



CERTIFIED SOLAR COLLECTOR

SUPPLIER:
Westech Solar Technology Wuxi Co., Ltd.
 No. 15 Liutang Road, Hudai Industrial North Park
 Wuxi, JIANGSU 214161 China
 www.westechsolar.com

BRAND: Westech
 MODEL: WT-B58-30
 COLLECTOR TYPE: Tubular
 CERTIFICATION #: 2012005A
 Original Certification: April 24, 2012
 Expiration Date: July 28, 2023

The solar collector listed below has been evaluated by the Solar Rating & Certification Corporation™ (SRCC™), an ANSI accredited and EPA recognized Certification Body, 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. This document must be reproduced in its entirety.

| COLLECTOR THERMAL PERFORMANCE RATING | | | | | | | |
|--|---|---|--|------------------------------------|---|---|--|
| Kilowatt-hours (thermal) Per Panel Per Day | | | | Thousands of Btu Per Panel Per Day | | | |
| Climate -> | High Radiation (6.3 kWh/m ² .day) | Medium Radiation (4.7 kWh/m ² .day) | Low Radiation (3.1 kWh/m ² .day) | Climate -> | High Radiation (2000 Btu/ft ² .day) | Medium Radiation (1500 Btu/ft ² .day) | Low Radiation (1000 Btu/ft ² .day) |
| Category (Ti-Ta) | | | | Category (Ti-Ta) | | | |
| A (-5 °C) | 12.9 | 9.8 | 6.6 | A (-9 °F) | 44.2 | 33.4 | 22.6 |
| B (5 °C) | 12.3 | 9.2 | 6.0 | B (9 °F) | 42.1 | 31.3 | 20.5 |
| C (20 °C) | 11.4 | 8.2 | 5.1 | C (36 °F) | 38.9 | 28.1 | 17.3 |
| D (50 °C) | 9.7 | 6.5 | 3.4 | D (90 °F) | 33.0 | 22.3 | 11.7 |
| E (80 °C) | 7.8 | 4.7 | 1.9 | E (144 °F) | 26.8 | 16.1 | 6.4 |

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 | | | | | |
|---------------------------|----------------------|-----------------------|------------------------|-----------|---------|
| Gross Area: | 5.055 m ² | 54.41 ft ² | Dry Weight: | 110 kg | 243 lb |
| Net Aperture Area: | 2.833 m ² | 30.49 ft ² | Fluid Capacity: | 3.0 liter | 0.8 gal |
| Absorber Area: | 2.455 m ² | 26.42 ft ² | Test Pressure: | 900 kPa | 131 psi |

| TECHNICAL INFORMATION | | | Tested in accordance with: ISO 9806 | | |
|---|--|---------------------|-------------------------------------|---------------|-----------------------------------|
| ISO Efficiency Equation [NOTE: Based on gross area and (P)=Ti-Ta] | | | | | |
| SI UNITS: | $\eta = 0.370 - 1.07480(P/G) - 0.00200(P^2/G)$ | Y Intercept: | 0.371 | Slope: | -1.225 W/m ² .°C |
| IP UNITS: | $\eta = 0.370 - 0.18943(P/G) - 0.00020(P^2/G)$ | Y Intercept: | 0.371 | Slope: | -0.216 Btu/hr.ft ² .°F |

| Transverse Incident Angle Modifier | | | | | | | | Longitudinal Incident Angle Modifier at 50°: | |
|------------------------------------|------|------|------|------|------|------|------|--|--|
| θ | 10 | 20 | 30 | 40 | 50 | 60 | 70 | Test Fluid: | Water |
| K_{ra} | 1.02 | 1.07 | 1.16 | 1.29 | 1.42 | 1.42 | 0.45 | Test Mass Flow Rate: | 0.0111 kg/(s m ²) 7.37 lb/(hr ft ²) |

REMARKS:

Jeri Higgins

Technical Director





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| ADDITIONAL INFORMATION (click here to return to the rating page) | | | |
|--|--|-------------------|---------------|
| Test Lab: | Fraunhofer Institute for Solare Energy Systems | Test Report Date: | July 28, 2011 |
| Test Report Number: | KTB Nr.: 2011-21 | Test Location: | outdoors |

| SOLAR COLLECTOR CONSTRUCTION DETAILS | | | | | |
|--------------------------------------|---------|---------------------|---------|---------------------|--|
| Header Enclosure: | | | | | |
| Gross Length: | 2.030 m | Gross Width: | 2.490 m | Gross Depth: | |
| Tube Bank: | | | | | |
| Gross Length: | | Gross Width: | | | |

| COLLECTOR MATERIALS | | | | | |
|------------------------------|-------------|-------------------------------|----------|-------------------------|---|
| Outer Cover: | Glass sheet | Enclosure back: | Aluminum | Back Insulation: | , |
| Inner Cover: | Glass Tube | Enclosure side: | Aluminum | Side Insulation: | , |
| Absorber Description: | | Flow Pattern: | | | |
| Riser Tube: | Copper | Fin: | | | |
| Absorber Coating: | Selective | Tube to fin connection | | | |

| GLAZING | Outer Cover | Inner Cover |
|---|-------------|----------------------------|
| Material: | Glass sheet | Glass Tube |
| Surface Characteristics: | | |
| Thickness: | 1.6 mm | 1.6 mm |
| Transmissivity: | | |
| Gross Tube Length (uninstalled): | 1.800 m | |
| Diameter: | 0.058 m | |
| Tube Glazing to Header Enclosure Seal: | | |
| Reflector Shape: | | Reflector Material: |

| ABSORBER |
|----------|
| |





Certification #: 2012005A
 Supplier: Westech Solar Technology Wuxi Co., Ltd.
 Brand Name: Westech
 Model Number: WT-B58-30

| | | | | | |
|---------------------------|--------|------------------------------------|---------|----------------------------|--------|
| Header Material: | | Header OD: | | Header Wall: | |
| Riser Tube Material: | Copper | Riser Tube OD: | | Riser Tube Wall Thickness: | |
| Fin Material: | | Fin Thickness: | 0.30 mm | | |
| Flow Pattern: | | Number of Flow Tubes / Heat Pipes: | 30 | Tube / Heat Pipe Spacing: | |
| Number of absorber tubes: | 30 | Flow Tube to Fin Bond: | | Length of Flow Path: | 1.74 m |
| Length of Flow Path: | 1.74 m | Riser to Fin/Plate Bond: | | | |

| INSULATION: | | | | | |
|------------------------------|------|-----------|----------------------|------|-----------|
| Location | Type | Thickness | Location | Type | Thickness |
| Back – Top Layer: | | | Sides – Inner Layer: | | |
| Back – Bottom Layer: | | | Sides – Outer Layer: | | |
| Enclosure Fastening Methods: | | | Header Enclosure: | | |

| Power Output per Collector(W) [$T_i - T_a$, $G = 1000 \text{ W/m}^2$] | | | | |
|---|----|----|----|----|
| 0 | 10 | 30 | 50 | 70 |
| | | | | |

| PRESSURE DROP | | | | |
|---------------|------------|--|------|------------|
| Flow | ΔP | | Flow | ΔP |
| ml/s | Pa | | gpm | in H_2O |
| 20 | 100 | | 0.32 | 0.4 |
| 50 | 422 | | 0.79 | 1.7 |
| 80 | 949 | | 1.27 | 3.8 |

