


SOLAR COLLECTOR CERTIFICATION AND RATING  SRCC OG-100	CERTIFIED SOLAR COLLECTOR SUPPLIER: Solar Thermal Systems 4723 Tidewater Avenue Oakland, CA 94601 USA MODEL: Solar Thermal Systems STS 410BC COLLECTOR TYPE: Glazed Flat-Plate CERTIFICATION #: 100-2007-002B
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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)	57	43	29	A (-9°F)	54	41	28
B (5°C)	52	38	24	B (9°F)	50	36	23
C (20°C)	45	31	17	C (36°F)	42	29	16
D (50°C)	30	17	5	D (90°F)	29	17	5
E (80°C)	17	6		E (144°F)	16	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: January 24, 2007

COLLECTOR SPECIFICATIONS

Gross Area: 3.796 m² 40.86 ft²
Dry Weight: 62.6 kg 138 lb
Test Pressure: 1103 kPa 160 psig

Net Aperture Area: 3.445 m² 37.08 ft²
Fluid Capacity: 4.5 l 1.2 gal

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]

					<u>Y Intercept</u>	<u>Slope</u>	
SI Units:	$\eta = 0.702$	$-3.2828 (P)/l$	$-0.0099 (P)^2/l$		0.714	-4.1279	W/m ² ·°C
IP Units:	$\eta = 0.702$	$-0.5785 (P)/l$	$-0.0010 (P)^2/l$		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