



**CERTIFIED SOLAR COLLECTOR**

SUPPLIER:  
**EnerWorks, Inc.**  
 969 Juliana Drive  
 Woodstock, ON N4V 1C1 Canada  
 www.enerworks.com

BRAND: Residential Collector  
 MODEL: COL-4x8-TL-SG1-SD10US  
 COLLECTOR TYPE: Glazed Flat Plate  
 CERTIFICATION #: 2005014A  
 Original Certification: September 14, 2006  
 Expiration Date: July 05, 2018

The solar collector listed below has been evaluated by the Solar Rating & Certification Corporation™ (SRCC™) 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.

COLLECTOR THERMAL PERFORMANCE RATING							
Kilowatt-hours (thermal) Per Panel Per Day				Thousands of Btu Per Panel Per Day			
Climate -> Category (Ti-Ta)	High Radiation (6.3 kWh/m <sup>2</sup> .day)	Medium Radiation (4.7 kWh/m <sup>2</sup> .day)	Low Radiation (3.1 kWh/m <sup>2</sup> .day)	Climate -> Category (Ti-Ta)	High Radiation (2000 Btu/ft <sup>2</sup> .day)	Medium Radiation (1500 Btu/ft <sup>2</sup> .day)	Low Radiation (1000 Btu/ft <sup>2</sup> .day)
A (-5 °C)	12.6	9.5	6.5	A (-9 °F)	42.8	32.4	22.1
B (5 °C)	11.3	8.2	5.2	B (9 °F)	38.5	28.1	17.8
C (20 °C)	9.3	6.3	3.4	C (36 °F)	31.7	21.6	11.5
D (50 °C)	5.3	2.7	0.4	D (90 °F)	18.2	9.1	1.5
E (80 °C)	1.9	0.1	0.0	E (144 °F)	6.3	0.4	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					
<b>Gross Area:</b>	2.874 m <sup>2</sup>	30.94 ft <sup>2</sup>	<b>Dry Weight:</b>	50 kg	111 lb
<b>Net Aperture Area:</b>	2.691 m <sup>2</sup>	28.96 ft <sup>2</sup>	<b>Fluid Capacity:</b>	1.2 liter	0.3 gal
<b>Absorber Area:</b>	0.000 m <sup>2</sup>	0.00 ft <sup>2</sup>	<b>Test Pressure:</b>	517 kPa	75 psi

TECHNICAL INFORMATION			Tested in accordance with: ISO 9806		
<b>ISO Efficiency Equation</b> [NOTE: Based on gross area and (P)=Ti-Ta]					
<b>SI UNITS:</b>	$\eta = 0.717 - 4.01410(P/G) - 0.01870(P^2/G)$	<b>Y Intercept:</b>	0.726	<b>Slope:</b>	-5.113 W/m <sup>2</sup> .°C
<b>IP UNITS:</b>	$\eta = 0.717 - 0.70746(P/G) - 0.00183(P^2/G)$	<b>Y Intercept:</b>	0.726	<b>Slope:</b>	-0.901 Btu/hr.ft <sup>2</sup> .°F

Incident Angle Modifier								Test Fluid:	
$\theta$	10	20	30	40	50	60	70	Propylene glycol	
$K_{\tau\alpha}$	1.00	0.99	0.98	0.96	0.92	0.84	0.60	<b>Test Mass Flow Rate:</b>	0.0195 kg/(s m <sup>2</sup> )    14.39 lb/(hr ft <sup>2</sup> )
<b>Impact Safety Rating:</b>									

REMARKS:

*Jen Higgins*

Technical Director





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<b>ADDITIONAL INFORMATION</b> ( <a href="#">click here to return to the rating page</a> )			
Test Lab:	Bodycote	Test Report Date:	July 05, 2006
Test Report Number:	06-08-9133-1	Test conducted:	indoors

<b>SOLAR COLLECTOR CONSTRUCTION DETAILS</b>					
<b>Gross Length:</b>	0.000 m	<b>Gross Width:</b>	0.000 m	<b>Gross Depth:</b>	0.0 mm

<b>COLLECTOR MATERIALS</b>					
<b>Outer Cover:</b>	Other	<b>Enclosure back:</b>	Steel	<b>Back Insulation:</b>	Fiber, None
<b>Inner Cover:</b>	None	<b>Enclosure side:</b>	Steel	<b>Side Insulation:</b>	Foam, None
<b>Absorber Description:</b>		<b>Flow Pattern:</b>			
<b>Riser Tube:</b>	Copper	<b>Fin:</b>			
<b>Absorber Coating:</b>	Selective	<b>Tube to fin connection</b>			

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

<b>ABSORBER:</b>		<b>Absorber Coating:</b>		Selective
<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>					
<b>Location</b>	<b>Type</b>	<b>Thickness</b>	<b>Location</b>	<b>Type</b>	<b>Thickness</b>
<b>Back – Top Layer:</b>	Fiber		<b>Sides – Inner Layer:</b>	Foam	
<b>Back – Bottom Layer:</b>	None		<b>Sides – Outer Layer:</b>	None	
<b>Enclosure Fastening Methods:</b>					

<b>Power Output per Collector(W)</b> [ Ti-Ta, G = 1000 W/m <sup>2</sup> ]				
0	10	30	50	70

<b>PRESSURE DROP</b>				
<b>Flow</b>	<b>ΔP</b>		<b>Flow</b>	<b>ΔP</b>
<b>ml/s</b>	<b>Pa</b>		<b>gpm</b>	<b>in H<sub>2</sub>O</b>
20	17078.10		0.32	68.7
50	46647.42		0.79	187.7
80	80959.33		1.27	325.8

