

 GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
	Document Title:	Certification of Solar Collectors as per BS EN 12975-1: 2006 A1: 2010	عنوان الوثيقة:	
	Doc Ref.	DM-DCLD-RD-DP21-2178 (IC)	رقم الوثيقة :	

Table of Contents

REVISION HISTORY	2
INTRODUCTION	3
SCOPE.....	3
PRODUCT IDENTIFICATION AND APPLICABLE STANDARD/NORMATIVE REFERENCE	3
DEFINITION OF TERMS	4
REQUIREMENTS FOR INITIAL CERTIFICATION	4
GRANTING OF THE DCL CERTIFICATION AND FEES	8

Approved by CQPSM	Authorized by CQPSM
Date of Issue : 27/03/2023	Rev. No. : 11
General / عام : Level of Confidentiality / درجة السرية	Page 1 of 8

Note: Printed copy of this document shall be treated as 'Uncontrolled'. Always refer the controlled version 'Online

 GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
	Document Title:	Certification of Solar Collectors as per BS EN 12975-1: 2006 A1: 2010	عنوان الوثيقة:	
	Doc Ref.	DM-DCLD-RD-DP21-2178 (IC)	رقم الوثيقة :	

Issue Date	Rev. No.	Summary Of Amendments
21-02-2013	0	Second draft
17-03-2013	0	Third Draft
22-04-2013	0	Final Draft
20-05-2013	1	Issue for use
13-10-2014	2	Amended clauses [1.1.2], [1.3.2], and [4] to make reference to Special rules
08-03-2015	3	Amended clauses [2.4.1], [2.4.2] and [4] related to testing and surveillance
10-12-2016	4	Including provisions for certification of OEM and OBL
17-03-2019	5	Updating format as per new DM template and new DM logo
29-12-2019	6	Updated- Changing font type, including provision related to factory surveillance and adding the outsourced CAB, in addition to omitting the obsolete test method
11-05-2020	7	Revised with the requirements of the current updated version of the test method standard. In addition to some editorial changes as per the new numbering system and terminologies
09-08-2020	8	Add the options for initial audit by the approved CAB and remotely by PCAS. Adding definition for authorized auditor. Update for the new numbering system and followed terminologies. Add provision for accepting valid test reports
26/09/2021	9	Removal of the documents in clause 2.1.2, in addition to further amendment in the provision for accepting valid test reports (clause 2.4.1.2.f), in line with DM 30% reduction of requirements (both service and specialized). Modifications in the auditing part for the factories already certified against ISO 9001 to opt for auditing only the areas of production and monitoring stages of product realization, quality control and final product testing and evaluation.
04/10/2022	10	Changing section name as per the new organizational structure, and replace HOU by CQPSM (Section's Manager). Replace Market Surveillance to site monitoring of certified products
27/03/2023	11	Full re-structuring and transfer of common provisions to the general rule. Clauses are re-numbered and document title has been revised accordingly. Use of New DM Logo

Approved by CQPSM	Authorized by CQPSM
Date of Issue : 27/03/2023	Rev. No. : 11
General / عام : Level of Confidentiality / درجة السرية	Page 2 of 8

Note: Printed copy of this document shall be treated as 'Uncontrolled'. Always refer the controlled version 'Online

 GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
	Document Title:	Certification of Solar Collectors as per BS EN 12975-1: 2006 A1: 2010	عنوان الوثيقة:	
	Doc Ref.	DM-DCLD-RD-DP21-2178 (IC)	رقم الوثيقة :	

1. INTRODUCTION

- 1.1 This document prescribes the specific rule for certification of the product(s) as identified herein, in accordance with the requirements of DM Third Party Product Certification Scheme Through Factory Assessment, taking into consideration the applicable normative references and standard specification, in addition to the requirements for conformity evaluation, as stated below.
- 1.2 The applicant/client shall comply with this specific rule, and to all provisions under the “**General Rule for DM Third Party Product Certification Scheme Through Factory Assessment**“ **DM-DCLD-RD-DP21-2001 (IC)**.
- 1.3 This specific rule **is an integral part of the general rule** and both shall always be read together.

2. SCOPE

- 2.1 This specific rule specifies the requirements on durability (including mechanical strength), reliability, and safety for liquid heating solar collectors. It also includes provisions for evaluation of conformity to these requirements.
- 2.2 This specific rule does not cover collectors in which the thermal storage unit is an integral part of the collector to such an extent, that the collection process cannot be separated from the storage process for the purpose of making measurements of these two processes.
- 2.3 This specific rule does not -by itself- permit the use of the below product in the construction sites. However, it does provide the necessary general conformity assessment criteria, which are required for the evaluation and issuance of the certification and the authorization of the use of the DCLD Conformity Mark. Other relevant requirements issued by the regulatory bodies if any; shall always be fulfilled.

