



DUBAI CENTRAL LABORATORY DEPARTMENT INSPECTION AND CERTIFICATION SECTION	CODE :	RD-IC-02-17
DOCUMENT TITLE: SPECIFIC RULES FOR CERTIFICATION OF RIGID CELLULAR PHENOLIC THERMAL INSULATION (AS PER ASTM C 1126) THROUGH FACTORY ASSESSMENT	REVISION :	1
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1. INTRODUCTION

- 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.
- 1.2 The applicant shall comply with these specific rules, **and** to those already mentioned in the “General Rule for DM Third Party Product Certification Through Factory Assessment “ (**RD-IC-02-01**).

2. PRODUCT IDENTIFICATION AND APPLICABLE STANDARD/NORMATIVE REFERENCE

- 2.1 Product Name: Rigid Cellular Phenolic Thermal Insulation
- 2.2 Applicable standard/Normative reference: ASTM C 1126 Standard Specification for Faced or Unfaced Rigid Cellular Phenolic Thermal Insulation
- 2.3 Additional references:
- 2.3.1 ASTM C 168 - Terminology Relating to thermal Insulating materials
 - 2.3.2 ASTM C 177 - Test Method for Steady-State Heat Flux Measurement and thermal Transmission Properties by Means of Guarded-Hot-Plate Apparatus
 - 2.3.3 ASTM C 209 - Test Method for Cellulosic Fiber Insulating Board
 - 2.3.4 ASTM C 335 - Test Method for Steady-State Heat Transfer Properties of Horizontal Pipe Insulation
 - 2.3.5 ASTM C 390 - Sampling and Acceptance of Thermal Insulation Lots
 - 2.3.6 ASTM C 518 - Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
 - 2.3.7 ASTM C 550 - Practice for Measuring Trueness and Squareness of Rigid Block and Board Thermal Insulation
 - 2.3.8 ASTM C 1363 - Test Method for Assessing the Odor Emission of Thermal Insulation Materials
 - 2.3.9 ASTM D 1621 - Test Method for Compressive Properties of Rigid Cellular Plastics
 - 2.3.10 ASTM D 1622 - Test Method for Apparent Density of Rigid Cellular Plastics
 - 2.3.11 ASTM D 1623 - Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics
 - 2.3.12 ASTM D 2126 - Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
 - 2.3.13 ASTM E 84 - Test Method for Surface Burning Characteristic of Building Materials
 - 2.3.14 ASTM E 96 - Test Method for Water Vapor Transmission of Materials
 - 2.3.15 ISO 9001:2000 - Quality Management System –Requirements
 - 2.3.16 ISO 19011:2002 - Guidelines for Quality and Environmental Management System Auditing

3. DEFINITION OF TERMS

In addition to the definitions given in ASTM C-168, ASTM C 1126, RD-IC-02-01 and other reference standards, the following shall also apply:

- 3.1 Independent Testing Laboratory - Dubai Central Laboratory Department or any testing laboratory recognized by the DM Certification Body.
- 3.2 Standard Specification – ASTM C 1126 Standard Specification for Faced or Unfaced Rigid Cellular Phenolic Thermal Insulation

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- 3.3 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.
- 3.4 QMS – Quality Management System aligned with the requirements of ISO 9001:2000 Standard

4. APPLICATION

- 4.1 Manufacturer of Rigid Cellular Phenolic Thermal Insulation shall apply to Dubai Central Laboratory through Inspection and Certification Section for the license to use the DCL Conformity Mark.
- 4.2 Application forms shall be filled-up by the applicant-company together with the following documents
- 4.2.1 Trade License
 - 4.2.2 Complete product description and specifications
 - 4.2.3 Brief Description of Manufacturing Process
 - 4.2.4 Copy of the Quality Manual (Controlled Copy)
 - 4.2.5 Vicinity Map and Factory Layout
 - 4.2.6 Valid Certification to ISO 9001 (if available)
 - 4.2.7 List of key personnel and their designation
- 4.3 Separate application shall be submitted for each product type or group of products that refers to a different specific rules.

5. REQUIREMENTS FOR INITIAL FACTORY ASSESSMENT

- 5.1 DCL duly authorized representative shall visit the applicant company's factory/plant with the aim of ascertaining that the factory's quality management system is in accordance with the requirements of ISO 9001: 2000
- 5.2 An independent certification to ISO 9001 issued by a QMS certification body recognized by DM shall be considered as having satisfied this requirement; however, the DM Certification Body will still carry out verification audit to confirm that the factory is in compliance with the QMS requirements.
- 5.3 Verification audit shall be conducted by designated audit team based on ISO 19011:2002 – Guidelines for Quality and Environment Management System Auditing

6. REQUIREMENTS FOR INITIAL TESTING OF THE PRODUCT

6.1 Sampling

- 6.1.1 Sampling and inspection shall be carried out in accordance with the requirements of ASTM C 390. Lot size shall be determined and a random sample shall be taken either from the production or warehouse
- 6.1.2 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.

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- 6.1.3 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.
- 6.1.4 During the factory assessment, DM Certification Body shall collect samples for initial testing of the product.

6.2 Product Evaluation

- 6.2.1 Physical Properties - The product shall conform to the requirements of the designated type declared by the applicant specified in the standard specification, ASTM C 1126
- 6.2.2 Dimension and Tolerances – Unless otherwise agreed upon between the purchaser and supplier, dimension and tolerance specified in Section 8.1 and 8.2 respectively of the ASTM C 1126 shall be followed.

