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ICC-SRCC OG-300 Solar Thermal System Certification Program FAQ

What are the benefits to manufacturers of certifying solar thermal systems under ICC-SRCC's OG-300 program?

- **INCENTIVE PROGRAM ACCEPTANCE**. Certification to OG-300 is required by many programs throughout the U.S. that provide incentives like rebates and tax credits. Notable locations that call for OG-300 certification include the California CSI Thermal Program, Massachusetts Commonwealth Solar Program, Oregon Residential Energy Tax Credits, EPA ENERGY STAR, and many others. See the DSIRE Website for information on incentive programs in specific locations around the U.S.
- **CODE COMPLIANCE**. Several model building codes require installed systems to comply with ICC-SRCC Standard 300 (the standard that provides the technical basis of the OG-300 program). Therefore, by certifying your system to OG-300, you are demonstrating compliance with ICC-SRCC Standard 300 and meeting these codes. Examples include the IAPMO Uniform Solar Energy Code and the ICC International Residential Code. *Note: Many codes have other requirements above and beyond OG-300 compliance. OG-300 only provides assessment to the ICC 900/SRCC 300 standard. For evaluation to all of the requirements in various codes and standards see the ICC-SRCC Codes and Standards Listing Program.*
- **THIRD-PARTY PERFORMANCE MODELING**. OG-300 certification includes high-quality system modeling to provide estimates of the performance of the system and the energy savings. ICC-SRCC models all OG-300 systems using the same conditions so that users can easily compare the performance of different systems. In that way it's similar to the MPG ratings used for cars. Third-party certification and modeling provides users with confidence that the results are fair and accurate, from the experts at ICC-SRCC.
- **SAFETY AND DURABILITY**. OG-300 certification addresses more than just modeling. During the course of certification, ICC-SRCC's engineers review the components and arrangement of the system to be sure that they comply with the minimum requirements set in the ICC 900/SRCC 300 Standard. This provides users with assurance that the system meets the standard's comprehensive requirements for safety, durability and minimum performance.
- **WEB-BASED CERTIFICATES**. All systems certified under the OG-300 program are provided with an OG-300 certificate and are listed on the ICC-SRCC website, www.solar-rating.org. The certificates provide the certified performance ratings for the system and a complete schematic of the approved system. Code officials and incentive programs recognize ICC-SRCC's website as

the authoritative source of up-to-date information on OG-300 certified systems. They use the information and certificates there to verify certification, and to confirm that systems are installed in compliance with the certification. This results in faster and more accurate inspections.

What are the benefits to incentive programs of requiring solar thermal systems to be certified under ICC-SRCC's OG-300 program?

- **SAFETY AND DURABILITY.** OG-300 certification addresses more than just modeling. During the course of certification, ICC-SRCC's engineers review the components and design of the system to be sure that they comply with the minimum requirements set in the ICC 900/SRCC 300 Standard. This provides incentive bodies with the assurance that the systems meet comprehensive requirements for safety, durability and minimum performance protecting your participants and your reputation.
- **COMPARABILITY.** OG-300 certification includes high-quality system modeling to provide estimates of the performance of the system and the energy savings. By providing using a consistent model the performance of different system types can be compared for a given location. This helps consumers make informed choices.
- **MINIMUM PERFORMANCE.** Many programs scale the value of their incentives to OG-300 ratings. This scales dollar value of incentives to the benefit expected. Using a third-party source like ICC-SRCC ensures that ratings are fair and unbiased.
- **UNIFORMITY.** Certification to OG-300 is required by many other programs throughout the U.S. that provide incentives like rebates and tax credits. By putting similar requirements in place, you can make easy for the largest number of quality manufacturers to participate.
- **ICC-SRCC WEBSITE LISTING.** All systems certified under the OG-300 program are provided with an OG-300 certificate and are listed on the ICC-SRCC website: www.solar-rating.org. The certificates provide the certified performance ratings for the system and a complete schematic of the approved system. This provides incentive programs with the up-to-date information needed to ensure that systems comply and quickly find rating information.

My company manufactures solar water heating systems and we would like to have them ICC-SRCC OG-300 certified. Where do I begin?

1. The first step is to confirm that your system(s) uses an ICC-SRCC OG-100 certified collector. You can check that at the ICC-SRCC website. [CLICK HERE FOR THE OG-100 DIRECTORY](#)
2. The next step is to complete an application online. [CLICK HERE TO APPLY](#)

What is the difference between the OG-100 and OG-300 programs?

