

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

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.

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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 to 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 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).
- 1.2.2 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).
- 1.2.3 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 .

1.3 PRODUCT IDENTIFICATION AND APPLICABLE STANDARD/NORMATIVE REFERENCE

- 1.3.1 Product Name: Deformed and Plain Carbon-Steel Bars and Coils for Concrete Reinforcement
- 1.3.2 Applicable Standard/Normative Reference: ASTM A615/A615M -20 Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
- 1.3.3 Additional References:
 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 ASTM A615/A615M-20, and DM-DCLD-RD-DP21-2001 (IC) the following shall also apply:

- 1.4.1 Independent Testing Laboratory - Dubai Central Laboratory (DCL) or any testing laboratory recognized by DCLD-PCAS.
- 1.4.2 Independent Test – test performed or conducted by the recognized Independent Testing Laboratory
- 1.4.3 Standard Specification - ASTM A615/A615M-20, Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
- 1.4.4 QMS – Quality Management System aligned with the requirements of ISO 9001 Standard
- 1.4.5 Factory Production Control and Quality Assurance Plan – a document being agreed upon both by the Client and the DCLD-PCAS. being used to ensure continuous compliance of the certified product.
- 1.4.6 Client – Manufacturer of Reinforcing Steel Bars
- 1.4.7 DM Certification Body: Dubai Central Laboratory Department-Products Conformity Assessment Section (DCLD-PCAS)
- 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 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.

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2.2 FACTORY OPERATION

2.2.1 Quality Management System

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 reinforcing steel products 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 laboratory. As a minimum requirement, the laboratory shall have the following testing facility to check the following properties:

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

2.2.3 Bar Marking Requirements

The manufacturer of reinforcing steel bars and coils shall submit to DCLD-PCAS a unique bar marking requirements of their products for approval. The DCLD-PCAS approved mark shall be applied to the products covered by the certification.

Product Marking shall be as per the General 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.

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-

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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 based on ISO 19011 – Auditing Management Systems.

2.4 PRODUCT EVALUATION

2.4.1 Sampling

2.4.1.1 Sampling for initial testing shall be taken randomly by the authorized auditor from the products to be certified (sizes and quantities to be determined) either from production lines or the factory warehouse.

2.4.1.2 Three sets of sample per product per type 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 DCLD-PCAS approved independent testing laboratory. The third set will be kept by the client as reference for future use.

2.4.1.3 Sample(s) for independent test shall be packed/sealed and signed in the presence of the authorized auditor and shall be submitted to DCLD-PCAS approved lab.

2.4.1.4 Number of Samples for testing shall be at least 10 pieces by one meter length per size within the size range per grade.

2.4.2 Product Evaluation and Testing

2.4.2.1 Chemical Composition

2.1.2.1.1 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.

2.4.2.1.2 The percentage of carbon, manganese, phosphorous and sulfur shall be determined.

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2.4.2.1.3 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%.

2.4.2.2 Mechanical Properties

2.4.2.2.1 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

2.4.2.2.2 Tensile test shall comply with the requirements specify in section 9 of the standard specification.

2.4.2.2.3 Bending test shall comply with the requirements specified in section 10 of the standard specification.

2.4.2.3 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.

2.4.2.4 Finish and appearance shall comply with the requirements specified in section 12 of the standard specification.

2.4.2.5 Number of tests to be carried out internally within the factory shall comply with clause 13 of the standard specifications.

2.4.2.6 Wherever applicable, independent tests shall only be conducted if the result of the in-plant test shows satisfactory results. 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

2.4.2.7 If the result of the test conducted by the independent testing laboratory shows non-conformance, the retest shall be carried out on the reference sample kept by the manufacturer or on new samples collected by DCLD-PCAS authorized auditor on which full testing shall be carried out, if necessary.

2.4.2.8 If the retest passed, the initial product assessment is considered conforming to product specification. If not, the manufacturer will be advised to take corrective action.

2.4.2.9 Requirements for alternate bars sizes shall comply with Annex A1 and only apply when specified by the purchaser.

2.4.2.10 Product Marking shall be as per the Marking and Tag Requirements for the Control of Reinforcing Steel Bars, DM-DCLD-RD-DP21-2091 (IC).

2.4.2.11 Ordering information shall be as per clause 4 of the standard specifications.

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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) 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)

The client shall have 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

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

Frequency of sampling and testing shall be in accordance with clause 13 of the standard specification.

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 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.

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3.3 RESPONSIBILITIES OF THE CERTIFIED CLIENT

- 3.3.1 The client shall ensure that his product, for which a certificate has been issued, conforms at all times to the requirements of the General Rule and Specific Rules and shall maintain to the satisfaction of DCLD-PCAS, a system of factory production 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 the 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 In case of 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 Markings and Tag Requirements for the Control of Reinforcing Steel Bars in the Emirate of Dubai, DM-DCLD-RD-DP21-2091 (IC), and the terms and conditions for the use of the DCL Mark of Conformity, DM-DCLD-IMS RD-13
- 3.4.2 The client shall submit a product-marking proposal for approval by DCLD-PCAS. The proposal shall include drawings and/or diagrams showing the location and size of the marking for each size of the product/product tags.
- 3.4.3 The Certificate of Conformity and the authorization to use the DCL Conformity Mark is non-transferable.

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4. SURVEILLANCE

- 4.1 DCLD-PCAS or their authorized auditor 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.
- 4.2 Testing as part of surveillance shall be 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 to use the DCL Mark based on the DCL Official Fee Structure for the control of reinforcing steel bars in the Emirate of Dubai, DM-DCLD-RD-DP21-2092 (IC).

- 5.1 The fees for this certification scheme shall include but not limited to the following

- 5.2.1 Application Fee
- 5.2.2 Initial Assessment Fee
- 5.2.3 Certification Fee
- 5.2.4 Marking Fee
- 5.2.5 Surveillance Fee
- 5.2.6 Annual Renewal Fee
- 5.2.7 Testing Fee
- 5.2.8 Outsourcing activity Fee , where applicable

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