



**Specific Rules for Certification of Spray-applied Cellular Polyurethane Thermal Insulation  
(As Per ASTM C 1029-10) Through Factory Assessment  
Dubai Central Laboratory- Inspection And Certification Section**

**Doc. Ref :RD-DP21-2112 (IC)**  
**Issue Date :19/03/2012**

**Rev. No.: 6**  
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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

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**1. GENERAL**

**1.1 INTRODUCTION**

1.1.1 This document prescribes the specific rules for the implementation of the DM Third Party Product Certification System 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 System Through Factory Assessment " {RD-DP21-2001 (IC)}.

**1.2 SCOPE**

This specific rule applies only to spray-applied polyurethane thermal insulation materials with a minimum thickness required to achieve a U value of 0.44 W/K.m<sup>2</sup> as per the DM Administrative Decision 66-2003.

**1.3 PRODUCT IDENTIFICATION AND APPLICABLE STANDARD/NORMATIVE REFERENCE**

1.3.1 Product name: Spray-Applied Rigid Cellular Polyurethane Thermal Insulation

1.3.2 Applicable standard/Normative reference: ASTM C 1029-10 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 Quality and Environmental Management System Auditing

**1.4 DEFINITION OF TERMS**

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

1.4.1 Independent Testing Laboratory - Dubai Central Laboratory (DCL) or any testing laboratory recognized by the DM Certification Body.

1.4.2 Independent Test – test performed or conducted by an Independent Testing Laboratory

1.4.3 Standard Specification – ASTM C 1029-10 Standard Specification for Spray-Applied Rigid Cellular Polyurethane Thermal Insulation

1.4.4 Product Quality Assurance Plan – a document being agreed upon both by the Licensee and the certification body being used to ensure continuous compliance of the certified product.

1.4.5 QMS – Quality Management System aligned with the requirements of ISO 9001:2008 Standard

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**2. REQUIREMENTS FOR CERTIFICATION**

**2.1 APPLICATION**

2.1.1 Manufacturer/producer of spray-applied rigid cellular polyurethane thermal insulation shall apply to Dubai Central Laboratory Department through Inspection and Certification Unit for the License to use the DCL Conformity Mark.

2.1.2 Application forms shall be filled-up by the applicant-company together with the following documents

- 5.2.1 Trade License
- 5.2.2 Complete Product Description and specifications
- 5.2.3 Brief Description of Manufacturing Process
- 5.2.4 Copy of the Quality Manual (Controlled Copy)
- 5.2.5 Vicinity Map and Factory Layout
- 5.2.6 Valid Certification to ISO 9001 (if available)
- 5.2.7 List of key personnel and their designation

**2.2 FACTORY OPERATION**

**2.2.1 Quality Management System**

Manufacturer of spray-applied rigid cellular polyurethane thermal insulation shall have a Quality Management System that is aligned to the requirements of ISO 9001 standard. NOTE: Certification to ISO 9001 is not a mandatory requirement.

**2.2.2 Laboratory**

Manufacturer of spray-applied rigid cellular polyurethane thermal insulation shall have a quality assurance laboratory to carry out factory production control testing to ensure that the thermal insulation comply with the requirements of the standard specification.

The laboratory can be part of the factory 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
- b. Weighing Scale

**2.3 INITIAL FACTORY AUDIT**

2.3.1 DCL duly authorized representative shall conduct an audit of the factory quality management system to verify its compliance with the requirements of ISO 9001.

NOTE: An independent certification to ISO 9001 issued by a QMS certification body recognized by DM may be considered as having satisfied this requirement; however, the DM Certification Body reserves the right to carry out verification audit to confirm that the factory is in compliance with the QMS requirements.

2.3.2 Verification audit shall be conducted by designated audit team based on ISO 19011 – Guidelines for Quality and Environment Management System Auditing.

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2.4 PRODUCT EVALUATION

2.4.1 Sampling & Testing

2.4.1.1 Sampling and preparation of test specimen shall be carried out in accordance with the section 8 and section 9 of standard specification, ASTM C 1029.

2.4.1.2 Three sets of sample per product per type shall be subjected to testing; the first set, if applicable, will be tested in the plant witnessed by a duly authorized DCL representative, the second set will be sent to Independent Testing Laboratory. The third set will be kept by the manufacturer as reference for future use.

2.4.1.3 Test sample(s) for independent test shall be packed/sealed and signed in the presence of DCL representative and shall be submitted to an Independent Testing Laboratory by the DCL representative.