3 PRODUCT IDENTIFICATION AND APPLICABLE STANDARD/NORMATIVE REFERENCE

- 3.1 Product name: Solar Collectors for Solar Heating System
- 3.2 Applicable standard/Normative reference: BS EN 12975-1:2006 +A1: 2010 – Thermal solar systems and components – Solar Collectors – Part 1: General requirements
BS EN ISO 9806 - Solar energy – Solar thermal collectors – Test method
DM-DCLD-RD-DP21-2006 (IC) Special rules for the certification of solar water heater collectors and registration of suppliers of solar water heating systems.

Approved by CQPSM	Authorized by CQPSM
Date of Issue : 27/03/2023	Rev. No. : 11
General / عام : Level of Confidentiality / درجة السرية	Page 3 of 8

Note: Printed copy of this document shall be treated as 'Uncontrolled'. Always refer the controlled version 'Online

 GOVERNMENT OF DUBAI	Organization/Unit: إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
	Document Title: Certification of Solar Collectors as per BS EN 12975-1: 2006 A1: 2010	عنوان الوثيقة:	
	Doc Ref. DM-DCLD-RD-DP21-2178 (IC)	رقم الوثيقة :	

3.3 Additional reference:

ISO 9001 Quality Management System – Requirements

ISO 19011 Guidelines for Auditing Management Systems

4 DEFINITION OF TERMS

4.1 In addition to the definitions given in BS EN 12975-1, EN ISO 9488, and the General Rule of the scheme [DM-DCLD-RD-DP21-2001 (IC)], the following shall apply:-

- 4.1.1 Standard Specification – BS EN 12975-1:2006 +A1: 2010 – Thermal solar systems and components
Solar Collectors – Part 1: General requirements.
- 4.1.2 Applicant / Client – Any company with legal entity, which applies for certification of the collectors and is responsible for fulfillment of all certification requirements and got the right to use DCL Conformity Mark for the certified solar collectors for solar heating system. This applicant may be the manufacturer of the collector (OEM) or own the brand labeling of the collector (OBL).
- 4.1.3 OEM – is the original equipment manufacturer (OEM) of the collector that applies for certification and granted the right to use DCL Conformity Mark after satisfactory fulfillment of the certification requirements. This term is used when the certificate holder has a contract/agreement with another company act as an OBL.
- 4.1.4 OBL– is own brand labeling (OBL), a company re-labeling the collector with valid DCL certification under its own company name and product name (brand) without making any changes to the collector designs and specifications originally certified by DCL to the respective OEM.

5 REQUIREMENTS FOR INITIAL CERTIFICATION

- 5.1 The process of application, initial assessment and product sampling shall be in line with the related provisions in the general rule and the standard specifications (see also 5.4.1.1).
- 5.2 Specific requirements (Manufacturer/OEM)
- 5.2.1 The manufacturer/OEM shall have a laboratory with the following testing equipment as a minimum:
- Internal pressure (leakage) tester
 - Dimensional test equipment
- 5.2.2 The manufacturer/OEM shall implement a factory production control system (internal product quality assurance plan) which shall conform to DM-DCLD-RD-DP21-2084 (IC).

Approved by CQPSM	Authorized by CQPSM
Date of Issue : 27/03/2023	Rev. No. : 11
General / عام : Level of Confidentiality / درجة السرية	Page 4 of 8

Note: Printed copy of this document shall be treated as 'Uncontrolled'. Always refer the controlled version 'Online

 GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
	Document Title:	Certification of Solar Collectors as per BS EN 12975-1: 2006 A1: 2010	عنوان الوثيقة:	
	Doc Ref.	DM-DCLD-RD-DP21-2178 (IC)	رقم الوثيقة :	

5.3 INITIAL FACTORY AUDIT/REVIEW

5.3.1 **The applicant is the manufacturer/OEM of Solar Collectors for solar heating system**

5.3.1.1 Initial factory audit will be carried out by DCLD-CQPS as per the relevant provisions in the general rules of the factory assessment scheme.

5.3.1.2 Once certified; the manufacturer/OEM must have an authorized supplier in Dubai with valid trade license issued by DED and registered with DCLD-CQPS.

