# ICC-SRCC OG-100 SOLAR POOL HEATING COLLECTOR CERTIFICATION

| | | | |
|---|---|---|---|
| **MANUFACTURER:** | | **BRAND:** | TufMan |
| Boss Polymer Technologies<br>28 Miles Street<br>Melbourne, Victoria 3170<br>Australia<br><br>www.bosssolar.com.au | | **COLLECTOR TYPE:** | Unglazed Flat Plate |
| | | **CERTIFICATION NO:** | 2011093A |
| | | **ISSUED:** | February 16, 2012 |
| | | **EXPIRATION DATE:** | February 01, 2027 |

The collector models listed below have been evaluated under the OG-100 certification program by the Solar Rating & Certification Corporation (ICC-SRCC), an ISO/IEC 17065 accredited Certification Body, in accordance with the latest version of the *ICC-SRCC Rules for Solar Heating & Cooling Product Listing Reports* and found to comply with:

- *ICC 901/SRCC 100 – 2020, Solar Thermal Collector Standard*

## CERTIFIED MODELS

| MODEL NAME/NO. | HEADER (in) | WIDTH (in) | LENGTH** (in) | Area ($ft^2$) |
|---|---|---|---|---|
| 10 Tube* | 2 | 5.9 | 1062 | 7.5 |
| 12 Tube | 2 | 5.9 | 1062 | 11.8 |
| 14 Tube | 2 | 5.9 | 1062 | 16.1 |
| 18 Tube | 2 | 5.9 | 1062 | 24.7 |
| | | | | |
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* 10 Tube collector (83" x 157") used for qualification and thermal performance testing.
**Maximum length given. Shorter lengths permitted per mfgs instructions.

## OG-100 SEASONAL POOL HEATING EFFICIENCY

| | SPRING | SUMMER | FALL |
|---|---|---|---|
| Efficiency[1] | 75% | 86% | 74% |
| Wind Derating Factor[2] | 0.90 | 0.91 | 0.90 |

1. Peak instantaneous hemispherical efficiency at G = 875/1000/750 $W/m^2$, dT = 5/0/3.9°C, m = 0.135 kg/s
2. Efficiency derating calculated at wind speed, u = 1.34 m/s

Please verify certification is active on SRCC website www.solar-rating.org

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## 2011093A TECHNICAL DATA SHEET

| Thermal Efficiency Equation[1] | | | |
|---|---|---|---|
| $$\eta_{hem,\dot{m}} = \eta_{0,hem}(1 - b_u u) - (b_1 + b_2 u)\frac{(Ti - Ta)}{G"}$$ | | | |
| $\eta_{0,hem}$ | $b_u$ | $b_1$ | $b_2$ |
| 0.86 | 0.0639 s/m | 13.927 W/m$^2$K | 0.002 W/m$^3$K |
| 1: Second order thermal efficiency equation calculated in accordance with ISO 9806-2013 at a fluid flowrate, $\dot{m}$ = 0.135 kg/s. | | | |

| Longitudinal Incident Angle Modifier (IAM) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| $\theta_L$ | 0° | 10° | 20° | 30° | 40° | 50° | 60° | 70° |
| $K_b(\theta_L,0)$ | 1.00 | 1.00 | 0.98 | 0.96 | 0.92 | 0.85 | 0.74 | 0.49 |

**PRODUCT LABEL**

Collectors listed in this ICC-SRCC OG-100 certification must display the following label in accordance with the *ICC-SRCC Rules for Mark and Certificate Use*.

## CONDITIONS OF CERTIFICATION

This award of certification is subject to all terms and conditions of the ICC-SRCC OG-100 Certification Program and the documents incorporated therein by reference. This document must be reproduced in its entirety.

1. The collector listed in this ICC-SRCC OG-100 certification has been evaluated to the ICC 901/SRCC100-2015 standard and has been found to comply in accordance with the *ICC-SRCC Rules for Solar Heating & Cooling Product Listing Reports*. It is valid between the date of issuance and expiration and is subject to annual renewal. Certification validity should be confirmed on the ICC-SRCC website at www.solar-rating.org
2. OG-100 Thermal Performance Ratings have been calculated for the tested components using standardized conditions established by the OG-100 program and test standards. Actual results will vary based on the specific usage, installation and local environmental conditions.
3. The listed collector must be installed in accordance with the manufacturer's published installation instructions and applicable codes. OG-100 certifications do not include mounting hardware and appurtenances. Solar thermal collectors must be mounted in accordance with the requirements of the collector and mounting hardware manufacturers to comply with local codes for structural loading for wind, seismic, snow and other loads.
4. Solar thermal collectors and mounting hardware and appurtenances must comply with all local codes and requirements for fire resistance.
5. Solar thermal collectors must be used with the heat transfer fluids listed in this document.
6. Solar thermal collector manufactured by Boss Polymers in Australia under a quality control program subjected to periodic evaluation in accordance with the requirements of ICC-SRCC.

Vincent Chui, S.E.
VP of Evaluation Services

A2LA ACCREDITED
CERTIFICATE # 3299.01, 3299.03

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