

 GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
	Document Title:	Certification of Portland Cement Products for Use in Concrete (As per ASTM C150/C150M-21)	عنوان الوثيقة:	
	Doc Ref.	DM-DCLD-RD-DP21-2208 (IC)	رقم الوثيقة:	

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Issue Date	Rev. No.	Summary Of Amendments
14/03/2018	0	First draft for comment
01/05/2018	0	Second draft for comment
09/05/2018	0	Third draft for comments
23-10-2018	0	Include DCL – Technical committee feedback and comments
11-11-2018	1	Issue for use
26-03-2019	2	Updated format as per new DM logo
04-08-2020	3	Add the options for initial audit by the approved CAB and remotely by PCAS. Adding definition for authorized auditor. Update for the new numbering system and followed terminologies. Add provision for accepting valid test reports. Correction of numbering
26/09/2021	4	Removal of the documents in clause 2.1.2, in addition to further amendment in the provision for accepting valid test reports (clause 2.4.1.5), 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.
07/11/2021	5	Reviewed and updated as per as per current version of ASTM C150/C150M -21 standard.
04/10/2022	6	Changing section name as per the new organizational structure, and replace HOU by CQPSM (Section's Manager). Adding surveillance in 2.4.1.5
27/03/2023	7	Full re-structuring and transfer of common provisions to the general rule. Clauses are re-numbered and document title has been revised accordingly. 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 specifies the requirements for ten types of Portland cement as listed in clause (1) of the standard specifications.
- 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: Portland Cement
- 3.2 Applicable standard/Normative reference: ASTM C150/C150M-21 Standard Specification for Portland Cement
- 3.3 Additional reference:
- ISO 9001 - Quality Management System – Requirements
- ISO 19011 - Guidelines for Auditing Management System.

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4 DEFINITION OF TERMS

4.1 In addition to the definitions given in ASTM C150/C150M-21 and DM-DCLD-RD-DP21-2001 (IC), the following shall also apply:

4.1.1 Standard Specification – ASTM C150/C150M-21 Standard Specification for Portland cement

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 client shall have a quality assurance laboratory to carry out factory production control testing to ensure that the raw materials and finished product comply with the requirements of the standard specification.

5.2.1 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 factory shall have the following minimum test equipment to check product compliance with the requirements of standard specification.

- Compression machine
- Digital & weighing balances
- Water bath and hot plate
- Drying oven & Muffle furnace
- Mortar mixer
- Humidity cabinet & Thermo hygrometer
- Chemical analyzer (Online or portable XRF) and/or Wet chemistry instruments.
- Soundness and setting time.
- Blaine fineness apparatus

5.2.2 Ordering Information: Orders of materials shall include the required information according to clause (4) of the Standard specification.

5.2.3 Ingredients: The cement Ingredients covered shall be as per clause (5) of the standard specification.

5.2.4 Chemical Properties: Portland cement of each of the ten types (clause 1) shall conform to the respective standard chemical requirements described in clause (6) and Table (1) , in addition to optional chemical requirements shown in Table (2) of the standard specification.

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5.2.5 Physical Properties: Portland cement of each of the ten types (clause 1) shall conform to the respective standard physical requirements described in clause (7) and Table (3), in addition to optional physical requirements shown in Table (4) of the standard specification.

5.3 Product Evaluation and testing

5.3.1 The testing methods shall be according to clause (9) of this standard specification as follows:

- Chemical Analysis—C114.
 - Air Content of Mortar—C185.
 - Fineness by Air Permeability—C204.
 - Autoclave Expansion—C151.
 - Strength—C109/C109M.
 - Time of Setting by Vicat Needles—C191.
 - False Set—C451.
 - Heat of Hydration—C186 or C1702.
 - Sulfate Resistance—C452 (sulfate expansion).
 - Time of Setting by Gillmore Needles—C266.
 - Fineness by Turbidimeter —C115.
 - Calcium Sulfate (Expansion of) Mortar—C1038
- Note : other equivalent test methods might be accepted.

5.3.2 Packaging and Packaging Marking

The packaging and packaging marking shall be according to clause (13) the standard specification.

5.3.3 Storage

The cement shall be stored in such a manner as to permit easy access for proper inspection and identification of each shipment, and in suitable weather- tight building that will protect the cement from dampness and minimize warehouse set.

5.3.4 Manufacture's Certification

Upon request of the purchaser in the contract or order , a manufacturers' report shall be furnished at the time of shipment stating the results of test made on samples of the material taken during production or transfer and certifying that the cement conforms to applicable requirements of clause (15) and Appendix X1 in the standard specification.

5.3.5 Conformity Criteria

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Ingredients of each of the ten types of cements shall meet the requirements of clause (5) of the standard specification.

5.3.6 Chemical composition of each of the ten types shall conform to respective standard chemical requirements prescribed in Table (1), in addition optional chemical requirements in table (2) of the standard specification.

5.3.7 Physical properties of each of the ten types of cements shall conform to respective standard physical requirements prescribed in Table (3), in addition optional physical requirements are shown in table (4) of the standard specification.

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

5.4.1 The client shall prepare and submit to DCLD-CQPS for approval of 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

5.4.2 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

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-DP21-2074 (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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