5.3.2 **The applicant is not the manufacturer (i.e OBL) of the Solar Collectors for solar heating system and wish to be the certificate holder (certificate under his name)**

5.3.2.1 **OBL with OEM already certified;**

- ❖ DCLD-CQPS shall only conduct a full review of the submitted documents and application in addition to the following:
 - The respective manufacturer/OEM of the collector has a valid DCL certificate.
 - Collector designs technical data sheet and bill of materials are complying with the ones originally certified by DCL for the respective manufacturer/OEM.
- ❖ DCLD-CQPS reserves the rights to test the collectors which are labeled by the OBL; if deemed necessary. This can be arranged thru a third party accredited inspection body; or by DCLD-CQPS.

5.3.2.2 **OBL with OEM not certified by DCLD-CQPS;**

- ❖ If the respective manufacturer/OEM of the collector is not certified by DCLD-CQPS and the OBL still wishes to apply on his behalf as an OEM certificate holder; then DCLD-CQPS shall conduct audit on the OEM as per clause [5.3.1.1] above (*Note: OBL DCL Certificate of Conformity have to be issued always on the basis of OEM DCL Certificate of Conformity. It is not possible to issue an OBL DCL Certificate of Conformity on the basis of another OBL DCL Certificate of Conformity*).
- ❖ After the OEM completes the process and is granted the DCL certificate of product conformity, the OBL application shall be processed according to [5.3.2.1] above.

5.3.2.3 In all cases, the OBL – once certified- shall have an authorized supplier in Dubai with valid trade license issued by Dubai Economic Department (DED) and has already been registered with DCLD-CQPS.

Approved by CQPSM	Authorized by CQPSM
Date of Issue : 27/03/2023	Rev. No. : 11
General / عام : Level of Confidentiality / درجة السرية	Page 5 of 8

Note: Printed copy of this document shall be treated as 'Uncontrolled'. Always refer the controlled version 'Online

 GOVERNMENT OF DUBAI	Organization/Unit: إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية: 	 بلدية دبي Dubai Municipality
	Document Title: Certification of Solar Collectors as per BS EN 12975-1: 2006 A1: 2010	عنوان الوثيقة: 	
	Doc Ref. DM-DCLD-RD-DP21-2178 (IC)	رقم الوثيقة : 	

5.4 PRODUCT EVALUATION (applicable only to the manufacturer/OEM)

5.4.1 **Products not covered by Solar Key mark Certification (or its equivalent): (see also clause [5.4.2])**

5.4.1.1 Sampling and Testing

- Test samples shall be taken for initial testing from the current production or from the warehouse. Identification of samples for initial testing should be on at least 10 collectors that are produced with the same materials and the same manufacturing technologies /process.
- Two sets of samples per type shall be taken randomly. The first set will be sent directly to DCLD-CQPS approved independent testing laboratory and the second set will be kept by the client as reference for future use.
- Test sample(s) for independent test shall be identified and submitted to DCLD-CQPS approved independent testing laboratory. Likewise, samples to be submitted for independent test shall be accompanied by a collector identification and set of drawings as per clause 7.1 of BS EN 12975-1. The set of drawings shall describe the collector's dimensions and structure along with a list of materials used in the collector and important physical and optional properties as well as the solar description in ISO 9806:2017.
- If the client produces the same collector in different lengths and/or widths (the only difference between the two collectors is the length and/or width), the collector is considered the same subtype. Hence, only one sample of the smallest and one sample of the largest module shall be taken as samples and tested. The largest module shall be subject to all the tests required in BS EN 12975-1 clause [5.2], and the smallest shall be subject to a thermal performance test as per ISO 9806:2017.
- Durability and reliability tests shall be carried on collectors representing the major features of the same sub type (collector sub type with collectors having several glass covers separated by bars).
- Custom build collectors (built in, roof integrated collectors that do not comprise to factory made modules and are assembled directly on the place of installation) are handled as described in BS EN 12975-1, paragraph 1 "...a module with the same structure as the ready collector tested. The module gross area in the case of custom built collectors shall be at least 2 m²". The client has to explain the conformity of the test module with the normal production and must provide a detailed description of the components. Very large collector modules may be treated as the custom built one, see above, if testing of the full size module is not possible.

