Why do we require inspections?

BASIS FOR ICC-SRCC INSPECTIONS
Key Elements of Certification

Programs Accredited to ISO/IEC 17065
Objective of Inspections

Confirm that the certified product is produced in such a way as to have performance, quality and function that is comparable or superior to the product submitted for testing and evaluation and compliant with certification program requirements.
Where is Certification Required in North America?

- Construction codes (building, plumbing, mechanical, energy)
  - Model codes/standards (e.g. ICC, IAPMO, NFPA, ASHRAE)
  - State, local and city codes (e.g. City of Los Angeles)
- Tax rebates
  - Federal (IRA/ITC)
  - State/local
- ENERGY STAR® Program
- Utility incentive programs

§ 25D(b)(2) Certification of solar water heating property
No credit shall be allowed under this section for an item of property described in subsection (d)(1) unless such property is certified for performance by the non-profit Solar Rating Certification Corporation, or a comparable entity endorsed by the government of the State in which such property is installed.
Basis for Certification in U.S. Codes

2024 International Plumbing Code (IPC)

303.4 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 303.1.

2024 Uniform Plumbing Code (UPC)

301.2 Minimum Standards. Pipe, pipe fittings, traps, mixtures, materials and devices used in a plumbing system shall be listed (third-party certified) by a listing agency (accredited conformity assessment body) as complying with the approved applicable recognized standards in this code and shall be free from defects.
THIRD-PARTY CERTIFIED. Certification obtained by the manufacturer indicating that the function and performance characteristics of a product or material have been determined by testing and ongoing surveillance by an approved third-party certification agency. Assertion of certification is in the form of identification in accordance with the requirements of the third-party certification agency.
ISO 17065 Accreditation

ICC-SRCC is accredited as a product certification body to ISO/IEC 17065 – Conformity Assessment – Requirements for bodies certifying products, processes and services by the American Association for Laboratory Accreditation (A2LA).

ISO 17065 addresses surveillance procedures to “maintain the validity” of the certification.

Surveillance, which means systematic iteration of conformity assessment activities as a basis for maintaining the validity of the statement of conformity.

(ISO 17067 - Conformity assessment – Fundamentals of product certification and guidelines for product certification schemes)
Types of Inspections

Triggering Events

• New production facility and/or QMS

• Surveillance of existing production facility

• Review of significant changes to QMS or production facility

• Complaint investigation or confirmation of significant deficiency
INSPECTION TOPICS

What do inspections cover?
What does an Inspection Check?

**QUALITY MANAGEMENT SYSTEMS**
Confirm processes in place and carried out to produce products that are comparable to that submitted for initial evaluation.

**DESIGN CONTINUITY**
Verify that the product design, materials and production methods have not changed.

**SRCC PROGRAM COMPLIANCE**
Confirm ongoing compliance with certification program and standard requirements.
Quality Management Systems
QMS Assessment Topics

Based on the principles outlined in AC-10, Acceptance Criteria for Quality Documentation

• AC-10 is an Acceptance Criteria document published by ICC-ES
• Sets requirements for quality systems for building products
• Available to ICC-SRCC clients upon request
• Referenced directly in SRCC inspection forms

It addresses topics that include:
• Quality system documentation
• Design control
• Incoming goods and materials
• Product quality checks
• Calibrations
Basic Elements of Quality System Documentation (AC-10 §2.0)

Commonly contained in a document known as a Quality Manual.

- Description of the manufacturing processes.
- Organization chart with key responsibilities in quality control program.
- Procedures for processing and documenting complaints.
- Records retention policies (min. 2 years).
Design Control (AC-10 §1.4.4.1, §2.1.7)

• Documents maintained to control the design of the certified product
  • Drawings, parts lists, material specifications, etc.
  • Version control to track and document changes
• Conformity/Non-conformity criteria identified
• Design and material changes are documented and reported promptly to SRCC
Incoming Goods Inspections (AC-10 §2.2)

- Procedures to inspect incoming goods and materials to design specifications
- Applies to incoming:
  - Materials
  - Components
  - Subassemblies
  - Assemblies
- Results of inspections are recorded.
- Instructions and calibrated tools are available for personnel.
Quality in Production Processes (AC-10 §2.1.9)

- Instructions provided for proper production/assembly.
- Quality and conformity checks are conducted and recorded.
- Devices used for quality checks are readily available and calibrated.
- Non-conforming products are controlled.
- Finished products are handled, packaged and stored to prevent damage.
Calibration (AC-10 §2.6)

- Devices used for quality checks (incoming goods or production) are calibrated.
  - Calibrations are current and maintained.
- Records are maintained for calibrated devices noting calibration frequency and a means of providing traceability to national or global standards.
- Calibrated devices are labeled to link each to calibration records.
Design
Continuity
Design Continuity

Design of certified products and systems are checked for changes.

- Inspectors may compare product design to drawings, manuals and test reports submitted to SRCC at the time of certification.
- At least one model will be selected by the inspector for more detailed design review during each surveillance inspection.

**Change management**

- Design, material and production changes must be declared to SRCC to assess the impact on the certification.
- Listees should have a policy requiring prompt reporting of design, material & production changes.
Product Labeling

Labeling is used to indicate that a particular product has been certified and meets the requirements of the certification body.

