DIN CERTCO
Gesellschaft für Konformitätsbewertung mbH

CERTIFICATE

Certificate holder	**Riello S.p.A.** **Via Ing. Pilade Riello 7** **37048 Legnago VR** **ITALY**
Production facility	Morbegno
Product	Solar collectors
Type, Model	CP25TLA
Testing basis	DIN EN 12975-1:2011-01 DIN EN 12975-2:2006-06 Specific CEN Keymark Scheme Rules for Solar Thermal Products Version 29.00 (2016-12)
Mark of conformity	
Registration No.	011-7S1951 F
Valid until	2022-05-31
Right of use	This certificate entitles the holder to use the mark of conformity shown above in conjunction with the specified registration number. See annex for further information.

DAkkS
Deutsche
Akkreditierungsstelle
D-ZE-11125-01-00

2017-07-13

Dipl.-Phys. Carlo Seiser
Deputy Head of Certification Body

GESELLSCHAFT FÜR KONFORMITÄTSBEWERTUNG MBH
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ANNEX

Certificate

011-7S1951 F dated 2017-07-13

Technical Data

See data sheet, part of the test report of 2012-05-28

Note(s):

- The freeze resistance test according to DIN EN 12975-2, clause 5.8 was not necessary. According to the manufacturer's declaration, the certified solar collectors may be used in frost exposed areas only in combination with appopriate frost protection mixtures or with appropriate frost protection controller.

- The optional impact resistance test according to DIN EN 12975-2, clause 5.10 was not carried out.

Testing laboratory/ Inspection body

Institut für Solartechnik SPF
Hochschule für Technik
Rapperswil
Oberseestraße 10
8640 Rapperswil
SWITZERLAND

Test report(s)

No. C1441QPEN dated 2012-05-28
No. C1441LPEN-A1 dated 2012-09-04

TÜVRheinland®
DIN CERTCO

SPF Solartechnik Prüfung Forschung

Summary of EN 12975 Test Results, annex to Solar KEYMARK Certificate	**Certificate No.**	**011-7S1951 F**
	Date of issue	04.09.2012

Company	Riello S.p.A.	**Country**		Italy
Brand (optional)	--	**Website**		www.riellogroup.com
Street, number	Via Mussa 20	**E-mail**		info@riello.it
Postal Code	35017	**Tel.**	+39	049 932 39 11
City	Piombino Dese	**Fax**	+39	049 932 39 46

Collector Type (flat plate / evacuate tubular / un-glazed)	Flat plate collector
Integration in the roof possible ?	Yes

Collector name	Aperture area (A_a) [m²]	Gross length [mm]	Gross width [mm]	Gross height [mm]	Gross area (A_G) [m²]	Power output per collector unit G = 1000 W/m², Tm-Ta : 0 K [W]	10 K [W]	30 K [W]	50 K [W]	70 K [W]
CP25TLA	2.213	2'032	1'180	99	2.398	1'700	1'605	1'407	1'198	977

Collector efficiency parameters related to aperture area (Aa) Type of fluid and flow rate see note 1	η_{0a}	0.768	-
	a_{1a}	4.21	W/(m²K)
	a_{2a}	0.0065	W/(m²K²)
Stagnation temperature - Weather conditions see note 2	tstg	202	°C
Effective thermal capacity	ceff = C/Aa	5.5	kJ/(m²K)
Max. operation pressure - see note 3	pmax	1000	kPa

Incidence angle modifiers $K_\theta(\theta)$	G_{DIF}/G_{TOT} min	G_{DIF}/G_{TOT} max	θ_T / θ_L	50°	*10°*	*20°*	*30°*	*40°*	*60°*	*70°*
	0.16	0.22	$K_\theta(\theta_T)$	0.92	*1.00*	*1.00*	*0.99*	*0.97*	*0.84*	*0.70*
			$K_\theta(\theta_L)$	0.92	*1.00*	*1.00*	*0.99*	*0.97*	*0.84*	*0.70*
G_{DIF}/G_{TOT}: min&max - while measuring					***Optional values***					

