



Annex to Solar Keymark Certificate Supplementary Information	Licence Number	OEM 10093.2.4
	Issued	2024-04-20

Collector name	Standard Locations	Athens			Davos			Stockholm			Würzburg		
	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
SimeLux 2.0		2.393	1.723	1.068	1.845	1.248	714	1.355	878	492	1.470	947	522
SimeLux 2.5		2.991	2.154	1.335	2.306	1.560	893	1.694	1.097	615	1.837	1.184	652
Annual output per m ² gross area		1.197	862	534	923	624	357	677	439	246	735	474	261
Annual efficiency, η_a		68%	49%	30%	57%	38%	22%	58%	38%	21%	59%	38%	21%
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	No
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	3000 Pa
Hail resistance using steel ball (maximum drop height)	2 m

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)
SimeLux 2.0	2,00	12-VH-1234S-A:7.2,1525-C:20.6,1255-	1,91
SimeLux 2.5	2,50	12-VH-1234S-A:7.2,1920-C:20.6,1255-	2,39

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})	60%	Zero-loss efficiency (η_0)	0,76 --
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)	2,99 W/(m ² K)
		Second-order coefficient (a_2)	0,027 W/(m ² K ²)
		Incidence angle modifier IAM (50°)	0,91 --
		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.	