Note: For Type I and Type II, squareness, straightness and flatness shall comply with the requirements specified in Section 8.3 of the ASTM C 1126.

- 6.2.3 Workmanship - The product shall have no defects that will adversely affect its service quality

- 6.2.4 The tests to be carried out shall be as follows;

- 6.2.4.1 Density Test as per ASTM D 1622
- 6.2.4.2 Compressive Resistance as per ASTM D 1621
- 6.2.4.3 Tensile Strength as per ASTM D 1623
- 6.2.4.4 Apparent Thermal Conductivity as per ASTM C 177 or ASTM C 518
- 6.2.4.5 Dimensional Stability as per ASTM D 2126
- 6.2.4.6 Water Absorption as per ASTM C 209
- 6.2.4.7 Water Vapor Permeance and Permeability as per ASTM E 96
- 6.2.4.8 Surface Burning Characteristic as per ASTM E 84

- 5.2.4 Independent test shall only be conducted if the result of the applicable in-plant test shows satisfactory results.
- 5.2.5 If the result of any test conducted by the independent testing laboratory shows non-conformance to the specified requirements, the reference sample kept by the manufacturer shall be subjected for re-test to those that failed.
- 5.2.6 If the retest passed, the initial product assessment is considered conforming to product specification. If not, the manufacturer will be advised to take corrective action.
- 5.2.7 Only after reassessment and subsequent product compliance shall the manufacturer be allowed to market his product.
- 5.2.8 All test results shall be held strictly confidential by the independent testing laboratory concerned. Copies of the results will be provided only to the manufacturer.

7. COMPLIANCE AND RESPONSIBILITIES OF THE LICENSEE

7.1 Compliance

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7.1.1 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 Conformity Mark shall be issued to the manufacturer for the type(s)/model(s)/brand(s) of the product tested.

7.1.2 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

7.1.2.1 Internal product quality assurance plan

The factory shall prepare and submit to DM Certification Body for approval 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 production process, the volume of production, the criticality of the test to be specified, and other relevant factors

7.1.2.2 Independent testing plan

The factory shall agree to an independent testing plan to be prepared and implemented by the DM Certification Body. The independent testing plan shall consist of testing of the finished product at the independent testing laboratory at the expense of the licensee. The plan shall include, as a minimum, the following: (1) location of sampling (whether from factory or open market); (2) frequency of sampling; (3) quantities of samples; (4) tests to be carried out; (5) results acceptance criteria; (6) laboratory to carry out the tests.

7.2 Responsibilities of the Licensee

7.2.1 Every 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.

7.2.2 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.

7.2.3 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.

7.2.4 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.

7.2.5 Any infraction stated in the licensing agreement for the use of DCL Conformity Mark shall constitute sufficient grounds for suspension, withdrawal and cancellation of the license against a licensee.

7.2.6 Any dispute that may arise in connection with the licensing agreement shall be settled in accordance with the General Rule for DM Third Party Product Certification System Through Licensing for the Use of DCL Conformity Mark.

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8. SURVEILLANCE

DM Certification Body shall carry out periodic surveillance to ensure consistent compliance with the requirements of this certification scheme.

8.1 Factory surveillance visit

The DM Certification Body shall carry out a surveillance visit to the factory once every three months to ensure continuing compliance with the certification requirements. During this visit, the DM Certification Body shall confirm that the factory QMS continues to be implemented effectively. DM Certification Body shall examine the results of the internal product quality assurance plan to verify continuing compliance of the product with the Standard Specifications.

Note: DM Certification Body shall have the option to increase or decrease the frequency of the surveillance visits, depending upon the performance history and results of the previous audits.

8.2 Product Sampling and Testing

As part of the surveillance audit and whenever possible, samples of the certified products shall be drawn from the factory and/or market in coordination with the company representative for the following frequency of tests by an independent testing laboratory;

- 8.2.1 Density Test every 3 months
- 8.2.2 Compressive Resistance every 3 months
- 8.2.3 Tensile Strength every 6 months
- 8.2.4 Apparent Thermal Conductivity every 3 months
- 8.2.5 Dimensional Stability every 3 months
- 8.2.6 Water Absorption every 3 months
- 8.2.7 Water Vapor Permeance and Permeability every 3 months
- 8.2.8 Surface Burning Characteristic every 6 months

8.3 The results of independent testing shall be evaluated to confirm that the product continues to comply with the Standard Specifications.

9. USE OF THE DCL CONFORMITY MARK

9.1 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, RD-IC-02-98

9.2 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 container.

9.3 The license to use the DCL Conformity Mark is non-transferable.

10. FEE SCHEDULE

10.1 The licensee shall pay the applicable fees and charges related to the granting of the license to use the DCL Conformity Mark based on the DCL Official Fee Structure, RD-IC-02-97.

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10.2 The fees for this certification scheme shall include but not limited to the following;

- 10.2.1 Application Fee
- 10.2.2 Initial Assessment Fee
- 10.2.3 Certification Fee
- 10.2.4 Surveillance Fee
- 10.2.5 Annual Renewal Fee
- 10.2.6 Testing Fee
- 10.2.7 Marking Fee

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