

 GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
	Document Title:	Certification of Reinforcing Steel Bars as per ASTM A615-20	عنوان الوثيقة:	
	Doc Ref.	DM-DCLD-RD-DP21-2128 (IC)	رقم الوثيقة :	

Table of Contents

REVISION HISTORY	2
INTRODUCTION	3
SCOPE.....	3
PRODUCT IDENTIFICATION AND APPLICABLE STANDARD/NORMATIVE REFERENCE	4
DEFINITION OF TERMS.....	4
REQUIREMENTS FOR INITIAL CERTIFICATION	4
GRANTING OF THE DCL CERTIFICATION AND FEES	6

Approved by CQPSM	Authorized by CQPSM
Date of Issue : 27/03/2023	Rev. No. : 16
General / عام : Level of Confidentiality / درجة السرية	Page 1 of 6

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 حكومة دبي GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
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Issue Date	Rev. No.	Summary Of Amendments
05-07-2006	0	First draft for comments
23-07-2006	0	Final draft
30-07-2006	1	Issue for use
19-03-2008	2	Re issue to include no. of samples and minimum required equipment
17-04-2008	3	Re issue to modify clause 8.1.2.2 independent testing plan; change the frequency of testing for chemical analysis from once a year to every three months
12-05-2008	4	Re issue to be consistent with the other specific rules for steel bars
21-08-2008	5	Re issue due to updates on the standard
16-08-2009	6	Document reference number and format is changed according to the new IMS, statement for the independent testing plan was changed, and the statement for surveillance was shortened by referring the appropriate procedure, RD-DP21-2096 (IC) and updates the reference standard used.
05-05-2010	7	Re issue to modify clause 7.1.3; change the number of samples for testing from 15 to 10 pieces
12-08-2010	8	Re issue to incorporate the following: Revision on the current version of the standard; Amended as per new documentation structure; and Specifying clearly the Factory Production Control System (Internal Product Quality Assurance Plan)
11/07/2013	9	Re issue due to updates on the standard A product check for phosphorus shall not exceed 0.075%.
07/07/2014	10	Re issue due to updates on the standard Added clause for IQCP Added requirements for alternate bar sizes
10/03/2019	11	Updated format as per new DM template and new DM logo
04/08/2020	12	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. Change font Type. Correction of numbering
13/06/2021	13	New amendments as per the new standard revision (A615/A615M – 20)
26/09/2021	14	Removal of the documents in clause 2.1.2, in addition to further amendment in the provision for accepting valid test reports (clause 2.4.2.6), 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.
04/10/2022	15	Changing section name as per the new organizational structure, and replace HOU by CQPSM (Section's Manager), PCAS by CQPS (Certification and Quality Control of Products Section).
27/03/2023	16	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

Approved by CQPSM	Authorized by CQPSM
Date of Issue : 27/03/2023	Rev. No. : 16
General / عام : Level of Confidentiality / درجة السرية	Page 2 of 6

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 GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
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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 These specific rules cover deformed and plain carbon steel bars for concrete reinforcement in cut lengths and coils. Steel bars containing alloy additions, such as with the Association for Iron and Steel Technology and the Society of Automotive Engineers series of alloy steels, are permitted if the resulting product meets all the other requirements of this specification. The standard sizes and dimensions of deformed bars and their number designations are given in Table 1 of the standard specification (* check Note 2).
- 2.2 Unless specified for use for other applications in Annex A2 of the standard specifications, bars covered are of four minimum yield strength levels: 1.) 40 000 psi (280 MPa); 2.) 60 000 psi (420 MPa); 3.) 80 000 psi (550 MPa); and 100 000 psi (690 MPa) **, designated as Grade 40 (280), Grade 60 (420), Grade 80 (550) and Grade 100 (690). (**See Note 1 in the standard specifications).
- 2.3 Plain bars, in sizes up to and including 21/2 in. [63.5 mm] in diameter in coils or cut lengths, when ordered shall be furnished under this specification in Grade 40 [280], Grade 60[420], Grade 80 [550], and Grade 100 [690]. For ductility properties (elongation and bending), test provisions of the nearest smaller nominal diameter deformed bar size shall apply. Requirements providing for deformations and marking shall not be applicable. Alternate bar sizes as per Annex A1 of the standard specification- where applicable.
- 2.4 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.