• Allows building code officials in the field to link a physical product to a certification.
• Provides key product information.
• Labeling is prescribed in the US model building codes.

LABELED. Equipment, materials or products to which has been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, approved agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.
Product marking and labeling must meet ICC-SRCC requirements, set by the relevant standard:

- ICC 901/SRCC 100 - 2020, Section 502
- ICC 900/SRCC 300 - 2020, Section 402

- Can be combined with other labels and marks
ICC-SRCC Label Templates

- ICC-SRCC no longer requires the use of its specific label design. Instead, must have:
  - SRCC certification mark
  - Information required by standard. (see Identification section of certificate)
  - Mark artwork provided at award of certification, renewal and upon request
  - Compliant label template available upon request.
  - May use QR codes to link to the certification.

For more details, see SRCC Rules for Mark and Certificate Use
How are inspections conducted?

ICC-SRCC Inspection Process

How are inspections conducted?
Third-Party Inspection Providers

ICC-SRCC works with several accredited, approved inspection providers for global service.

- Domestic – ICC-NTA
- International
  - AENOR*
  - DINCERTCO*
  - DQS Hellas*
  - ICC-ES
  - IGTE*
  - Quality One
  - Shanghai Hongjun Science & Technology Co.
  - SPF*
- Inspection agencies are under contract with ICC-SRCC
  - Required to adhere to strict confidentiality and impartiality rules

*Provider of both Solar Keymark and SRCC inspection services
Third-Party Inspector Tasks

Scheduling

Inspection

Report Completion

Notifications

Report Review

Corrections

Invoicing & Close

SRCC Staff Tasks

ICC-SRCC Inspection Process
Inspection Fees

- Inspection fees are assessed by ICC-SRCC. The listee will not receive an invoice from the inspector.
  - Domestic Fees – Flat rate includes travel
  - International Fees - Vary with location of facility and assigned inspector
- Inspection fees are NOT included in annual renewal fees
  - Exception: Self-assessment processing fees are included with renewals
  - Inspection fees are assessed after the inspection has been completed.

**NOTE:** If inspections for other certification programs are conducted at the same time (e.g. Solar Keymark) the fees and forms used for them must be kept separate.
Corrections

- Deficiencies identified by the inspector will be described in the inspection report
  - Each will be reviewed and confirmed by SRCC staff.
- Listee is notified of any deficiencies that must be addressed (“corrections”).
- Listee must provide SRCC with their plan to address them within 30 days.
  - Severe deficiencies may require immediate action and follow-up
  - Less urgent corrections will be confirmed at the next inspection.
- Very minor corrections may be addressed while the inspector is present

NOTE: Inspector cannot provide any consulting or guidance on quality systems. But inspectors can answer questions on SRCC program requirements.
Remote Inspections

- SRCC requires most inspections to be conducted in-person.
  - Exceptions are granted for remote surveillance inspections on a case-by-case basis.
  - Qualifying inspections must be conducted in-person.
- Remote inspections still involve an assigned third-party inspector, who conducts their assessment using tools such as MS Teams, FaceTime, Zoom or Webex.
- Fees are similar to in-person inspections due to the increased processing and review time required.
Miscellaneous

• Location subject to inspection is determined by ICC-SRCC.
  • Consult ICC-SRCC for special cases like contract manufacturing, field assembly or multiple facilities.
  • In certain rare cases, more than one facility may be subject to inspection.
• Inspections must be completed by the end of the year assigned.
• Inspection providers are assigned based on location, language, other certifications, and inspector availability and qualifications.
  • Listees have the right to request a different inspector but additional fees may apply.
• Inspections for each SRCC certification program are conducted together (for a given location).
  • For Example: No separate inspection for OG-100 and OG-300 certifications produced at same facility.
• SRCC requires inspections every two years.
  • On years when no inspections are conducted, listees are required to complete and submit a Self-Assessment Form
Day of Inspection

How are inspections conducted?
Onsite Inspection Process

Inspector Arrives

Kickoff Meeting

QMS Inspection
- QMS Documentation Review
- Incoming Goods Inspection Review
- Production Line Assessment

Inventory Inspection
- Labeling
- Non-Compliant Goods

Follow-Up Meeting
Conclusion
Key Takeaways

Inspections are required as a condition of certification for all programs: OG-100, 300, 400 Listings, ENERGY STAR.

Inspections check quality systems, design control, production systems, and SRCC program compliance.

Third-party inspectors conduct most inspections onsite using SRCC forms.

Corrections are processed by SRCC staff to address any deficiencies identified.
Inspection Resources

• SRCC Website
  • Inspection webpage: https://solar-rating.org/resources/inspections/
  • Frequently Asked Questions (FAQ) webpage: https://solar-rating.org/faqs/#Inspections
• SRCC Inspection Forms and Instructions (Qualification & Surveillance)
• Rules for Mark and Certificate Use
• AC-10 document (available upon request)
• SRCC QCM Template (available upon request)
• Logos and label template graphic files (available upon request)

Send any requests to srcc@solar-rating.org