


SOLAR COLLECTOR CERTIFICATION AND RATING  SRCC OG-100	<u>CERTIFIED SOLAR COLLECTOR</u> SUPPLIER: Enerworks, Inc. PO Box 9, 252 Hamilton Crescent Dorchester, ON NOL 1G0 MODEL: Residential Collector COL-4x8-TL-SG1-SD10US COLLECTOR TYPE: Glazed Flat-Plate CERTIFICATION #: 100-2005-014A
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COLLECTOR THERMAL PERFORMANCE RATING							
Megajoules Per Panel Per Day				Thousands of Btu Per Panel Per Day			
CATEGORY (Ti-Ta)	CLEAR DAY 23 MJ/m ² ·d	MILDLY CLOUDY 17 MJ/m ² ·d	CLOUDY DAY 11 MJ/m ² ·d	CATEGORY (Ti-Ta)	CLEAR DAY 2000 Btu/ft ² ·d	MILDLY CLOUDY 1500 Btu/ft ² ·d	CLOUDY DAY 1000 Btu/ft ² ·d
A (-5°C)	45	34	23	A (-9°F)	43	32	22
B (5°C)	41	30	19	B (9°F)	39	28	18
C (20°C)	33	23	12	C (36°F)	32	22	11
D (50°C)	19	10	2	D (90°F)	18	9	1
E (80°C)	7			E (144°F)	6		

A-Pool Heating (Warm Climate) B-Pool Heating (Cool Climate) C-Water Heating (Warm Climate) D-Water Heating (Cool Climate) E-Air Conditioning

Original Certification Date: September 14, 2006

COLLECTOR SPECIFICATIONS

Gross Area: 2.874 m² 30.94 ft²
Dry Weight: 50.4 kg 111 lb
Test Pressure: 517 kPa 75 psig

Net Aperture Area: 2.691 m² 28.97 ft²
Fluid Capacity: 1.2 l 0.3 gal

COLLECTOR MATERIALS

Frame: Galvanized Steel
Cover (Outer): Low Iron Tempered Glass
Cover (Inner): None
Absorber Material: Tube - Copper / Plate - Aluminum
Absorber Coating: Vapor Deposition Selective Coating
Insulation (Side): Isocyanurate
Insulation (Back): Mineral Wool

PRESSURE DROP

Flow		Δ P	
ml/s	gpm	Pa	in H ₂ O
20	0.32	17078	68.56
50	0.79	46648	187.27
80	1.27	80959	325.02

TECHNICAL INFORMATION

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

	Y Intercept	Slope	
SI Units: $\eta = 0.7166 - 4.0141 (P)/I - 0.0187 (P)^2/I$	0.7256	-5.1127	W/m ² ·°C
IP Units: $\eta = 0.7166 - 0.7074 (P)/I - 0.0018 (P)^2/I$	0.7256	-0.901	Btu/hr·ft ² ·°F

Incident Angle Modifier [(S) = 1/cos θ - 1, 0° ≤ θ ≤ 60°]

$K_{\text{air}} = 1.0 - 0.1100 (S) - 0.0506 (S)^2$
 $K_{\text{air}} = 1.0 - 0.16 (S)$ (Linear Fit)

Model Tested: COL-4x8-TL-SGI-SD10US

Test Fluid: Propylene Glycol & Water

Test Flow Rate: 56 ml/s 0.89 gpm

REMARKS:

September, 2006

Certification must be renewed annually. For current status contact:

SOLAR RATING & CERTIFICATION CORPORATION

c/o FSEC ♦ 1679 Clearlake Road ♦ Cocoa, FL 32922 ♦ (321) 638-1537 ♦ Fax (321) 638-1010