ICC-SRCC provides several certification programs for solar thermal products, including OG-100 and OG-300. The OG-100 program provides for certification of solar thermal collectors, and requires compliance with the ICC 901/ICC-SRCC 100 Solar Thermal Collector Standard. OG-100 certification requires a range of laboratory tests to assess the safety, durability and thermal performance of each

collector. The OG-300 certification program addresses solar thermal systems and requires compliance with the ICC 900/SRCC 300 Solar Thermal System Standard. For OG-300 certification, the use of an OG-100 certified collector is required. Using information on the other system components, including the tank, pump, heat exchanger, controller, piping and valves, the system is modeled to determine performance. ICC-SRCC staff also reviews the components, system design, and manuals to ensure that they meet the minimum requirements of the standard. Testing of the entire system is not required by the Standard. Testing of individual components may be necessary to provide the information needed for the system model, however SRCC makes every effort to utilize existing, qualified component data.

OG-300 certification addresses the entire system, whereas OG-100 certification only covers one part of that system – the collector. OG-100 does provide collector rating information, which allows specific collectors to be compared. However, OG-100 does not provide all of the information needed to describe the performance of the system. OG-100 does not address the other system components that can have a very significant impact on performance, like tanks, pumps, heat exchangers and controls. For example, a collector with a high OG-100 rating paired with a low-quality or poorly matched controller could achieve a low OG-300 rating. OG-100 alone is simply not an adequate predictor of system performance.

Does the OG-300 program apply to any solar thermal system?

OG-300 certification is available for most solar thermal systems used to heat fluids such as water, glycol or air. It addresses systems used for heating, cooling, dehumidification and co-generation. While it may be used for commercial systems, many larger systems are unique and specifically designed for commercial application. Therefore, it is most commonly specified for residential domestic water heating systems by incentive programs. It does not apply to utility-scale systems or solar pool heating systems (see the OG-400 program which references *ICC/APSP 902/SRCC 400 Solar Pool and Spa Heating Systems* for certification of solar pool heating systems).

Can commercial systems be certified to OG-300?

Yes, OG-300 may be applied to commercial systems, but many of these larger systems are unique and specifically designed for the application. Therefore, it is most commonly specified for residential domestic water heating systems by incentive programs. Many incentive programs require the use of OG-100 certified collectors for commercial systems, and then evaluate the balance of the system by a variety of means. They may also require the use of a heat meter to measure actual system output instead of using the modeled performance to determine incentives.

Will code officials recognize and accept ICC-SRCC OG-300 certifications?

Yes, code officials commonly accept ICC-SRCC OG-300 certification as proof of compliance with ICC-SRCC Standard 300 and ICC 900/SRCC 300. ICC-SRCC's solar thermal certification programs are accredited by the A2LA ([Certificate #3299.03](#)) to ISO/IEC Standard 17065 (2012), *Conformity assessment - Requirements for bodies certifying products, processes and services*, for the certification of solar heating and cooling equipment. Code officials use the schematic on the ICC-SRCC OG-300 certification documents to inspect the installed system to ensure that the installation matches the certified design. As a member of the International Code Council Family of Companies, ICC-SRCC is backed by the largest association of building officials in the country. Code officials know and trust the ICC name. *Note: Many codes have other requirements above and beyond OG-300 compliance. OG-300 currently provides assessment to the ICC 900/SRCC 300 standard. For evaluation to all of the*

requirements in various codes and standards see the ICC-SRCC Codes and Standards Listing Program.

Will incentive programs recognize and accept ICC-SRCC OG-300 certifications?

Yes, dozens of incentive programs around the U.S. specify, accept, and recognize ICC-SRCC's OG-300 certifications. In fact, some incentive programs accept ICC-SRCC's certifications for solar thermal systems *exclusively*. ICC-SRCC was created by a group of states, SEIA and the Federal Government in the 1980's to address the need for quality and performance certification for solar thermal collectors and systems. ICC-SRCC has been recognized as the preeminent organization for solar thermal certification and rating for decades.

How are OG-300 and Standard 300 related?

ICC-SRCC's OG-300 certification program refers to the Operating Guidelines associated with the ICC-SRCC Solar Thermal System Certification Program. The Operating Guidelines (OG) refer to the requirements, policies and procedures associated with the certification program, and are specific to ICC-SRCC. The OG-300 document references the ICC-SRCC Standard 300 document, which sets the technical requirements for the evaluation and rating of solar thermal systems. ICC-SRCC Standard 300 is a generic standard for these systems that is produced by ICC-SRCC but does not require certification to be conducted by ICC-SRCC. The current version of Standard 300 is known formally as ICC 900/SRCC 300 *Solar Thermal Systems*, and it was approved by ANSI as an American National Standard in 2015. . It is currently set to be revised starting in 2019.

