

Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:
Document Title:	Specific Rules for Certification of Spray-applied Thermal Insulation as per ASTM C1029:2015	عنوان الوثيقة:
Doc Ref.	DM-DCLD-RD-DP21-2112 (IC)	رقم الوثيقة:



Issue Date	Rev. No.	Summary Of Amendments
23/05/2005	0	First draft for comments
15/06/2005	0	Final draft for approval
30/06/2005	1	Issue for use
09/08/2009	2	Document reference number and format is changed according to the new IMS, statement
		for the independent testing plan was changed, and the statement for surveillance was
		shortened by referring the appropriate procedure, RD-DP21-2096 (IC).
30/11/2009	3	Reviewed with the requirements of the current version of the standard (2009) and found
		to be still suitable.
28/07/2010	4	Reviewed with the requirements of the current version of the standard (2010) and found
		to be still suitable.
24/08/2010	5	Revised to incorporate the following:
		To include the requirements for flame spread index (FSI) and smoke-developed index
		(SDI) in the surface burning characteristic; inclusion of alternative test method for water
		absorption testing; and amended as per new documentation structure;
19/03/2012	6	Typographical corrections
11/07/2013	7	Reviewed with the requirements of the current version of the standard (ASTM C1029-13)
		and found to be still suitable.
23/07/2017	8	Modified the Scope in clause [1.2]. Deleted clauses related to fire performance
		requirements to align with UAE Fire & Life Safety Code of Practice 2016. Added Annex A
18/03/2018	9	Modified the conduct of factory audit to project site audit to exclude non-applicable
		clauses of the ISO 9001.
23/04/2018	10	Addition of provision to conduct testing the fire safety of the spray applied polyurethane
		thermal insulation foam when used for non-combo system or when the core insulation
		foam is exposed
05/09/2018	11	Amended clauses related to factory surveillance
08/11/2018	12	Updating the reference document for fire safety requirement, UAE Fire and Life Safety
		Code of Practice to 2018 version
24/03/2019	13	Revision of Scope to reflect that the DCL Certification of above subject product does not
		cover compliance to the requirements of UAE Fire & Life Safety Code of Practice 2018.
06/09/2020	14	Revised to add the options for initial audit by the approved CAB and remotely by PCAS.
		Adding definition for authorized auditor. Update for the new standard edition, new
		numbering system and followed terminologies. Add provision for accepting valid test
		reports.

Approved by HOU	Authorized by PCASM
Date of Issue : 06/09/2020	Rev. No. : 14
درجة السرية / Level of Confidentiality : عام / General	Page 1 of 10



Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:
Document Title:	Specific Rules for Certification of Spray-applied Thermal Insulation as per ASTM C1029:2015	عنوان الوثيقة:
Doc Ref.	DM-DCLD-RD-DP21-2112 (IC)	رقم الوثيقة:



1. GENERAL

1.1 INTRODUCTION

- 1.1.1 This document prescribes the specific rules for the implementation of the DM Third Party Product Certification

 Scheme Through Factory Assessment as applied to the specific product(s) identified herein, taking into consideration the applicable normative references and standard specifications.
- 1.1.2 The applicant shall comply with these specific rules, and to those already mentioned in the "General Rules for DM Third Party Product Certification Scheme Through Factory Assessment DM-DCLD-RD-DP21-2001 (IC).
- 1.2 SCOPE
- 1.2.1 This specific rule applies only to In-situ formed sprayed rigid polyurethane (PUR), polyisocyanurate (PIR) thermal insulation materials used for roofing systems.
- 1.2.2 This specific rule does not cover compliance to the requirements of UAE Fire & Life Safety Code of Practice 2018.
- 1.2.3 For certification of In-situ formed sprayed rigid polyurethane (PUR), Polyisocyanurate (PIR) Thermal Insulation compliance to the requirements of UAE Fire & Life Safe Code of Practice 2018, the Specific Rules DM-DCLD-RD-DP21-2210 (IC) shall apply.
- 1.3 PRODUCT IDENTIFICATION AND APPLICABLE STANDARD/NORMATIVE REFERENCE

1.3.1 Product name: Spray-Applied Thermal Insulation

1.3.2 Applicable standard/Normative reference: ASTM C 1029-2015 Standard Specification for Spray-Applied Rigid

Cellular Polyurethane Thermal Insulation

1.3.3 Additional reference:

ISO 9001 - Quality Management System - Requirements

ISO 19011 - Guidelines for Auditing Management System

Approved by HOU	Authorized by PCASM
Date of Issue : 06/09/2020	Rev. No. : 14
درجة السرية / Level of Confidentiality : عام / General	Page 2 of 10



Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:
Document Title:	Specific Rules for Certification of Spray-applied Thermal Insulation as per ASTM C1029:2015	عنوان الوثيقة:
Doc Ref.	DM-DCLD-RD-DP21-2112 (IC)	رقم الوثيقة:



1.4 DEFINITION OF TERMS

In addition to the definitions given in ASTM C 168, ASTM D 883, ASTM C 1029-13, DM-DCLD-RD-DP21-2001 (IC), the following shall apply:

- 1.4.1 Independent Testing Laboratory Dubai Central Laboratory (DCL) or any testing laboratory recognized by DCLD-PCAS..
- 1.4.2 Independent Test test performed or conducted by the recognized Independent Testing Laboratory
- 1.4.3 Standard Specification ASTM C 1029-2015 Standard Specification for Spray-Applied Rigid Cellular Polyurethane Thermal Insulation
- 1.4.4 QMS Quality Management System aligned with the requirements of ISO 9001 Standard
- 1.4.5 Client: Applicator of PU spray foam insulation
- 1.4.6 DM Certification Body Products Conformity Assessment Section- Dubai Central Laboratory (DCLD-PCAS)
- 1.4.7 Authorized auditor: is any approved auditor by DCLD-PCAS either internal within DCLD or external (Approved CAB's auditor or approved auditor based on a signed contract)

2. REQUIREMENTS FOR CERTIFICATION

- 2.1 APPLICATION
- 2.1.1 The client shall apply to DCLD-PCAS for the certification and authorization to use of DCL Conformity Mark.
- 2.1.2 Application form shall be submitted to DCLD-PCAS together with the following documents
 - a. Trade License
 - b. Complete product description and specifications
 - c. Brief Description of Manufacturing Process
 - d. Copy of the Quality Manual (Controlled Copy)- If available
 - e. Vicinity Map and Factory Layout
 - f. Valid Certification to ISO 9001 (If available)

Approved by HOU	Authorized by PCASM
Date of Issue : 06/09/2020	Rev. No. : 14
درجة السرية / Level of Confidentiality : عام / General	Page 3 of 10



Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:
Document Title:	Specific Rules for Certification of Spray-applied Thermal Insulation as per ASTM C1029:2015	عنوان الوثيقة:
Doc Ref.	DM-DCLD-RD-DP21-2112 (IC)	رقم الوثيقة:



- g. List of personnel and their designation
- h. Total number of effective personnel involved in manufacture of the product (technical, managerial and support personnel
- i. List of available testing equipment and tests conducted internally
- j. Others
- 2.1.3 Separate application shall be submitted for each product type or group of products that refers to a different specifications /specific rules.

2.2 FACTORY OPERATION

2.2.1 Quality Management System

The client shall have a Quality Management System that is aligned to the requirements of ISO 9001 standard. NOTE: Having a certificate of ISO 9001 is not a mandatory requirement; however the structure of the manufacturer's QMS shall be in line with its requirements.

2.2.2 Laboratory or Testing Area

The client shall have a quality assurance laboratory to carry out factory production control testing to ensure that the Spray-Applied Thermal Insulations comply with the requirements of the standard specification.

The laboratory can be part of the client's facilities, or, can be through a documented agreement with an accredited external laboratory. As a minimum requirement, the laboratory shall have the following testing equipment:

- a. Calipers and other linear measuring test equipments (to measure thickness and dimensions)
- b. Weighing Scale or other equivalent apparatus (to measure density of PUR)

Other Testing equipment needed by the client to ensure good quality PUR shall be provided and as recommended by the chemical suppliers, are as follows:

- a. Hygrometer to measure moisture and humidity
- b. Thermometer or pyrometer (to measure the ambient temperature and substrate temperature)
- c. Anemometer (to measure wind velocity)

Approved by HOU	Authorized by PCASM
Date of Issue : 06/09/2020	Rev. No. : 14
درجة السرية / Level of Confidentiality : عام /	Page 4 of 10



Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:
Document Title:	Specific Rules for Certification of Spray-applied Thermal Insulation as per ASTM C1029:2015	عنوان الوثيقة:
Doc Ref.	DM-DCLD-RD-DP21-2112 (IC)	رقم الوثيقة:



2.3 INITIAL FACTORY AUDIT

2.3.1 Initial factory audit will be carried out by duly authorized auditor(s) which will cover auditing of the quality management system to verify its compliance with the requirements of ISO 9001, in addition to verify the implementation of DCLD-PCAS certification's requirements. Where possible; the audit can be carried out remotely as per (DM-DCLD-RD-DP21-2098 (IC) Guidelines for Remote Audit) or as per the related approved guidelines which are followed by the approved outsourced CAB.