Approved by CQPSM	Authorized by CQPSM
Date of Issue : 27/03/2023	Rev. No. : 16
General / عام : Level of Confidentiality / درجة السرية	Page 3 of 6

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 GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
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3 PRODUCT IDENTIFICATION AND APPLICABLE STANDARD/NORMATIVE REFERENCE

- 3.1 Product name: Deformed and Plain Carbon-Steel Bars and Coils for Concrete Reinforcement
- 3.2 Applicable standard/Normative reference: ASTM A615/A615M -20 Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
- 3.3 Additional reference:
- ISO 9001 Quality Management System – Requirements
- ISO 19011 Guidelines for Auditing Management Systems

4 DEFINITION OF TERMS

- 4.1 In addition to the definitions given in ASTM A615/A615M and the General Rule of the scheme [DM-DCLD-RD-DP21-2001 (IC)], the following shall apply:-
- 4.1.1 Standard Specification – ASTM A615/A615M -20 Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.

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:
- Calipers and other linear measuring test equipment's
 - Weighing Scale (with an accuracy of 100 grams)
 - Chemical Analyzer
 - Tensile Test Equipment
 - Bend Test Equipment

5.3 Bar Marking Requirements

The manufacturer of reinforcing steel bars and coils shall submit to Dubai Central Laboratory Department – Certification And Quality Control Of Products Section – (DCLD-CQPS) a unique bar marking requirements of their products for approval. The approved mark shall be applied to the products covered by the certification. Product Marking shall be as per the Rules on the Markings and Tags of Steel Bars, DM-DCLD-RD-DP21- 2091 (IC). The bars shall be rolled from properly identified heats of mold-cast or strand-cast steel. The steel shall be made by any commercially accepted process what do we mean by commercially accepted process.

Approved by CQPSM	Authorized by CQPSM
Date of Issue : 27/03/2023	Rev. No. : 16
General / عام : Level of Confidentiality / درجة السرية	Page 4 of 6

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5.4 Product Evaluation and testing

5.4.1 Chemical Composition

- 5.4.1.1 The chemical analysis of each heat of steel shall be determined in accordance with Test Methods, Practices, and Terminology (A751). The manufacturer shall make the analysis on test samples taken preferably during the pouring of the heat.
- 5.4.1.2 The percentage of carbon, manganese, phosphorous and sulfur shall be determined.
- 5.4.1.3 The phosphorus content thus determined shall not exceed 0.06 %. A product check, for phosphorus, made by the purchaser shall not exceed this value (0.06%) by more than 25%.

5.4.2 Mechanical Properties

- 5.4.2.1 Deformation requirements and measurements - deformation of steel bars products shall comply with the requirements specified under section 7 while measurement of deformation shall be in accordance with section 8 of the standard specification
- 5.4.2.2 Tensile test shall comply with the requirements specify in section 9 of the standard specification.
- 5.4.2.3 Bending test shall comply with the requirements specified in section 10 of the standard specification.
- 5.4.2.4 Deformed reinforcing bars shall be evaluated on the basis of nominal weights (mass) and permissible variation shall be in compliance with section 11 of the standard specification.
- 5.4.3 Finish and appearance shall comply with the requirements specified in section 12 of the standard specification
- 5.4.4 Number of tests to be carried out internally within the factory shall comply with clause 13 of the standard specifications.
- 5.4.5 Number of Samples for testing shall be at least 10 pieces by one meter length per size within the size range per grade.
- 5.4.6 Ordering information shall be as per clause 4 of the standard specifications.
- 5.4.7 The results of testing must meet the requirements as per the standard specification.

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General / عام : Level of Confidentiality / درجة السرية	Page 5 of 6

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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-DP21-2092 (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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General / عام : Level of Confidentiality / درجة السرية	Page 6 of 6

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