


SOLAR COLLECTOR CERTIFICATION AND RATING  SRCC OG-100	<u>CERTIFIED SOLAR COLLECTOR</u> SUPPLIER: Solar Thermal Systems 4723 Tidewater Avenue Oakland, CA 94601 USA MODEL: Solar Thermal Systems STS 48BC COLLECTOR TYPE: Glazed Flat-Plate CERTIFICATION #: 100-2007-002A
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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)	46	35	24	A (-9°F)	44	33	22
B (5°C)	42	31	20	B (9°F)	40	29	19
C (20°C)	36	25	14	C (36°F)	34	24	13
D (50°C)	24	14	4	D (90°F)	23	13	4
E (80°C)	14	5		E (144°F)	13	4	

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: January 24, 2007

COLLECTOR SPECIFICATIONS

Gross Area:	3.051 m ²	32.84 ft ²	Net Aperture Area:	2.750 m ²	29.60 ft ²
Dry Weight:	47.6 kg	105 lb	Fluid Capacity:	3.9 l	1.0 gal
Test Pressure:	1103 kPa	160 psig			

COLLECTOR MATERIALS

Frame:	Aluminum Extrusion
Cover (Outer):	Low Iron Tempered Glass
Cover (Inner):	None
Absorber Material:	Tube - Copper / Plate - Copper
Absorber Coating:	Black Chrome
Insulation (Side):	Polyisocyanurate
Insulation (Back):	Polyisocyanurate & Fiberglass

PRESSURE DROP

Flow		Δ P	
ml/s	gpm	Pa	in H ₂ O

TECHNICAL INFORMATION

Efficiency Equation [NOTE: Based on gross area and (P) = Ti-Ta]				Y Intercept	Slope
SI Units:	$\eta = 0.702$	$-3.2828 (P)/1$	$-0.0099 (P)^2/1$	0.714	-4.1279 W/m ² ·°C
IP Units:	$\eta = 0.702$	$-0.5785 (P)/1$	$-0.0010 (P)^2/1$	0.714	-0.727 Btu/hr·ft ² ·°F

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

K_{at} = 1.0	-0.0707 (S)	-0.1687 (S) ²
K_{at} = 1.0	-0.25 (S)	(Linear Fit)

Model Tested: 100-1981-098A

Test Fluid: Water

Test Flow Rate: 32 ml/s 0.51 gpm

REMARKS:

October, 2007

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