

	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	
	Document Title:	Specific Rules for Factory Made Phenolic Foam Thermal Insulation as per BS EN 13166: 2012 + A2:2016	عنوان الوثيقة:	
	Doc Ref.	DM-DCLD-RD-DP21-2186 (IC)	رقم الوثيقة:	

Issue Date	Rev. No.	Summary Of Amendments
28-06-2015	0	First draft for comments
05-07-2015	0	Final draft
26-07-2015	1	Issue for use
17-07-2017	2	Amendment to align the fire test requirement with the UAE Fire and Life Safety Code of Practice 2016; Provision for once every 3 years fire test in the Factory Production Control System (Internal Product Quality Assurance Plan); Revised Format according to the latest template.
08-11-2018	3	Amendment to align the fire test requirement with the UAE Fire and Life Safety Code of Practice 2018 edition.
21-03-2019	4	Revision of Scope to reflect that the DCL Certification of phenolic thermal insulation material does not cover compliance to the requirements of UAE Fire & Life Safety Code of Practice 2018.
20-04-2020	5	Amendment to align with the new BS EN 13166:2012+A2:2016 standard specification In addition to some editorial changes as per the new numbering system and terminologies
06-09-2020	6	Add the options for initial audit by the approved CAB and remotely by PCAS. Adding definition for authorized auditor. Update for the terminologies. Add provision for accepting valid test reports.
26-09-2021	7	Removal of the documents in clause 2.1.2, in addition to further amendment in the provision for accepting valid test reports (clause 2.4.1.4), 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.

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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 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 with 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 factory made phenolic foam (PF) thermal insulation products used as wall and roof insulation with a minimum thickness required to achieve a U value in accordance with DM Regulation.
- 1.2.2 For certification of pipe and duct insulation for HVAC systems, the Specific Rule DM-DCLD-RD-DP21-2185 (IC) “Specific Rules for Certification of Pipe and Duct Insulation as per Al Sa’fat Green Building Regulations” shall apply.
- 1.2.3 This specific rule does not cover compliance to the requirements of UAE Fire & Life Safety Code of Practice 2018.
- 1.2.4 For certification of Phenolic foam thermal insulation compliance to the requirements of UAE Fire & Life Safety 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: Thermal Insulation Products for Buildings – Factory made phenolic foam (PF) products
- 1.3.2 Applicable Standard/Normative Reference: BS EN 13166: 2012+A2: 2016 Thermal Insulation Products for Buildings – Factory made phenolic foam (PF) products - Specification
- 1.3.3 Additional References:
- ASTM C 518, Thermal transmission properties by heat flow meter
- ASTM E 96, Water vapor transmission of materials
- ISO 9001 - Quality Management System – Requirements
- ISO 19011- Guidelines for Auditing Management Systems

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1.4 DEFINITION OF TERMS

In addition to the definitions given in EN ISO 9229, BS EN 13166: 2012+A2: 2016 and DM-DCLD-RD-DP21 2001(IC) the following shall also apply:

- 1.4.1 DM Certification Body – Products Conformity Assessment Section- Dubai Central Laboratory (DCLD-PCAS)
- 1.4.2 Independent Testing Laboratory - Dubai Central Laboratory (DCLD) or any testing laboratory recognized by the (DCLD-PCAS)
- 1.4.3 Independent Test – test performed or conducted by the recognized Independent Testing Laboratory
- 1.4.4 QMS - Quality Management System aligned with the requirements of ISO 9001 Standard
- 1.4.5 Standard Specification (SS) – BS EN 13166: 2012+A2: 2016 Thermal Insulation Products for Buildings – Factory made phenolic foam (PF) products - Specification
- 1.4.6 Factory Production Control Plan – a document being agreed upon both by the Client and DCLD-PCAS being used to ensure continuous compliance of the certified product.
- 1.4.7 Client : Manufacturer/producer of thermal insulation for buildings – Factory made Phenolic foam (PF) products
- 1.4.8 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 the DCL Conformity Mark.
- 2.1.2 Application form shall be submitted by client to DCLD-PCAS.
- 2.1.3 Separate application shall be submitted for each product type or group of products that refers to a different specific rules.



2.2 FACTORY OPERATION

- 2.2.1 Quality Management System

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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

The client shall have a quality assurance laboratory to carry out factory production control testing to ensure that the thermal insulation materials 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 facility to check the following properties:

- Length, width, thickness
- Squareness and flatness
- Density

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 may still opt to carry out verification audit to confirm that the factory is in compliance with requirements of DCLD certification schemes and rules, mainly the areas of production and monitoring stages of product realization, quality control and final product testing and evaluation

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

2.4 PRODUCT EVALUATION

2.4.1 Sampling and Testing

- 2.4.1.1 Sample for the initial testing shall be taken randomly by the authorized auditor from the products to be certified (type of facings, sizes and quantity to be determined) either from production lines or the factory warehouse, in accordance with the requirements BS EN 13166: 2012 + A2:2016.

- 2.4.1.2 Three sets of sample per product per type should be selected – as applicable from the production line or from the

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warehouse and 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 independent testing laboratory. The third set will be kept by the client as reference.