Testing Laboratory	SPF, CH-8640 Rapperswil
Website	www.solarenergy.ch
Test report id. number	C1441LPEN-A1, C1441QPEN
Date of test report	04.09.2012 /28.05.2012
Perf. test method	EN 12975-2 6.1.4 (outdoor)

Comments of testing laboratory :

Note 1	**Fluid**	Water-Glycole	**Flow rate**	0.024	kg/s per m²
Note 2	**Irradiance, Gs=1000 W/m²** **Ambient temperature , Ta=30 °C**				
Note 3	**Given by manufacturer**				

Dr. Andreas Bohren

VERSION 3.5, 2012.01.13

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Annual collector output based on EN 12975 Test Results, annex to Solar KEYMARK Certificate	Certificate No.	011-7S1951 F
	Issued	04.09.2012

Annual collector output kWh

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
CP25TLA	2'663	1'829	1'175	2'122	1'422	887	1'460	928	559	1'589	997	592

Collector mounting: Fixed or tracking	Fixed; slope = latitude - 15° (rounded to nearest 5°)

Overview of locations

Location	Latitude °	Gtot kWh/m²	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/m²
Ta	Mean annual ambient air temperature	°C
Tm	Constant collector operating temperature (mean of in- and outlet temperatures)	°C

Calculation of the annual collector performance is done by the official Solar Keymark spreadsheet tool. Hour by hour the collector output is calculated according to the efficiency parameters from the Keymark test using constant collector operating temperature (Tm). Detailed description with all equations used is available from the Solar Keymark web site (direct link: http://www.estif.org/solarkeymark/annexb1.php)

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Datasheet version:
VERSION 3.5, 2012.01.13
Calculation program version:
3.07, October 2011 (SP)

RIELLO S.p.A.

Via Risorgimento, 13
23900 Lecco (LC)
Tel. +39 0341 277111

RIELLO S.p.A.
Società con Socio unico soggetta alla direzione e coordinamento di Riello Group SPA
Sede legale e amministrativa
37045 Legnago (VR) - Via Ing. Pilade Riello 7
Cap. soc. € 7.117.400,00 i.v.
Reg. delle Imp. di Verona N. 02641790239
C.F. e Part. IVA 02641790239

Piombino Dese, 29 Giugno 2015

DICHIARAZIONE DI CORRISPONDENZA

La società

Riello SpA Heating Products Direction
Via Ing. Pilade Riello 7
37045 Legnago
ITALIA

dichiara che i collettori solari serie CP e sistemi a circolazione naturale TSSA dotati di certificazione Solar Keymark e costruiti presso lo stabilimento di Piombino Dese, sono tecnicamente identici ai collettori solari e ai sistemi a marchio Sylber secondo quanto riportato nella tabella allegata.

DECLARATION OF CORRESPONDENCE

The company

Riello SpA Heating Products Direction
Via Ing. Pilade Riello 7
37045 Legnago
ITALIA

declare that the solar collectors type CP and thermosiphon system TSSA certified Solar Keymark and manufactured in the factory located in Piombino Dese, are technically identical to the solar collectors and to the systems with the Sylber brand according to the enclosed table.

Riccardo Rompani
Product Marketing Residential HVAC Manager
Riello S.p.A.

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Descrizione collettore solare Solar collector type	Marchio / Brand Sylber	Certificato n. Certificate n.
CP20TSA	CF-20N	011-7S1765 F
CP25TLA	CFI-25N	011-7S1951 F
CP25TVA	CF-25N	011-7S1766 F
CP25VOA	CFO-25N	011-7S2056 F
TSSA BLACK 200/1	CNS 200/1	111 BN/0
TSSA BLACK 300/2	CNS 300/2	111 BN/0

CP20TSS	CFS-20	011-7S2400 F
CP25TVS	CFS-25	011-7S2399 F
CP25TOS	CFO-25S	011-7S2505 F