





<b>Annex to Solar Keymark Certificate</b>	<b>Licence Number</b>	<b>SKM 10109.1.5</b>
<b>Supplementary Information</b>	<b>Issued</b>	<b>2025-09-20</b>

Gross Thermal Yield in kWh/collector at mean fluid temperature $\vartheta_m$																	
Collector name	Standard Locations					Athens			Davos			Stockholm			Würzburg		
	$\vartheta_m$	25°C	50°C	75°C	$\vartheta_m$	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C
PSC20		2.339	1.565	911		1.722	1.098	596		1.277	770	407		1.393	831	433	
PSC25		2.955	1.976	1.151		2.175	1.387	752		1.613	973	514		1.759	1.050	546	
Gross Thermal Yield per m <sup>2</sup> gross area		1.231	824	480		906	578	313		672	405	214		733	437	228	
Annual efficiency, $\eta_a$		70%	47%	27%		56%	35%	19%		58%	35%	18%		59%	35%	18%	
Fixed or tracking collector	Fixed (slope = latitude - 15°; rounded to nearest 5°)																
Annual irradiation on collector plane	1765 kWh/m <sup>2</sup>				1630 kWh/m <sup>2</sup>				1166 kWh/m <sup>2</sup>				1244 kWh/m <sup>2</sup>				
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  $\vartheta_m$  (mean of in- and outlet temperatures). The calculation of the annual collector performance is performed with the official Solar Keymark spreadsheet tool Senocalc 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)	A		--
G (W/m <sup>2</sup> ) >	1000	$\vartheta_a$ (°C) >	20
		$H_x$ (MJ/m <sup>2</sup> ) >	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)

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 <sup>2</sup> )	Hydraulic Designation Code	Aperture Area, $A_a$ (m <sup>2</sup> )
PSC20	1,90	10-VH-12345-A:7.2,1890-C:20,1030-D	1,80
PSC25	2,40	11-VH-12345-A:7.2,1890-C:20,1280-D	2,29

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 ( $\eta_{col}$ )	57%	Zero-loss efficiency ( $\eta_0$ )	0,77
Remark: Collector efficiency ( $\eta_{col}$ ) 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 <sup>2</sup> , expressed in % and rounded to the nearest integer. Deviating from the regulation $\eta_{col}$ 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 ( $a_1$ )	4,24
		Second-order coefficient ( $a_2$ )	0,019
		Incidence angle modifier IAM (50°)	0,95
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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.			