

 GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
	Document Title:	Certification of Ground Granulated Blast Furnace Slag for use in Concrete, Mortar and Grout as per BS EN 15167 -1 : 2006	عنوان الوثيقة:	
	Doc Ref.	DM-DCLD-RD-DP21-2211 (IC)	رقم الوثيقة:	

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Issue Date	Rev. No.	Summary Of Amendments
08-05-2019	0	First draft for comments
11-06-2019	1	Issue for use
21-07-2020	2	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.
26/09/2021	3	Revised to reflect the Removal of the documents in clause 2.1.2, in addition to further amendment in the provision for accepting valid test reports ( clause 2.4.2.4), 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.
07/10/2022	4	Changing section name as per the new organizational structure, and replace HOU by CQPSM (Section's Manager), also addition of surveillance in the clause 2.4.2.4
27/03/2023	5	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 ground granulated blast furnace slag (GGBS) for use as a type II addition in the production of concrete, including in particular cast- in-situ or prefabricated structural concrete conforming to EN 206-1. GGBS conforming to this specific rule may also be used in mortars and grouts
- 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: Ground Granulated Blast Furnace Slag (GGBFS)
- 3.2 Applicable standard/Normative reference: BS EN 15167-1:2006 for Composition, Specification and conformity criteria
- 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 BS EN 15167-1:2006 and DM-DCLD-RD-DP21-2001 (IC), the following shall also apply:

4.1.1 Standard Specification – BS EN 15167-1:2006 for Composition, Specification and conformity criteria

#### 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 Constituents: The requirements for the constituents shall comply with clause (4) of the standard specification.

5.3 Product Evaluation and testing

5.3.1 General Requirements:

The chemical and physical requirements in 5.2 and 5.3 of the standard specifications are specified as characteristic values. Conformity to a characteristic value is assessed by means of a statistical quality control procedure as described in Clause 8. The test methods prescribed in this European Standard are reference methods.

5.3.2 The compliance of the common comments with the requirements of this standard and the stated values (including classes) shall be demonstrated by:

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#### 5.3.2.1 Initial type testing

#### 5.3.2.2 Factory production control by the client, including product assessment:

5.3.2.2.1 The physical requirements of ground granulated blast furnace slag shall conform to the requirements of clause 5.3 of the standard specification.

5.3.2.2.2 The chemical properties of the ground granulated blast furnace slag shall conform to the requirements in table 1 of specification standard.

5.3.2.2.3 For the durability requirements shall conform to clause 5.4.1 of the standard specification.

5.3.2.2.4 For the release of dangerous substances and emission of radioactivity shall conform to clause 5.4.2 of the standard specification.

5.3.2.2.5 For single results conformity criteria shall satisfies the values specified in Table 5 of the standard specification (clause 8.3)

5.3.2.2.6 Factory production control for product testing and evaluation (frequency and volume) shall be made by applicant and submitted for DCL review and approval as per be Table 2 of the standard specification.

5.3.2.2.7 Packaging and labeling shall be according to clause 6 of the standard specification. For CE marking and labelling ZA.3 ZA applies

#### 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

5.4.3 In factory production control (see EN 15167-2), other methods may be used provided they give results equivalent to those obtained with the reference method. In case of a dispute, only the reference method shall be used.

## 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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