



مجلس أبوظبي للجودة والمطابقة
ABU DHABI QUALITY & CONFORMITY COUNCIL



Abu Dhabi Certification Scheme for Solar Hot Water Collectors

Assessment and Surveillance Plan



Amendment Page

To ensure that each controlled copy of this ASP contains a complete record of amendments, the Amendment Page is updated and issued with each set of revised/new pages of the document.

<u>Amendment</u>			<u>Discard</u>		<u>Insert</u>	
<u>No</u>	<u>Date</u>	<u>Sections Changed</u>	<u>Page(s)</u>	<u>Issue no</u>	<u>Page(s)</u>	<u>Issue no</u>
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1 ABOUT THE ABU DHABI QUALITY AND CONFORMITY COUNCIL

The Abu Dhabi Quality and Conformity Council (QCC) was established by law No. 3 of 2009, issued by His Highness Sheikh Khalifa Bin Zayed Al Nahyan, President of the UAE and ruler of Abu Dhabi.

The QCC consists of a council of regulators that facilitate the provision of quality infrastructure in line with global standards. This quality infrastructure enables industry and regulators to ensure that products, systems and personnel can be tested and certified to UAE and International Standards. In addition to supporting regulators and government organizations through offering quality and conformity assessment facilities, expertise and resources, the Council is also engaged in promoting a culture of quality towards consumers. Additionally, the QCC is responsible for raising the quality of local products and ensuring Abu Dhabi exports meet international standards to improve interactions with global trade and integration into the global economy, as envisioned by Abu Dhabi Economic Vision 2030.

Products certified by certification schemes administered by the QCC receive the Abu Dhabi Trustmark. The Trustmark is designed to communicate that products, personnel or systems conform to various safety, quality and performance standards that are set by Abu Dhabi regulators.

2 FOREWORD

The Abu Dhabi Certification Scheme for Solar Hot Water Collectors, enables manufacturers, suppliers and distributors of these products to obtain voluntary certification which demonstrates that the product(s) meet quality and performance specifications suitable for the Emirate of Abu Dhabi. These specifications incorporate the following requirements:

- Quality assurance of the manufacturing process through a suitable Quality Management System (QMS)
- Performance testing and certification from a QCC-recognized certification program

It is anticipated that implementation of this certification scheme will significantly benefit the Emirate of Abu Dhabi by reducing electricity consumption associated with hot water generation, as well as contributing to the Emirate's renewable energy targets.

3 THE ENVIRONMENTAL TRUSTMARK

Products that achieve certification, through formal evaluation against the QCC certification scheme criteria defined in this document, will be granted a Certificate of Conformity and are licensed to bear the Abu Dhabi Trustmark for Environmental Performance in product promotion and merchandising. The Certificate of Conformity enables manufacturers, distributors and suppliers of solar hot water collectors to present evidence of meeting appropriate standards for Abu Dhabi's built environment.

The Certificate of Conformity can be used to demonstrate the amount of renewable energy that can be produced by each collector, which would in turn displace the same amount of fossil-fuel generated electricity and thereby reduce greenhouse gas emissions.

The QCC's market surveillance inspectors actively ensure the integrity of the Trustmark for Environmental Performance is maintained through market surveillance and testing of products bearing the Trustmark.

Advisory note: A number of factors additional to the characteristics addressed in this assessment and surveillance plan may influence the performance of products, e.g. installation, maintenance, modification and incorrect operation. Such factors are beyond the scope of the third party product certification described in this document. The QCC recommends that suitable precautions, such as the use of competent and/or accredited/approved building designers, solar hot water system installers, commissioners and building maintenance managers, to improve the likelihood of continued compliance of installed products.

The requirements herein may from time to time be varied by the issue of one or more 'QCC Notices' issued as controlled documents to certificate holders.

4 REFERENCES

The following standards (on their latest version to date) have been used to define the performance requirements within this Assessment and Surveillance Plan:

- EN 12975 - Solar thermal collector performance
- Solar Rating & Certification Corporation (SRCC™) Standard 100 – Minimum standards for solar thermal collectors
- AS/NZS 2712 – Solar heat pump water heaters – Design and construction
- ISO 9806 – Solar energy -- Solar thermal collectors -- Test methods
- ISO 9488 - Vacuum and sub-atmospheric collectors
- EN 13501-1 & 5 – Fire performance
- EN 1490 – Thermostatic valves
- EN 60335-1, 2 & 21 – Electrical devices

5 CERTIFICATION REQUIREMENTS

5.1 General Requirements

In order to receive the Trustmark for Environmental Performance, the solar thermal collector applying for certification must be assessed according to the QCC's criteria listed in clause 5.2 and shown to meet the requirements of one or more of the following international recognized certification programs:

- Solar Keymark (<http://www.estif.org/solarkeymarknew/>) – demonstrating conformity to EN 12975
- U.S. Solar Rating and Certification Corporation (SRCC) ratings (<http://www.solar-rating.org/>) - demonstrating conformity to SRCC™ Standard 100
- SAI Global StandardsMark (<http://www.saiglobal.com/product-certification/>) - demonstrating conformity to AS/NZS 2712

Demonstration of certification through a program other than those listed above shall be considered by the QCC provided suitable evidence is supplied by the applicant of comparability between the alternative certification program and one/all of the listed programs. Where an applicant chooses to supply evidence of the solar hot water collector performance independent of the above established certification programs, the following additional requirements shall be met:

- The testing laboratory used for performance measurement of the solar hot water collector or system shall be certified to ISO/IEC 17025 within the scope of the testing performed
- The ISO/IES 17025 certification shall be issued by a certification body signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC-MRA)
- The factory shall have a production control system (similar to ISO 9000 series), which must be checked regularly by an accredited inspector.

