SOLAR RATING & CERTIFICATION CORPORATION™

An ICC Evaluation Service Program

# OG-100 Solar Thermal Collector Certification

# No./10001759

*Issued: October 22, 2012*

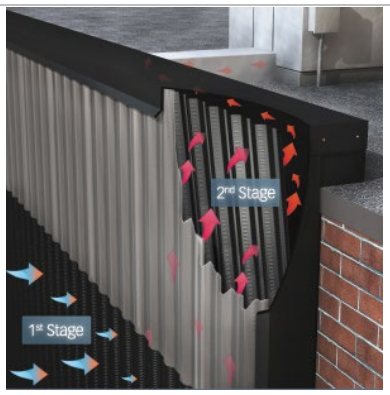
*Expiration Date: October 01, 2026*

www.solar-rating.org | **(800) 423-6587** | **(562) 699-0543**

| **CERTIFICATION HOLDER:** | | **EVALUATION SUBJECT** | |
|---|---|---|---|
| **Conserval Systems, Inc.** | | | |
| 200 Wildcat Road<br>Toronto, ON M3J 2N5<br>Canada | 10 John James Audobon Pkwy<br>Suite 100<br>Amherst, NY 14228<br>USA | BRAND: | SolarWall |
| www.solarwall.com | | MODEL: | SW 2-Stage |
| | | TYPE: | Solar Air Heating Collector - Transpired, Building Integrated, Partially Glazed, Double Stage |

**PRODUCT CERTIFICAITON SYSTEM:**
The ICC-SRCC OG-100 certification program includes evaluation and performance ratings for solar thermal collectors as established in the *ICC-SRCC Rules for Solar Heating & Cooling Product Listing Reports.* The program also includes periodic factory inspections and surveillance of the manufacturer's quality management system.

**COMPLIANCE WITH THE FOLLOWING STANDARD(S):** *ICC 901/SRCC 100 - 2020, Solar Thermal Collectors Standard*
**THERMAL PERFORMANCE TEST STANDARD:** CSA F378-2011 (DEVIATION from ISO 9806-2017 specified in ICC 901)

| **COLLECTOR SPECIFICATIONS** | | |
|---|---|---|
| To be considered certified, installed collectors must match the following specifications. | | |
| **Max. Design Flow Rate** | 1.2 scmm/m² (4.1 scfm/ft²) |  |
| **Panel Width** | 945 mm (37.2 in) | |
| **Panel Length** | Varies | |
| **Weight** | 9.8 - 19.5 kg/m² (2 – 4 lb/ft²) | |
| **Air Inlet** | Absorber panel perforations | |
| **Air Outlet** | Location and size varies | |
| **Orientation** | 0° (horizontal) - 90° (vertical) | |
| **Glazing** | Polycarbonate, 1 mm thick, 50% coverage | |
| **Absorber Type** | Steel plate, painted, perforated, galvanized, 24 gauge | |
| **Absorber Profile** | SW150 | |

**IDENTIFICATION:**
Certified collectors must be identified with the OG-100 certification mark below in accordance with the *Rules for Certification Mark and Certificate Use* and labeled in with the information below per *ICC 901/SRCC 100*:

ICC-SRCC RATED ™

1. Manufacturer's name and model number.
2. ICC-SRCC OG-100 collector certification number
3. Maximum operating temperature
4. Dry (empty) weight
5. Fluid volume
6. Compatible heat transfer fluids
7. Standard stagnation temperature
8. Year of manufacture and/or serial number.

| OG-100 COLLECTOR EFFICIENCY RATINGS[1] ($\eta_a$) – Black Absorber Color[2] | | | |
|---|---|---|---|
| **Wind Speed[3] ▶** / **Air Flow Rate** | **Low Wind (1.0 m/s, 2.2 mph)** | **Medium Wind (2.0 m/s, 4.5 mph)** | **High Wind (3.0 m/s, 6.7 mph)** |
| **0.3 scmm/m² (1.1 scfm/ft²)** | 0.34 | 0.32 | 0.29 |
| **0.6 scmm/m² (2.1 scfm/ft²)** | 0.47 | 0.43 | 0.40 |
| **1.2 scmm/m² (4.1 scfm/ft²)** | 0.59 | 0.56 | 0.53 |

*1: Thermal efficiency ($\eta_a$) is based on aperture area and includes back losses.*
*2: Efficiency ratings are based on test data for the specific collector described in the "Collector Test Sample Details" section below. Performance values are only valid for collectors painted the same color as the test sample.*
*3. Efficiency data calculated at 1.0, 2.0, 3.0 m/s speeds. Original data available in Testing Summary below.*