5.4.1.2 Product Evaluation Criteria

- The product shall conform to the requirements as specified in clauses 5.3, 6, Annex A, and Annex B of the standard specification, BS EN 12975-1
- The following tests shall be carried out as per ISO 9806:2017 and results shall reflect the term "no major failure" as pass criteria:-

Approved by CQPSM	Authorized by CQPSM
Date of Issue : 27/03/2023	Rev. No. : 11
General / عام : Level of Confidentiality / درجة السرية	Page 6 of 8

Note: Printed copy of this document shall be treated as 'Uncontrolled'. Always refer the controlled version 'Online

 GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 Dubai Municipality
	Document Title:	Certification of Solar Collectors as per BS EN 12975-1: 2006 A1: 2010	عنوان الوثيقة:	
	Doc Ref.	DM-DCLD-RD-DP21-2178 (IC)	رقم الوثيقة :	

- i. Internal pressure for absorber
- ii. High temperature resistance
- iii. Exposure
- iv. External thermal shock
- v. Internal thermal shock
- vi. Rain penetration (for glazed collectors only)
- vii. Mechanical load
- viii. Thermal performance
- ix. Freeze resistance (if declared)
- x. Stagnation temperature
- xi. Final inspection

- c. The materials and design for the product shall be in accordance with Annex A of BS EN 12975-1
- d. The manufacturer of Solar Collectors for solar heating system shall have its products labeled as per clause 7.2 of BS EN 12975-1
- e. The manufacturer of Solar Collectors for solar heating system shall provide an installer instruction manual as per clause 7.3 of BS EN 12975-1
- f. If the result of the test conducted by the DCLD-CQPS approved independent testing laboratory shows non-conformance to the specified requirements, the provision for rejection specified in the standard shall apply. The retest shall be carried out on the reference sample kept by the manufacturer or on new samples collected by the authorized auditor on which full testing shall be carried out ,if necessary.
- g. If the re-test passed, the initial product assessment is considered conforming to product specification. If not, the manufacturer will be advised to take corrective action.
- h. Only after reassessment and subsequent product compliance shall the client be allowed to use DCL Conformity Mark on his product(s) that have been tested and found complying with the certification requirements.

5.4.2 **Special Provisions for Collectors that are covered by Solar Keymark Certification (or its equivalent)**

5.4.2.1 For collectors that are already covered by Solar Keymark Certification (or scheme equivalent to Solar Keymark), the testing of the collector shall be as follows:

- a. DCLD-CQPS shall review the current Solar Keymark Certificate and the collector design and specifications to ensure that the Certificate is still valid and there are no changes in the design of the collector being produced.
- b. At least one sample (from among the families of collector to be certified) shall be selected and sent to an independent laboratory for full testing as required by the standard. The authorized auditor shall decide as to how many collectors will be subjected to full testing.

Approved by CQPSM	Authorized by CQPSM
Date of Issue : 27/03/2023	Rev. No. : 11
General / عام : Level of Confidentiality / درجة السرية	Page 7 of 8

Note: Printed copy of this document shall be treated as 'Uncontrolled'. Always refer the controlled version 'Online

 GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
	Document Title:	Certification of Solar Collectors as per BS EN 12975-1: 2006 A1: 2010	عنوان الوثيقة:	
	Doc Ref.	DM-DCLD-RD-DP21-2178 (IC)	رقم الوثيقة :	

- c. Other types or models or collector will be included in the Scope of DCLD-CQPS Certification, provided they have current/valid Solar Keymark Certificate and valid Test Report from accredited laboratory at the time of audit.

5.4.2.2 After granting the DCLD-CQPS Certification, during the periodic surveillance visits, DCLD-CQPS shall review the continuing validity of the Solar Keymark Certificate and that there are no changes in the design and specifications of the certified product. If there are no modifications and changes to the Solar Keymark Certificate, no further testing will be conducted.

5.4.2.3 At every 5th year from original certification date, DCLD-CQPS- if deemed necessary- may select a new sample (other than the one previously tested during initial audit) from among the collectors within the scope of the DCLD-CQPS certification and send it to independent laboratory for full testing.

5.4.2.4 The results of testing must always meet the requirements as per the standard specification.

6 GRANTING OF THE DCLD CERTIFICATION

- 6.1 The DCLD product conformity certificate and the authorization to use the DCLD conformity mark shall be granted upon conformance with all related provisions in the general rule.
- 6.2 Fees shall be as per DM-DCLD-RD-DP21-2083 (IC) and other relevant provisions in the general rule.
- 6.3 DCLD-CQPS shall carry out surveillance of certified clients based on the approved periodic plans and related provisions in the general rule. Surveillance of manufacturers/OEM/OBL that are covered by Solar Keymark Certification shall take into consideration the provisions mentioned in Clause [5.4.2] above.
- 6.4 Appeals, disputes and complaints shall be in line with the relevant provisions in the General Rule.

Approved by CQPSM	Authorized by CQPSM
Date of Issue : 27/03/2023	Rev. No. : 11
General / عام : Level of Confidentiality / درجة السرية	Page 8 of 8

Note: Printed copy of this document shall be treated as 'Uncontrolled'. Always refer the controlled version 'Online