- 2.4.1.3 Test sample(s) for independent test shall be identified and signed in the presence of the authorized auditor and shall be submitted to an independent testing laboratory by the DCLD-PCAS approved lab.
- 2.4.1.4 Where applicable, Independent test should only be conducted if the result of the in-plant test shows satisfactory result. DCLD-PCAS shall 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.
- 2.4.1.5 If the result of the test conducted by the DCLD-PCAS approved laboratory shows non-conformance to the specified requirements, retest shall be carried out on the reference sample kept by the client or on new samples collected by authorized auditor, on which full testing shall be carried out, if necessary.
- 2.4.1.6 If the retest passed, the initial product assessment is considered conforming to product specification. If not, the client will be advised to take corrective action.
- 2.4.1.7 Only after re-assessment and subsequent product compliance shall the client be allowed to use the DCL Conformity Mark on his product.

2.4.2 Product Evaluation and Testing

The products conformity evaluation will be based on the satisfactory compliance of the tests results of the required tests to be carried out on each sample (The test shall be carried out at an independent approved laboratory).

- 2.4.2.1 The client shall submit to Dubai Central Laboratory a declaration of product specification subject for certification. This shall include but not limited to:

2.4.2.1.1 Thermal Resistance and Thermal Conductivity (*initial and the aged value*)

2.4.2.1.2 Dimension (Length, Width)

2.4.2.1.3 Thickness

2.4.2.1.4 Flatness

2.4.2.1.5 Squareness

2.4.2.1.6 Dimensional Stability

2.4.2.1.7 Compressive Strength



Note: For structural applications, declared compressive strength shall be not less than 100 kPa

2.4.2.1.8 Water Vapor Transmission

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2.4.2.1.9 Density

2.4.2.2 Samples drawn for independent test shall meet the requirements of the Standard Specification (SS) as follows:

2.4.2.2.1 Thermal Resistance and Thermal Conductivity as per SS clause 4.2.1

Note 1: Since BS EN 12667, test method for thermal resistance and thermal conductivity, is equivalent to the ASTM C 518, ASTM C 177, ISO 8301 and ISO 8302, DCLD-PCAS may opt to use any of these test methods.

Note 2: Conditioning and temperature to be used in carrying out this test will be as per Dubai requirement, that is @ 35°C and 60% Relative Humidity and the reference mean temperature is 35 °C

2.4.2.2.2 Length and Width as per (SS) clause 4.2.2

2.4.2.2.3 Thickness as per (SS) clause 4.2.3

2.4.2.2.4 Squareness as per (SS) clause 4.2.4

2.4.2.2.5 Flatness as per (SS) clause 4.2.6

2.4.2.2.6 Compressive Strength as per (SS) clause 4.3.3

2.4.2.2.7 Water Vapor Transmission as per (SS) clause 4.3.8

Note: Since BS EN 12086 test method for water vapor transmission, is equivalent to that of the ASTM E 96, DCLD-PCAS may opt to use this test method.

2.4.2.2.8 Dimensional Stability under specified temperature and RH per (SS) clause 4.3.2

2.4.2.2.9 Apparent Density as per (SS) clause 4.3.9

2.4.2.3 Where appropriate, a comparison shall be made between the manufacturer's routine test results, results of witness testing and the results of testing by the independent testing laboratory.

3. 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 the DCLD-PCAS 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. It shall consist of (1) an internal product quality assurance plan, and (2) an independent testing plan.

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

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The client shall prepare and submit to DCLD-PCAS for approval of an internal product quality assurance plan. 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 cover all inspections carried out thru out the whole manufacturing process; i.e. (raw materials – production lines- finished product testing and evaluation as per standard specifications – final packing).

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; it shall consist and comply with the minimum requirement as per below:

SR/N	INSULATION PROPERTY	MINIMUM TESTING FREQUENCIES
1	Thermal Resistance and Thermal Conductivity	1 per 24 h (initial value) 1 per 2 years (aged value)
2	Length and Width	1 per 4 h
3	Thickness	1 per 4 h
4	Apparent Density	1 per 24 h
5	Squareness	1 per 4 h
6	Flatness	1 per 4 h
7	Compressive Strength	1 per 24 h

Note: Item No. 1 and 7 may be reduced to once per month provided that the results show continuing compliance to the declared value.

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 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 CLIENT

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- 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 regulations and legislation, whenever applicable, and shall maintain to the satisfaction of DCLD-PCAS, 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 quality management system.
- 3.3.4 Upon transfer of factory location, 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 samples of label/tag showing the DCL Conformity Mark, The proposal shall include drawings and/or diagrams showing the location and size of the marking for each size of the product/product package for approval by the DCLD-PCAS.
- 3.4.3 The Certificate of Conformity and the authorization to use the DCL Certification Mark is non-transferable.

4. SURVEILLANCE

- 4.1 DCLD-PCAS or their authorized auditor(s) 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.

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- 4.2 The surveillance shall be include testing of certified products in accordance with the Independent Testing Plan (clause 3.1.4) that has been agreed between the DCLD-PCAS and the client.

5. FEE SCHEDULE

- 5.1 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;
- 5.1.1 Application Fee
 - 5.1.2 Initial Assessment Fee
 - 5.1.3 Certification Fee
 - 5.1.4 Marking Fee
 - 5.1.5 Surveillance Fee
 - 5.1.6 Annual Renewal Fee
 - 5.1.7 Testing Fee
 - 5.1.8 Outsource CABs Fees- (whenever applicable)

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