NOTE: An independent certification to ISO 9001 issued by a QMS certification body recognized by DCLD-PCAS may be considered as having satisfied this requirement; however, DCLD-PCAS reserves the right to carry out verification audit to confirm that the factory is in compliance with the QMS requirements, in addition to the requirements of DCLD certification schemes and rules.

2.3.2 The audit shall be conducted by designated audit team in accordance with ISO 19011 – Guidelines for Auditing Management Systems.

2.4 PRODUCTION AND PRODUCT EVALUATION

- 2.4.1 Sampling
- 2.4.1.1 Sampling for initial testing shall be shall be taken randomly by the authorized auditor from the products to be certified (sizes and quantities to be determined) either from production lines or the factory warehouse, in accordance with the requirements of the standard specification.
- 2.4.1.2 Three sets of sample per product per type shall be subjected to testing; the first set, where possible, will be tested in the plant witnessed by a duly authorized auditor, the second set will be sent to DCLD-PCAS approved Independent Testing Laboratory. The third set will be kept by the client as reference for future use.
- 2.4.1.3 Sample(s) for independent test shall be packed/sealed and signed in the presence of the authorized auditor and shall be submitted to DCLD-PCAS approved lab.

2.4.2 Production/Spray Application

2.4.2.1 Production or Spray Application shall be conducted as per machine and chemical supplier's suggestions. These information and guidance maybe derived from Machine Manual or Chemical MSDS, TDS, etc. These reference document may form part of the Externally-sourced controlled document and should be available at project site.

Approved by HOU	Authorized by PCASM
Date of Issue : 06/09/2020	Rev. No. : 14
درجة السرية / Level of Confidentiality : عام / General	Page 5 of 10



Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:
Document Title:	Specific Rules for Certification of Spray-applied Thermal Insulation as per ASTM C1029:2015	عنوان الوثيقة:
Doc Ref.	DM-DCLD-RD-DP21-2112 (IC)	رقم الوثيقة:



The company may provide Spray Application Procedure that describes the processes and this must be part of the Controlled Documents.

2.4.2.2 Spray Application Control Parameters

To ensure the quality and consistency of the spray-applied PUR, the recommendations of the machine and chemical suppliers are to be considered, such as the temperature of chemicals (MDI and Polyol) before spraying, the pressure of both the chemicals considering the mix ratio (ex: 1:1), machine settings and weather conditions. These temperature and pressure settings shall be recorded from the machine display panels or gauges and to be recorded in appropriate form to serve as production control records. Accuracy of these display panels and gauges should be verified or calibrated by recognized Calibration company.

2.4.2.3 Competency of Spray Applicators

The client utilize experienced and qualified personnel to conduct the spray applications. The duly authorized auditor should witnessed the spray application where to draw the samples noting the details of the raw materials (Ex. grade and expiry dates).

A Supervising Technical person should be utilized by the company to supervise, monitor and record the sprayapplication control parameters and the quality of the sprayed PUR as per internal quality control plan. Proof of Records of trainings and qualifications of these personnel should be available at the audit site.

2.4.3 Product Evaluation and Testing

2.4.3.1 The tests to be carried out shall be in accordance with the Test Method mentioned in section 10 of the Standard Specification as follows, when applicable;

2.4.3.1.1Thermal Resistance as per ASTM C 177 or ASTM C 1363 or ASTM C 518

Note: DCL has the option to conduct thermal resistance test at an early stage of the required conditioning period (180 days) to verify compliance with the minimum specification value as specified in Table 1 of ASTM C 1029. The result shall be confirmed after the full conditioning period is attained.

