

**OG-100 ICC-SRCC™ CERTIFIED SOLAR COLLECTOR # 2007032D**


Supplier:  
**SunEarth, Inc.**  
 8425 Almeria Avenue  
 Fontana, CA 92335 USA  
 www.sunearthinc.com  
 Reference Standard:  
**SRCC Standard 100-2008-02**

Brand: Empire  
 Model: EP-32 / EP-32-0.75  
 Collector Type: Glazed Flat Plate  
 Certification #: 2007032D  
 Original Certification: June 25, 2009  
 Renewal Expiration Date: October 01, 2022  
 Certifications must be renewed annually.

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

**COLLECTOR THERMAL PERFORMANCE RATINGS**

Kilowatt-hours (thermal) Per Panel Per Day				Thousands of Btu Per Panel Per Day			
Climate -> Category (Ti-Ta)	High Radiation (6.3 kWh/m².day)	Medium Radiation (4.7 kWh/m².day)	Low Radiation (3.1 kWh/m².day)	Climate -> Category (Ti-Ta)	High Radiation (2000 Btu/ft².day)	Medium Radiation (1500 Btu/ft².day)	Low Radiation (1000 Btu/ft².day)
A (-5 °C)	12.5	9.3	6.3	A (-9 °F)	42.6	31.9	21.3
B (5 °C)	11.7	8.6	5.5	B (9 °F)	39.9	29.3	18.7
C (20 °C)	10.0	7.0	3.9	C (36 °F)	34.2	23.8	13.5
D (50 °C)	5.8	3.0	0.7	D (90 °F)	19.8	10.4	2.2
E (80 °C)	1.4	0.0	0.0	E (144 °F)	4.8	0.0	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

**TECHNICAL RESULTS**

Tested in accordance with: ISO 9806:1994

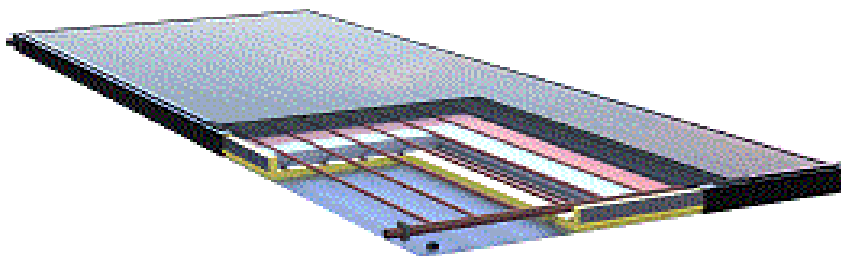
ISO Efficiency Equation [NOTE: Based on gross area and (P)=Ti-Ta]

SI UNITS:	$\eta = 0.718 - 2.30010(P/G) - 0.04399(P^2/G)$			Y Intercept:	0.744	Slope:	-5.162 W/m².°C
IP UNITS:	$\eta = 0.718 - 0.40538(P/G) - 0.00430(P^2/G)$			Y Intercept:	0.744	Slope:	-0.910 Btu/hr.ft².°F
Incident Angle Modifier							
$\theta$	10°	20°	30°	40°	50°	60°	70°
K $\tau_\alpha$	1.00	0.98	0.96	0.91	0.84	0.71	0.44
Impact Safety Rating:							

Impact Safety Rating:

**COLLECTOR SPECIFICATIONS**

Gross Area:	3.051 m²	32.84 ft²	Dry Weight:	48.1 kg	106.0 lb
Net Aperture Area:	2.769 m²	29.81 ft²	Fluid Capacity:	3.8 liter	1.0 gal
REMARKS:					



*Shawn Martin*

Technical Director

Print Date: January 20, 2022 Page 1 of 4

Please verify certification is active on the SRCC website [www.solar-rating.org](http://www.solar-rating.org).  
 © Solar Rating & Certification Corporation™ (ICC-SRCC) 3060 Saturn Street, Suite 100, Brea, CA 92821

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**ADDITIONAL INFORMATION** ([click here to return to the rating page](#))

**COLLECTOR TESTING INFORMATION**

Test Lab:	Bodycote	Test Date:	January 05, 2009
Test Report Number:	07-08-0532	Test Location:	
Test Fluid:	Water		
Test Mass Flow Rate:	0.0200 kg/(s m²)	14.75 lb/(hr ft²)	Test Pressure: 1103 kPa 160 psi

**SOLAR COLLECTOR CONSTRUCTION DETAILS**

Gross Length:	0.000 m	Gross Width:	0.000 m	Gross Depth:	0.000 mm
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**COLLECTOR MATERIALS**

Outer Cover:	Other	Enclosure back:	Aluminum	Back Insulation:	, Foam
Inner Cover:	None	Enclosure side:	Aluminum	Side Insulation:	Foam, None
Absorber Description:		Flow Pattern:			
Riser Tube:	Copper	Fin:			
Absorber Coating:	Moderately selective	Tube to fin connection			

GLAZING	Outer Cover	Inner Cover
Material:	Other	None
Surface Characteristics:		
Thickness:	0.0 mm	N/A
Transmissivity:		
Length:	0.000 m	
Width:	0.000 m	
Tube Glazing to Header Enclosure Seal:		

ABSORBER:	Absorber Coating:	Moderately selective
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<b>Header Material:</b>		<b>Header OD:</b>		<b>Header Wall:</b>	
<b>Riser Tube Material:</b>	Copper	<b>Riser Tube OD:</b>		<b>Riser Tube Wall Thickness:</b>	
<b>Fin Material:</b>		<b>Fin Thickness:</b>	0.00 mm		

<b>Flow Pattern:</b>					
<b>Number of Riser Tubes:</b>	0	<b>Tube Spacing:</b>		<b>Number of times each riser crosses the absorber:</b>	0
<b>Length of Flow Path:</b>	0.00 m	<b>Riser to Fin/Plate Bond:</b>			

<b>INSULATION:</b>					
Location	Type	Thickness	Location	Type	Thickness
<b>Back – Top Layer:</b>			<b>Sides – Inner Layer:</b>	Foam	
<b>Back – Bottom Layer:</b>	Foam		<b>Sides – Outer Layer:</b>	None	
<b>Enclosure Fastening Methods:</b>					

<b>Power Output per Collector(W)</b> [ Ti-Ta, G = 1000 W/m² ]				
0	10	30	50	70

<b>PRESSURE DROP</b>				
Flow	ΔP		Flow	ΔP
ml/s	Pa		gpm	in H <sub>2</sub> O
20			0.32	
50			0.79	
80			1.27	





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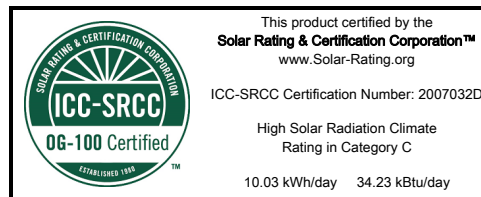
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### ICC-SRCC OG-100 Certification Label

The collectors listed in this certification must display the label below.

The certification label must be permanently affixed to each collector in accordance with SRCC OG-100 program requirements.



Print Date: January 20, 2022 Page 4 of 4

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