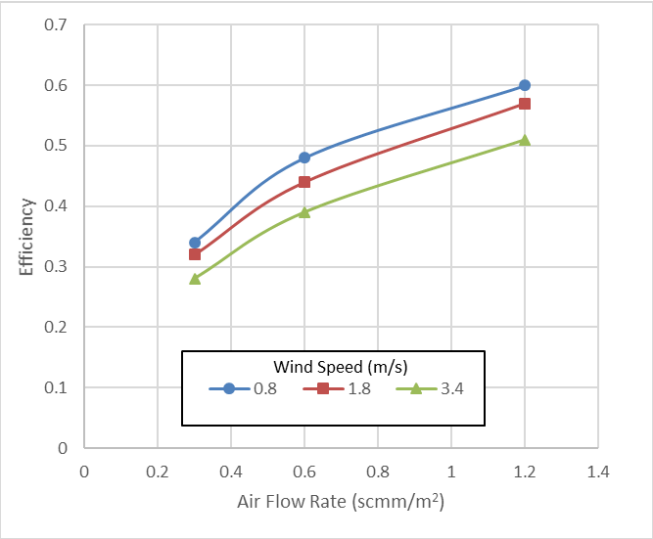
## LABORATORY TESTING SUMMARY

| | |
|---|---|
| Test Lab | Exova Canada, Inc. |
| Test Report Number | 11-06-S0012 |
| Test Report Date | August 17, 2011 |
| Test Standard | CSA F378-2011 |

Laboratory testing of a collector sample is required for OG-100 certification to confirm that the collector passes qualification tests and to obtain performance results. These sections provide information on the sample tested for the purposes of OG-100 certification and the measured results.

## TEST SAMPLE DETAILS

| | | |
|---|---|---|
| **Absorber** | **Coating** | Paint: Black |
| | **Absorptivity** | 0.95 (not measured by lab) |
| | **Material** | Galvanized steel, 24 gauge |
| | **Porosity** | Not reported |
| **Gross Area** | | 9.243 m² (99.49 ft²) |
| **Aperture Area (Net)** | | 9.243 m² (99.49 ft²) |
| **Gross Sample Dimensions (LXWXH)** | | 3.355 m x 2.755 m x 0.24 cm (11.0 ft x 9.07 ft x 9.45 in) |




## THERMAL EFFICIENCY TESTING DETAILS

| | |
|---|---|
| **Testing Location** | Indoor solar simulator @ 25°C |
| **Added Back/Side Insulation** | 2" rigid foam (R-16) |

## THERMAL EFFICIENCY DATA SUMMARY (912 W/m² average insolation)

| **Wind Speed** | **0.8 m/s (1.8 mph)** | | **1.8 m/s (4.0 mph)** | | **3.4 m/s (7.6 mph)** | |
|---|---|---|---|---|---|---|
| **Air Flow Rate** | **η** | **Δ T (K)*** | **η** | **Δ T (K)*** | **η** | **Δ T (K)*** |
| 0.3 scmm/m² (1.1 scfm/ft²) | 0.34 | 44.3 | 0.32 | 41.1 | 0.28 | 36.8 |
| 0.6 scmm/m² (2.1 scfm/ft²) | 0.48 | 31.7 | 0.44 | 29.8 | 0.39 | 26.6 |
| 1.2 scmm/m² (4.1 scfm/ft²) | 0.60 | 20.8 | 0.57 | 19.6 | 0.51 | 19.0 |

**Δ T defined as $T_e$-$T_a$ where $T_e$ is the temperature of the air exiting the collector and $T_a$ is the ambient (inlet) air temperature.*

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**CONDITIONS:**

1. Collector must be installed and operated in accordance with the manufacturer's published instructions and local codes and regulations.
2. OG-100 Standard Performance Ratings and Standard Collector Power Output have been calculated for the tested components using standardized conditions established by the OG-100 program and associated test standards. Actual performance will vary based on the specific usage, installation, and local environmental conditions. OG-100 Thermal performance values are valid only for collectors with the same absorber profile, porosity, and color and where a pressure drop across the collector is less than 25 Pa.
3. Wind impact on efficiency should not be extrapolated to large-scale systems due to differences in the ratio of wind-blown edge loss to thermal gain across the surface area between large and small collectors.
4. The collector listed in this ICC-SRCC OG-100 certification must be labeled with the information listed above in accordance with the *ICC-SRCC Rules for Mark and Certificate Use*.
5. OG-100 certifications do not include mounting hardware and fixtures.
6. Solar thermal collectors and mounting hardware and appurtenances must comply with all applicable local requirements for fire resistance. 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.
7. Solar thermal collectors must be used with the heat transfer fluids listed in this document.
8. Solar thermal collector manufactured under a quality control program subject to periodic evaluation in accordance with the requirements of ICC-SRCC.
9. This document must be reproduced in its entirety.
10. Certification status should be confirmed on the ICC-SRCC Directory at www.solar-rating.org

Vincent Chui, S.E.
VP of Evaluation Services

A2LA ACCREDITED
CERTIFICATE # 3299.01, 3299.03

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