- 2.4.3.1.2 Compressive Strength as per ASTM C 165 Procedure A or ASTM D 1621 Procedure
- 2.4.3.1.3 Water Vapor Permeability as per ASTM E 96
- 2.4.3.1.4 Water Absorption as per ASTM C 2842 or ASTM C-209
- 2.4.3.1.5 Tensile Strength as per ASTM D 1623
- 2.4.3.1.6 Response to Thermal and Humid Aging as per ASTM D 2126

Approved by HOU	Authorized by PCASM
Date of Issue : 06/09/2020	Rev. No. : 14
درجة السرية / Level of Confidentiality : عام /	Page 6 of 10



Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:
Document Title:	Specific Rules for Certification of Spray-applied Thermal Insulation as per ASTM C1029:2015	عنوان الوثيقة:
Doc Ref.	DM-DCLD-RD-DP21-2112 (IC)	رقم الوثيقة:



2.4.2.1.7 Closed Cell Content as per ASTM D 2856

- 2.4.3.2 The results of testing must meet the requirements as per the standard specification.
- 2.4.3.3 Independent test shall only be conducted if the result of the in-plant test shows satisfactory results.
 DCLD-PCAS may opt to accept available valid test reports conducted by an approved DCLD-PCAS independent laboratory within one year from the date of the initial assessment, in line with the internal quality control testing plan of the factory. In such case, the testing of that particular parameter(s) shall be waived accordingly.
- 2.4.3.4 If the result of the test conducted by the DCLD-PCAS 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 client or on new samples collected by the authorized auditor on which full testing shall be carried out, if necessary.
- 2.4.3.5 If the re-test passed, the initial product assessment is considered conforming to product specification. If not, the client will be advised to take corrective action.
- 2.4.3.6 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

3.0 GRANTING OF THE DCL CERTIFICATION

- 3.1 CONDITIONS FOR GRANTING THE DCL PRODUCT CONFORMITY CERTIFICATE
 - 3.1.1 When the results of the factory audit (clause 2.3) and product evaluation (clause 2.4) show conformity to the requirements specified in the general rule and specific rule, the Certificate of Conformity and authorization to use the DCL Conformity Mark shall be issued to the client for the type(s)/model(s)/brand(s) of the product covered by the assessment.
 - 3.1.2 The client shall agree with DCLD-PCAS for the preparation and implementation of a product quality assurance plan /mechanism to ensure continuing compliance with the Standard Specifications and the requirements of this certification scheme. It shall consist of (1) an internal product quality assurance plan, and (2) an independent testing plan.

Approved by HOU	Authorized by PCASM
Date of Issue : 06/09/2020	Rev. No. : 14
درجة السرية / Level of Confidentiality : عام /	Page 7 of 10



Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:
Document Title:	Specific Rules for Certification of Spray-applied Thermal Insulation as per ASTM C1029:2015	عنوان الوثيقة:
Doc Ref.	DM-DCLD-RD-DP21-2112 (IC)	رقم الوثيقة:



3.1.3 Internal Product Quality Assurance Plan

The client shall have an internal product quality assurance plan giving details of the tests to be carried out at the factory. This will include as a minimum, the following details: (1) location of sampling; (2) frequency of sampling; (3) quantities of samples; (4) tests to be carried out; (5) results acceptance criteria; and (6) responsible person to carry out the activity.

The Plan shall take into consideration the control of raw materials, spray application control parameters, the settings of machine, weather conditions, testing and acceptance criteria, location/stage, frequency of monitoring, test methods, records, responsible persons, etc.

3.1.4 Independent Testing Plan

The client shall agree to an independent testing plan to be carried out on samples which are collected in accordance with DM-DCLD-RD-DP21-2096 (IC) – Surveillance of Certified Clients under the Factory Assessment Scheme, and implemented by the DCLD-PCAS.

3.2 ISSUANCE OF DCL CERTIFICATE OF CONFORMITY

If the conditions mentioned in clause 3.1 above have been complied, the client shall be issued a DCL Certificate of Conformity and a Scope of Certification that covers the type(s) and size(s) of the products that are certified and will be authorized to use the DCL Conformity Mark on the certified products.

- 3.3 RESPONSIBILITIES OF THE CERTIFIED CLIENTS.
- 3.3.1 The client shall ensure that his product, for which a certificate of conformity has been issued, conforms at all times to the requirements of the General Rule and Specific Rules and shall maintain to the satisfaction of DCL, a system of quality control including inspection and testing.
- 3.3.2 The client shall give the duly authorized auditor(s), access during working hours, without prior notification, to the premises of the factory where certified product is manufactured, for the purpose of evaluating the materials, production processes, finished products, quality assurance facilities, records and others in accordance with the requirements of the scheme.
- 3.3.3 The client shall inform DCLD-PCAS in writing of any change of management, transfer of plant site, modification in the product, manufacturing process or factory's quality management system.

