



SOLAR RATING & CERTIFICATION CORPORATION

CERTIFIED SOLAR COLLECTOR

SUPPLIER:
Kingspan Environmental Ltd.
 180 Gilford Road
 Portadown, CO. ARMAGH BT63 5LF United Kingdom (UK)
 www.kingspanenviro.com

BRAND: Kingspan Solar
 MODEL: FPW25
 COLLECTOR TYPE: Glazed Flat Plate
 CERTIFICATION #: 10001871
 Original Certification: August 26, 2013
 Expiration Date: July 17, 2025

In Accordance with:
SRCC Standard 100-2013-01

The solar collector listed below has been evaluated by the Solar Rating & Certification Corporation™ (SRCC™), an ISO/IEC 17065 accredited and EPA recognized Certification Body, in accordance with SRCC OG-100, Operating Guidelines and Minimum Standards for Certifying Solar Collectors, and has been certified by the SRCC. This award of certification is subject to all terms and conditions of the Program Agreement and the documents incorporated therein by reference. This document must be reproduced in its entirety.

COLLECTOR THERMAL PERFORMANCE RATING							
Kilowatt-hours (thermal) Per Panel Per Day				Thousands of Btu Per Panel Per Day			
Climate ->	High Radiation (6.3 kWh/m ² .day)	Medium Radiation (4.7 kWh/m ² .day)	Low Radiation (3.1 kWh/m ² .day)	Climate ->	High Radiation (2000 Btu/ft ² .day)	Medium Radiation (1500 Btu/ft ² .day)	Low Radiation (1000 Btu/ft ² .day)
Category (Ti-Ta)				Category (Ti-Ta)			
A (-5 °C)	10.7	8.1	5.5	A (-9 °F)	36.5	27.6	18.7
B (5 °C)	9.8	7.2	4.6	B (9 °F)	33.5	24.6	15.7
C (20 °C)	8.4	5.8	3.3	C (36 °F)	28.7	20.0	11.3
D (50 °C)	5.8	3.4	1.1	D (90 °F)	19.8	11.5	3.8
E (80 °C)	3.3	1.3	0.0	E (144 °F)	11.3	4.3	0.0

A- Pool Heating (Warm Climate) B- Pool Heating (Cool Climate) C- Water Heating (Warm Climate)
 D- Space & Water Heating (Cool Climate) E- Commercial Hot Water & Cooling

COLLECTOR SPECIFICATIONS					
Gross Area:	2.421 m ²	26.06 ft ²	Dry Weight:	44 kg	97 lb
Net Aperture Area:	2.230 m ²	24.00 ft ²	Fluid Capacity:	1.3 liter	0.3 gal
Absorber Area:	2.230 m ²	24.00 ft ²	Test Pressure:	1000 kPa	145 psi

TECHNICAL INFORMATION			Tested in accordance with: ISO 9806:1994		
ISO Efficiency Equation [NOTE: Based on gross area and (P)=Ti-Ta]					
SI UNITS:	$\eta = 0.719 - 3.30550(P/G) - 0.00960(P^2/G)$	Y Intercept:	0.727	Slope:	-4.021 W/m ² .°C
IP UNITS:	$\eta = 0.719 - 0.58257(P/G) - 0.00094(P^2/G)$	Y Intercept:	0.727	Slope:	-0.709 Btu/hr.ft ² .°F

Incident Angle Modifier								Test Fluid:	
θ	10	20	30	40	50	60	70	Water	
K _{τα}	1.00	0.99	0.98	0.97	0.93	0.86	0.67	Test Mass Flow Rate:	0.0179 kg/(s m ²) 13.23 lb/(hr ft ²)
Impact Safety Rating: 11									

REMARKS:

Jean Higgins

Technical Director

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ADDITIONAL INFORMATION (click here to return to the rating page)			
Test Lab:	Forschungs- und Testzentrum für Solaranlagen (TZS) am Institut für Thermodynamik und Wärmetechnik (ITW) der Universität Stuttgart	Test Date:	July 17, 2013
Test Report Number:	12COL1129S	Test Location:	indoors

SOLAR COLLECTOR CONSTRUCTION DETAILS					
Gross Length:	1.988 m	Gross Width:	1.218 m	Gross Depth:	90.000 mm

COLLECTOR MATERIALS					
Outer Cover:	Glass sheet	Enclosure back:	Aluminum	Back Insulation:	Fiber, None
Inner Cover:	None	Enclosure side:	Aluminum	Side Insulation:	Fiber, None
Absorber Description:	Tubes connected to Single Sheet	Flow Pattern:	Parallel/Harp		
Riser Tube:	Copper	Fin:	Aluminum		
Absorber Coating:	Selective	Tube to fin connection	Laser Weld		

GLAZING	Outer Cover	Inner Cover
Material:	Glass sheet	None
Surface Characteristics:	Textured	
Thickness:	4.0 mm	N/A
Transmissivity:	High (equal to or greater than 90%)	
Length:	1.961 m	
Width:	1.191 m	
Tube Glazing to Header Enclosure Seal:	Silicone bead	

ABSORBER:	Absorber Coating:	Selective
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Header Material:	Copper	Header OD:	18.0 mm	Header Wall:	0.7 mm
Riser Tube Material:	Copper	Riser Tube OD:	8.0 mm	Riser Tube Wall Thickness:	0.4 mm
Fin Material:	Aluminum	Fin Thickness:	0.40 mm		

Flow Pattern:	Parallel/Harp				
Number of Riser Tubes:	12	Tube Spacing:	95.0 mm	Number of times each riser crosses the absorber:	1
Length of Flow Path:	1.94 m	Riser to Fin/Plate Bond:	Laser Weld		

INSULATION:					
Location	Type	Thickness	Location	Type	Thickness
Back – Top Layer:	Fiber	50.0 mm	Sides – Inner Layer:	Fiber	20.0 mm
Back – Bottom Layer:	None		Sides – Outer Layer:	None	
Enclosure Fastening Methods:	Rivets				

Power Output per Collector(W) [Ti-Ta, G = 1000 W/m ²]				
0	10	30	50	70
1741	1659	1480	1283	1068

PRESSURE DROP				
Flow	ΔP		Flow	ΔP
m/s	Pa		gpm	in H₂O
20	0		0.32	0.0
50	0		0.79	0.0
80	0		1.27	0.0



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