). 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				No	
The collector was tested successfully under the following conditions:					
Climate class (A+, A, B or C)				B	--
G (W/m ²) >	900	θ _a (°C) >	15	H _x (MJ/m ²) >	540
Maximum tested positive load				2500	Pa
Maximum tested negative load				1500	Pa
Hail resistance using steel ball (maximum drop height)				1	m

Additional collector attribute(s)			
Using external power source(s) for normal operation	No	Active or passive measure(s) for self-protection	No
Co-generating thermal and electrical power	No	Façade collector(s)	No

Energy Labelling Information		Additional Informative Technical Data	
	Reference Area, A_{sol} (m ²)	Hydraulic Designation Code	Aperture Area, A_a (m ²)
SC-H-10	1.63	1-H-12S-C:36,885-D	0.98
SC-H-15	2.37	1-H-12S-C:36,1260-D	1.47
SC-H-18	2.82	1-H-12S-C:36,1485-D	1.76
SC-H-20	3.12	1-H-12S-C:36,1635-D	1.96
SC-H-24	3.72	1-H-12S-C:36,1935-D	2.35
SC-H-25	3.88	1-H-12S-C:36,2010-D	2.44
SC-H-30	4.64	1-H-12S-C:36,2385-D	2.93

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})	29%	Zero-loss efficiency (η_0)	0.41
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)	1.59
		Second-order coefficient (a_2)	0.034
		Incidence angle modifier IAM (50°)	1.17
		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.	