Which standards does ICC-SRCC use to conduct OG-300 certifications?

OG-300 certification procedures are established in the *OG-300 Operating Guidelines for Certifying Solar Water Heating Systems* document. This document, in turn, references the *ICC 900/SRCC 300 Solar Thermal System Standard*, which is also available for viewing [online for free](#) or in hardcopy form for purchase. This ANSI standard sets the technical requirements for these systems and references many other specific standards.

What if the collector I want to use in my system is not certified to Standard 100 by ICC-SRCC? Can I still get a ICC-SRCC OG-300 certification for the system?

No. A current ICC-SRCC OG-100 certification issued by ICC-SRCC is required for all collectors used in systems submitted for OG-300 certification.

Are OG-300 certifications mandatory in the U.S.?

While obtaining an OG-300 certification from ICC-SRCC (or any other certification body) is voluntary, it is required by dozens of incentive programs and regulations nationwide. Therefore, in order to install or qualify for vital solar thermal incentives, an OG-300 certification is required in many specific locations. Just a few of the examples include:

- [California CSI Thermal Program](#)
- [Oregon Residential Energy Tax Credits](#)
- [Arizona Solar and Wind Equipment Certification](#)
- [Minnesota Solar Equipment Certification Requirement](#)
- [Maryland Renewable Portfolio Standard](#)

- [New Hampshire Residential Solar Water Heating Rebate](#)
- [EPA ENERGY STAR – Residential Water Heaters](#)

There are too many other programs which prescribe OG-300 to list here. See the [Database of State Incentives for Renewables & Efficiency \(DSIRE\)](#), which is produced by NC State University for the U.S. DOE.

Several model codes now also require compliance with SRCC Standard 300. These include:

- 2015 & 2018 International Residential Code (IRC)*
- 2015 Uniform Solar Energy and Hydronics Code (USEHC)**
- 2018 International Building Code (IBC)*
- 2018 International Plumbing Code (IPC)*
- 2015 & 2018 International Mechanical Code (IMC)*

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For jurisdictions that have adopted these model codes as the basis for their state or local code, compliance with Standard 300 will likely be required. Check with your local jurisdiction for details.

Check with your local jurisdiction for details.

The 2015 IRC, for example, and requires third-party certification to reference standards:

P2609.4 Third-party certification. Plumbing products and materials required by the code to be in compliance with a referenced standard *shall be listed by a third-party certification agency as complying with the referenced standards.* Products and materials shall be identified in accordance with Section P2609.1.

Simply put, OG-300 certification is the best way to ensure that your solar thermal system will meet local regulations and incentive program requirements anywhere in the U.S.

What are the marking requirements?

ICC-SRCC has a specific mark used to convey OG-300 certification (specific usage is established in the *ICC-SRCC™ Trademark, Certification Mark and Certificate Use Policy* found in the [Policy Section of the SRCC website](#)).

ICC-SRCC will also issue a separate certification document that will be available for viewing on the ICC-SRCC website. It provides the specific performance ratings (solar fraction, solar energy factor, and energy savings for specific locations) and is searchable.



How long does certification last (when do they need to be renewed)?

SRCC OG-300 certifications are valid for a period of one year and are eligible for renewal annually. The test reports submitted for the certification of collectors are valid for a period of 10 years from the date of issuance of the report. After that time period elapses, the manufacturer must submit a new test report in order to continue certification of the collector.

OG-300 certification holders must also notify SRCC of any design changes to the collectors and comply with all inspection, SRCC staff will remind you of an upcoming renewal to help you ensure that there is no gap in your coverage.

Once our system(s) is certified, are there additional costs?

Yes, there is an annual fee required in order to renew system certifications. If changes are made to the certification, they may result in Editorial or Technical Modification changes. Inspection and self-assessment fees may also be incurred during the period of certification.

How long will the certification process take?

The process time will vary with each application. We can estimate 3 months' time, but this is dependent upon how quickly you respond to any requests we may have.

I have more questions regarding fees and the application/certification process. How do I get answers?

Feel free to send your questions in an e-mail message to srcc@solar-rating.org