2.4.2 Product Evaluation

2.4.2.1 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;

2.4.2.1.1 Thermal 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.

2.4.2.1.2 Compressive Strength as per ASTM C 165 Procedure A or  
ASTM D 1621 Procedure A

2.4.2.1.3 Water Vapor Permeability as per ASTM E 96

2.4.2.1.4 Water Absorption as per ASTM C 2842 or ASTM C-209

2.4.2.1.5 Tensile Strength as per ASTM D 1623

2.4.2.1.6 Response to Thermal and Humid Aging as per ASTM D 2126

2.4.2.1.7 Closed Cell Content as per ASTM D 2856

2.4.2.1.8 Surface Burning Characteristic as per ASTM E 84

Flame Spread Index shall be maximum of 75

Smoke-developed Index shall be maximum of 450

2.4.2.2 The results of both in plant and independent tests shall comply with the requirements of the standard specification.

2.4.2.3 Independent test shall only be conducted if the result of the in-plant test shows satisfactory results.

2.4.2.4 If the result of the test conducted by the 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 DM Certification Body, on which full testing shall be carried out ,if necessary.

7.2.4 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.

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7.2.5 Only after reassessment and subsequent product compliance shall the manufacturer be allowed to use DCL Conformity Mark on his product.

**3. GRANTING OF THE DCL LICENSE**

**3.1 CONDITIONS FOR GRANTING THE DCL LICENCE**

3.1.1 When the results of the factory and product assessments show conformity to the requirements specified in the general rule and specific rule, the license to use the DCL Mark shall be issued to the manufacturer for the type(s)/model(s)/brand(s) of the product tested.

3.1.2 The factory shall agree with the DM Certification Body for the preparation and implementation of a product quality assurance plan to ensure continuing compliance with the Standard Specifications and the requirements of this certification scheme. The plan shall consist of (1) an internal product quality assurance, and (2) an independent testing plan

**3.1.3 Factory Production Control System (Internal Product Quality Assurance Plan)**

The factory shall prepare and submit to DM Certification Body for approval a factory production control system (internal product quality assurance plan) which shall conform to RD-DP21-2090 (IC) .

The plan shall take into consideration the production process, the volume of production, the criticality of the test to be specified, and other relevant factors.

**3.1.4 Independent Testing Plan**

The factory shall agree to an independent testing plan to be carried out on samples which are collected in accordance with RD-DP21-2096 (IC) – Surveillance of Licensed Establishments under the Factory Assessment Scheme, and implemented by the DM Certification Body. The cost of testing under the independent testing plan shall be borne by the factory.

**3.2 ISSUANCE OF DCL LICENSE**

If the conditions mentioned in clause 3.1 above have been complied, the manufacturer shall be issued a DCL Certification License and a Scope of Certification that covers the type(s) and size of the products that are certified.

**3.3 RESPONSIBILITIES OF THE LICENSEE**

3.3.1 The licensee shall ensure that his product, for which a license 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 licensee shall give the duly authorized representative(s) of DCL, 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 licensee shall inform the DM Certification Body in writing of any change of management, transfer of plant site, modification in the product, manufacturing process or factory's quality management system.

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- 3.3.4 Upon transfer of plant site, the license 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 cancellation of the license against a licensee.
- 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 the General Rule for DM Third Party Product Certification System through Factory Assessment.
- 3.3.7 The licensee 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 Mark of Conformity, IMS-RD-13.
- 3.4.2 The licensee shall submit a product-marking proposal for approval by the DM Certification Body. The proposal shall include drawings and/or diagrams showing the location and size of the marking for each size of the product/product container.
- 3.4.3 The license to use the DCL Conformity Mark is non-transferable.

**4. SURVEILLANCE**

- 4.1 DM Certification Body shall carry out periodic surveillance to ensure consistent compliance with the requirements of this certification scheme as per RD-DP21-2096 (IC) – Surveillance of Licensed Establishments under the Factory Assessment Scheme.
- 4.2 The surveillance shall be in accordance with the Independent Testing Plan (clause 3.1.4) that has been agreed between the DCLD and the factory.

**5. FEE SCHEDULE**

- 5.1 The licensee shall pay the applicable fees and charges related to the granting of the license to use the DCL Mark based on the DCL Official Fee Structure, 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 Surveillance Fee
  - 5.2.5 Annual Renewal Fee
  - 5.2.6 Testing Fee
  - 5.2.7 Marking Fee

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