Approved by HOU	Authorized by PCASM
Date of Issue : 06/09/2020	Rev. No. : 14
درجة السرية / Level of Confidentiality : عام /	Page 8 of 10



Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:
Document Title:	Specific Rules for Certification of Spray-applied Thermal Insulation as per ASTM C1029:2015	عنوان الوثيقة:
Doc Ref.	DM-DCLD-RD-DP21-2112 (IC)	رقم الوثيقة:



- 3.3.4 Upon transfer of plant site, the certificate of conformity shall be deemed valid only after factory and product audit at the new site has been satisfactorily completed.
- 3.3.5 Any infraction stated in the terms and conditions of the certification scheme and the use of DCL Conformity Mark shall constitute sufficient grounds for suspension, withdrawal and termination of certification in accordance with DM-DCLD-IMS-RD-07.
- 3.3.6 Any dispute that may arise in connection with the Terms and Conditions of the certification scheme shall be settled in accordance with DM-DCLD-IMS-RD-08 Appeals, Disputes, and Complaints Procedure.
- 3.3.7 The client shall pay all applicable fees related to the certification process.
- 3.4. USE OF THE DCL CONFORMITY MARK
- 3.4.1 The design and use of the DCL Conformity Mark shall be in accordance with the Terms and Conditions for the Use of the DCL Conformity Mark, DM-DCLD-IMS-RD-13.
- 3.4.2 The client shall submit a product-marking proposal for approval by the DCLD-PCAS. The proposal shall include drawings and/or diagrams showing the location and size of the marking for each size of the product.
- 3.4.3 The Certificate of Conformity and the authorization to use the DCL Conformity Mark is non-transferable.

4. SURVEILLANCE

4.1 DCLD-PCAS or their approved CAB shall carry out periodic surveillance to ensure consistent compliance with the requirements of this certification scheme as per DM-DCLD-RD-DP21-2096 (IC) – Surveillance of Certified Clients under the Factory Assessment Scheme.

Due to the nature of the business and spray application processes of this product, DCL shall conduct Technical Surveillance Audit that may exclude other requirements of ISO 9001 (Ex. Management Reviews, IQA, Sales, Purchase, Sales, etc.) which may not applicable in the usual business operation.

In lieu of these ISO 9001 exclusions, the Technical Surveillance Audit shall focus only on the applicable audit areas such as, Inspection and Test Plan (ITP), Spray Application processes, Maintenance (Spray Machine) and Quality Control and IMTE Calibrations and other quality related activities such as customer satisfaction and handling of customer complaints.

Approved by HOU	Authorized by PCASM
Date of Issue : 06/09/2020	Rev. No. : 14
درجة السرية / Level of Confidentiality : عام /	Page 9 of 10



Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:
Document Title:	Specific Rules for Certification of Spray-applied Thermal Insulation as per ASTM C1029:2015	عنوان الوثيقة:
Doc Ref.	DM-DCLD-RD-DP21-2112 (IC)	رقم الوثيقة:



Authorized auditors shall conduct audit and inspection at any company project site only as part of technical surveillance (or market surveillance) during the validity of the Certificate as per DCL approved frequencies/plan.

Authorized auditor shall use the prescribed Audit form, Spray Applied PUR Inspection Checklists (DM-DLCD-F-IC 2060) which shall form part of the Audit Summary Report.

4.2 Testing as part of the surveillance shall be in accordance with the Independent Testing Plan (clause 3.1.4) that has been agreed between DCLD-PCAS - and the client.

5. FEE SCHEDULE

- The client shall pay the applicable fees and charges related to the granting of the certificate of conformity and the authorization to use the DCL Conformity Mark based on the DCL Official Fee Structure, DM-DCLD RD-DP21-2097 (IC).
- 5.2 The fees for this certification scheme shall include but not limited to the following
 - 5.2.1 Application Fee
 - 5.2.2 Initial Assessment Fee
 - 5.2.3 Certification Fee
 - 5.2.4 Marking Fee
 - 5.2.5 Surveillance Fee
 - 5.2.6 Annual Renewal Fee
 - 5.2.7 Testing Fee
 - 5.2.8 Outsource Activity Fee , where applicable

Approved by HOU	Authorized by PCASM
Date of Issue : 06/09/2020	Rev. No. : 14
درجة السرية / Level of Confidentiality : عام /	Page 10 of 10