

 GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
	Document Title:	Certification of Factory Made Extruded Polystyrene Thermal Insulation as per BS EN 13164: 2012 + A1: 2015	عنوان الوثيقة:	
	Doc Ref.	DM-DCLD-RD-DP21-2188 (IC)	رقم الوثيقة :	

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Issue Date	Rev. No.	Summary Of Amendments
05-09-2015	0	First draft for comments
10-09-2015	0	Final draft
12-09-2015	1	Issue for use
17-07-2017	2	Revised to incorporate the fire tests requirements of UAE Fire and Life Safety Code of Practice 2016.
07-03-2019	3	Updated format as per DM template and new DM logo
21-03-2019	4	Revision of scope to reflect that the DCL certification of Factory Made Extruded Polystyrene Thermal Insulation Material does not cover compliance to the requirements of UAE Fire & Life Safety Code of Practice 2018.
06-09-2020	5	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	6	Removal of the documents in clause 2.1.2 in line with DM 30% reduction of requirements (both service and specialized). Revision in clause 2.4.1.4 to add the provision for accepting valid test reports, and to modify clauses affected accordingly. 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.
07-10-2022	7	Changing section name as per the new organizational structure, and replace HOU by CQPSM (Section's Manager), also addition of surveillance in the clause 2.4.1.4
27-03-2023	8	Full re-structuring and transfer of common provisions to the general rule. Clauses are re-numbered and document title has been revised accordingly. Adding reference to SA'AFAT relevant section under additional references. Use of New DM Logo

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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 applies only to factory made extruded polystyrene foam (XPS) thermal insulation products with or without facings or coatings, which are used for thermal insulation of buildings. The products are manufactured in the form of boards which are also available with special edge and surface treatment (tongue & grooves, shiplap, etc.).
- 2.2 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: Thermal Insulation Products for Buildings Factory made extruded polystyrene foam (XPS) Products.
- 3.2 Applicable standard/Normative reference: BS EN 13164: 2012+A1: 2015 Thermal Insulation Products for Buildings – Factory made extruded polystyrene foam (XPS) products – Specification.
- 3.3 Additional reference:
- ISO 9001 Quality Management System – Requirements
- ISO 19011 Guidelines for Auditing Management Systems
- ASTM C 518 Thermal transmission properties by heat flow meter
- ASTM E 96 Water vapor transmission of materials.

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Al Sa'fat – Dubai Green Building System-2nd edition, January 2023 – Section 701.01 (Thermal and Acoustical Insulation Materials).

4 DEFINITION OF TERMS

4.1 In addition to the definitions given in BS EN 13164 and the General Rule of the scheme [DM-DCLD-RD-DP21-2001 (IC)], the following shall apply:-

4.1.1 Standard Specification – BS EN 13164: 2012+A1: 2015 Thermal Insulation Products for Buildings – Factory made extruded polystyrene foam (XPS) products – Specification

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.

5.2 The factory shall have a laboratory with the following testing equipment as a minimum:

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

5.3 Product Evaluation and testing

5.3.1 The client shall only use fire retardant materials in the manufacture of extruded polystyrene foam (XPS) thermal insulation products.

5.3.2 The client shall submit to DCLD-CQPS declaration of product specification subject for certification. This shall include but not limited to:

- Thermal Resistance and Thermal Conductivity (*initial and the aged value*)
- Dimension (Length, Width)
- Thickness
- Squareness & Flatness
- Dimensional Stability
- Compressive Strength
- Water Absorption (by total immersion)
- Water Vapor Transmission
- Density

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

- a. 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, the DM Certification Body 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

- b. Length, Width, Squareness and Flatness as per (SS) clause 4.2.2
c. Thickness as per (SS) clause 4.2.3
d. Dimensional Stability under specified temperature and RH per (SS) clause 4.3.2
Note 3 : DCL perform the test @ 70°C and 90%RH at 48 h
e. Compressive Stress or Strength as per (SS) clause 4.3.4
f. Water absorption (by total immersion) as per (SS) clause 4.3.7.1
g. Water Vapor Transmission as per (SS) clause 4.3.9

Note 4: Since BS EN 12086 test method for water vapor transmission, is equivalent to that of the ASTM E 96, the DM Certification Body may opt to use this test method.

- h. Apparent Density as per Certification requirements

5.3.2 The results of testing must comply with the standard specification requirements.

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

The client shall have an internal product quality assurance plan. It 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). 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 2 h
3	Squareness	1 per 4 h
4	Flatness	1 per 8 h
5	Thickness	1 per 2 h
6	Apparent Density	1 per 24 h
7	Compressive Stress or Strength	1 per 12 h

Note: The frequencies may be reduced to once per month provided that the results show continuing compliance to the declared value.

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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-DP21-2097 (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.
- 6.4 Appeals, disputes and complaints shall be in line with the relevant provisions in the General Rule.

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