The general requirements for certification, along with the terms and conditions for the QCC certification of products and license for use of the Trustmark are contained in the Application, Terms and Conditions and License for Certification form QCC-QP-CSS/PCS-F01, which can be downloaded from the QCC website at:

<http://www.qcc.abudhabi.ae/English/Activities/Documents/Application%20form%20and%20Terms%20and%20Conditions.pdf>

Complete applications for certification shall be submitted electronically through the QCC's Jawdah website <http://jawdah.qcc.abudhabi.ae/en/Pages/default.aspx>.

In addition, the applicant shall provide the following:

- A valid UAE trade license for a supplier/distributor/retailer of the solar hot water collector
- A letter from the manufacturer authorising the supplier/distributor/retailer to deal with the QCC certification of the product(s) (if applying on the manufacturers' behalf)

5.2 Specific Requirements

In order to obtain the QCC certification, the applicant shall provide the following current/valid documentation:

- Evidence that the collector(s) applying for certification currently hold a valid conformity certificate from one of the certification bodies listed in clause 5.1
- Performance testing reports generated in accordance with the conformity certificate showing compliance with the following parameters:

Test	Purpose
Internal pressure	Can the absorber withstand the pressures which it might meet in service?
High temperature resistance	Can the collector withstand high irradiance levels without failures?
Exposure	A short term ageing test
External thermal shock	To assess the capability of a collector to withstand a severe thermal shock that can result from a sudden rainstorm on a hot sunny day.
Internal thermal shock	To assess the capability of a collector to withstand a severe thermal shock that can result from an intake of cold heat transfer fluid on a hot sunny day.
Rain penetration	To assess if glazed collectors are substantially resistant to rain penetration.
Mechanical load	To assess the extent to which the transparent cover and the collector box are able to resist the positive and negative pressure load due to the effect of wind.

- Annual energy output (kWh per annum) based on Abu Dhabi weather conditions and performance test results
- Evidence that installation is to be performed only by a manufacturer-approved supplier
- Minimum 5-year warranty for the collector

5.3 Quality Management System Requirements

The manufacturer (not the importer/distributor/retailer) must be certified according to ISO 9001:2008, the certificate being issued by a certification body accredited according to ISO/IEC 17021:2012 by an accreditation body signatory to the International Accreditation Forum Multilateral Recognition Agreement (IAF MLA).

6 ASSESSMENT OF THE APPLICATION

The assessment is based on the submitted documentation defined in clause 5.2 and 5.3, including additional product information such as; product specifications, product descriptions and product photo documentation, which is evaluated for consistency, completeness and overall quality. Refer to APPENDIX 1 for diagram of the application-assessment process.

7 IDENTIFICATION AND LABELLING

Each certified product component must be provided with an evident label bearing the Trustmark for Environmental Performance (depending on product and subject to agreement with the QCC Communications department) in accordance with brand guidelines specified in the Application, Terms and Conditions and License for Certification (QCC-QP-CSS/PCS-F01).

8 SURVEILLANCE / AUDIT PROCEDURES

8.1 General

At a minimum, the surveillance and audit requirements listed under this section shall be applied to the certified product(s) on an annual basis. When the validity of a certificate is to be demonstrated; this includes the validity of the accreditation of the certificate issuer.

8.2 Quality Management System Audits of Manufacturer

Proof of continued compliance (certification) is to be presented to the QCC annually or 30 days after expiry of the submitted ISO 9001:2008 certificate (whichever comes first).

8.3 Testing and Inspection

Products carrying the QCC Trustmark of Environmental Performance will be subject to the following unannounced inspection activities:

- Annually, the QCC will undertake market surveillance activities to test certified products available in the Abu Dhabi market



- Samples can be inspected i) on-site at installed locations of Abu Dhabi government/municipal owned buildings, ii) at point of entry to the Abu Dhabi Market, and/or iii) in the market
- Samples will be assessed for compliance to selected specific requirements given in Clause 5 including review of the current certification
- The sampling schedule will target previously untested products on a year-on-year basis to ensure eventual testing of all certified products
- If any product fails to meet the certification requirements during inspection, in the first instance, the QCC will liaise with the third party certification body to verify validity of the certification, and subsequently, request the supplier corrective actions, e.g. product withdraw, re-testing or re-certification.
- If one of these additional samples also fails to meet the certification specifications, the certification status of all products from the applicant will be reviewed.

Proof of continued compliance to the requirements of the QCC certification must be provided if; i) a referenced standard listed in clause 4 has changed, or ii) the product has been modified in such a way that would affect its ability to meet the requirements of certification, or iii) annually following issuance of the QCC certificate, whichever comes first.

In cases i) or ii), the continued validity of the supplied product certification shall be demonstrated; in case iii) an affidavit shall be provided by the applicant and the manufacturer that the production system has not been modified and the specification of the product remains unchanged.

APPENDIX 1: PRODUCT ASSESSMENT AND CERTIFICATION PROCESS

