

Number	KIP-089870/01	Replaces	-
Issued	15/10/2015	First edition	15/10/2015
Report number	100179791	Expiry date	14/10/2020
Page	1 of 1	Contract number	KIP TH 750

## Product Certificate Solar Thermal Products

Kiwa Cermet Italia hereby declares that the solar-thermal collector, type

**iSOL 2,5 m<sup>2</sup>**

supplied by **ATAG Heating Technology UK Limited**  
**47 Castle Street, Reading, Berkshire RG1 7SR, UK**

Is entitled to use the Solar Keymark label.

The compliance is based on examination to:  
EN 12975-1:2006+A1:2010, EN 12975-2:2006 and the  
Specific Keymark Scheme Rules for Solar Thermal Products V26.00

A description of the test results is given in the appendix to this certificate.

*This certificate is issued in accordance with the Kiwa Cermet Italia regulations.*

*Publication of the certificate is allowed.*

*The validity of this certificate is subject to the positive result of periodic surveillance visits.*

Chief Operating Officer  
Giampiero Belcredi



**034**

Certificate

**Kiwa Cermet Italia S.p.A.**

Società con socio unico, soggetta all'attività di direzione e coordinamento di Kiwa Italia Holding Srl

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SGQ N° 007A SSI N° 006G  
SGA N° 010D FSM N° 004I  
PRD N° 069B

Summary of EN 12975 Test Results, annex to Solar KEYMARK Certificate							Licence Number		KIP-089870/01							
							Issued		2015-10-15							
Company holding the			ATAG Heating Technology UK Limited				Country		UK							
Brand (optional)							Website		www.atagheating.co.uk							
Street, street number			Castle Street				E-mail		enquiries@atag-heating.co.uk							
Postal Code / City, province			RG1 7SR		Reading Berkshire		Tel/Fax		44 0800 254 5061							
Collector Type (flat plate glazed/un-glazed; evacuate tubular)							Flat plate collector - glazed									
Thermal / photo voltaic hybrid collector? (PVT collector)							No									
Integration in the roof possible ? (manufacturers declaration)							Yes									
							Power output per collector module									
							G = 1000 W/m <sup>2</sup>									
							Tm-Ta									
							0 K	10 K	30 K	50 K	70 K					
Collector name							W	W	W	W	W					
Aperture area (Aa)		Gross length	Gross width	Gross height	Gross area (AG)	0 K	10 K	30 K	50 K	70 K						
m <sup>2</sup>		mm	mm	mm	m <sup>2</sup>	W	W	W	W	W						
iSOL 2,5 m2		2,28	2.118	1.181	94	2,50	1.952	1.863	1.656	1.412	1.128					
Performance test method							Glazed liquid heating collector - steady state - indoor									
Performance parameters related to aperture area							η <sub>0</sub>	a <sub>1</sub>	a <sub>2</sub>							
Units							-	W/(m <sup>2</sup> K)	W/(m <sup>2</sup> K <sup>2</sup> )							
Test results - Flow rate and fluid see note 1							0,856	3,688	0,021							
Bi-directional incidence angle modifiers?							Yes									
							Kθ values are obligatory for 50°.									
Incidence angle modifiers Kθ(θT) transversal direction							Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
							Kθ(θT)	1,00	1,00	0,99	0,98	0,96	0,93	0,87		0,00
Incidence angle modifiers Kθ(θL) longitudinal direction							Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
							Kθ(θL)	1,00	1,00	0,99	0,98	0,96	0,93	0,87		0,00
Stagnation temperature - Weather conditions see note 2							Tstg		210		°C					
Effective thermal capacity							ceff = C/Ag		5,84		kJ/(m <sup>2</sup> K)					
Max. intended operation temperature - see note 3							Tmax,op		120		°C					
Max. operation pressure - see note 3							pmax,op		600		kPa					
Pressure drop table - for a collector family, the values shall be for the module with highest ΔP per m <sup>2</sup> aperture area																
Flow rate	kg/(s m <sup>2</sup> )	0,003	0,007	0,010	0,013	0,017	0,020	0,023	0,027	0,030	0,033					
Pressure drop, ΔP	Pa	11	44	100	178	278	400	544	711	900	1111					
Optional weather data			Location			Link										
Testing Laboratory			CENER; Kiwa Nederland B.V.													
Website			www.cener.com; www.1kiwa.com													
Test report id. number			30.1586; 120300931				Date of test report		19/05/2011; 28/08/2012							
During the test GDIF/GTOT was always between			0,1		and		0,2									
Comments of testing laboratory:																
Performance test performed by Kiwa Nederland B.V.																
Note 1	Flow rate	0,020	kg/(s m <sup>2</sup> )	Fluid	Water											
Note 2	Irradiance, G = 1000 W/m <sup>2</sup> ; Ambient temperature, Ta=30 °C															
Note 3	Given by manufacturer															
 Kiwa Cermet Italia S.p.A.																
Datasheet version: 4.06, 2014-01-15																
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Annual collector output based on EN 12975 Test Results, annex to Solar KEYMARK Certificate	<b>Licence Number</b>	<b>KIP-089870/01</b>
	Issued	15/10/2015

Annual collector output kWh/module															
Collector name	Location and collector temperature (Tm)														
	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			
iSOL 2,5 m2	3.167	2.291	1.483	2.429	1.678	1.022	1.788	1.176	693	1.944	1.274	739			

Collector mounting: Fixed or tracking	Fixed; slope = latitude - 15° (rounded to nearest 5°)
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Overview of locations				
Location	Latitude °	Gtot kWh/m <sup>2</sup>	Ta °C	Collector orientation or tracking mode
Athens	38	1.765	18,5	South, 25°
Davos	47	1.714	3,2	South, 30°
Stockholm	59	1.166	7,5	South, 45°
Würzburg	50	1.244	9,0	South, 35°

Gtot	Annual total irradiation on collector plane	kWh/m <sup>2</sup>
Ta	Mean annual ambient air temperature	°C
Tm	Constant collector operating temperature (mean of in- and outlet temperatures)	°C

The calculation of the annual collector performance is performed with the official Solar Keymark spreadsheet tool ScenoCalc. The collector output is calculated hour by hour according to the efficiency parameters from the Keymark test using constant collector operating temperature (Tm). A detailed description of the calculations is available at <http://www.sp.se/en/index/services/solar/ScenoCalc/Sidor/default.aspx>.

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	ScenoCalc version: Ver. 4.06 (Jan, 2014)