


<p>SOLAR COLLECTOR CERTIFICATION AND RATING</p>  <p>SRCC OG-100</p>	<p><b>CERTIFIED SOLAR COLLECTOR</b></p> <p>SUPPLIER: <b>Alternate Energy Technologies</b> 1057 N. Ellis Road Jacksonville, FL 32254</p> <p>MODEL: Alternate Energy AE-32 COLLECTOR TYPE: Glazed Flat-Plate CERTIFICATION #: 100-2002-001E</p>
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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 <sup>2</sup> ·d	MILDLY CLOUDY 17 MJ/m <sup>2</sup> ·d	CLOUDY DAY 11 MJ/m <sup>2</sup> ·d	CATEGORY (Ti-Ta)	CLEAR DAY 2000 Btu/ft <sup>2</sup> ·d	MILDLY CLOUDY 1500 Btu/ft <sup>2</sup> ·d	CLOUDY DAY 1000 Btu/ft <sup>2</sup> ·d
A (-5°C)	44	33	23	A (-9°F)	42	31	21
B (5°C)	40	29	19	B (9°F)	38	28	18
C (20°C)	33	23	13	C (36°F)	32	22	12
D (50°C)	20	11	2	D (90°F)	19	10	2
E (80°C)	8	1		E (144°F)	7	1	

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: November 22, 2002

**COLLECTOR SPECIFICATIONS**

<b>Gross Area:</b>	2.965 m <sup>2</sup>	31.92 ft <sup>2</sup>	<b>Net Aperture Area:</b>	2.781 m <sup>2</sup>	29.94 ft <sup>2</sup>
<b>Dry Weight:</b>	51.2 kg	113 lb	<b>Fluid Capacity:</b>	4.9 l	1.3 gal
<b>Test Pressure:</b>	1103 kPa	160 psig	<b>Max. Oper. Temp.:</b>	176.7 °C	350 °F

**COLLECTOR MATERIALS**

<b>Frame:</b>	Anodized Aluminum
<b>Cover (Outer):</b>	Low Iron Tempered Glass
<b>Cover (Inner):</b>	None
<b>Absorber Material:</b>	Tube - Copper / Plate - Copper Fin
<b>Absorber Coating:</b>	Selective Coating
<b>Insulation (Side):</b>	Polyisocyanurate
<b>Insulation (Back):</b>	Polyisocyanurate

**PRESSURE DROP**

Flow		Δ P	
ml/s	gpm	Pa	in H <sub>2</sub> O

**TECHNICAL INFORMATION**

<b>Efficiency Equation [NOTE: (P) = Ti-Ta]</b>				<b>Y Intercept</b>	<b>Slope</b>
<b>S I Units:</b>	$\eta = 0.691 - 3.3960 (P)/I - 0.0019 (P)^2/I$		0.706	-4.9099	W/m <sup>2</sup> ·°C
<b>I P Units:</b>	$\eta = 0.691 - 0.5985 (P)/I - 0.0002 (P)^2/I$		0.706	-0.865	Btu/hr·ft <sup>2</sup> ·°F

<b>Incident Angle Modifier [(S) = 1/cos θ - 1, 0° ≤ θ ≤ 60°]</b>			
<b>K<sub>arr</sub> = 1.0</b>	-0.1939 (S)	-0.0055 (S) <sup>2</sup>	
<b>K<sub>arr</sub> = 1.0</b>	-0.20 (S)	(Linear Fit)	

<b>Model Tested:</b>	AE-21
<b>Test Fluid:</b>	Water
<b>Test Flow Rate:</b>	39 ml/s      0.62 gpm

**REMARKS:**

October, 2004

Certification must be renewed annually. For current status contact:

SOLAR RATING & CERTIFICATION CORPORATION

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