

 GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
	Document Title:	Certification of High Tensile Steel Wire Strand for Pre-stressing of concrete as per BS 5896: 2012	عنوان الوثيقة:	
	Doc Ref.	DM-DCLD-RD-DP21-2200 (IC)	رقم الوثيقة:	

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Issue Date	Rev. No.	Summary Of Amendments
08/03/2017	0	First draft for comments
30/04/2017	0	Final draft for comments
05/07/2017	1	Issue for use
06/03/2019	2	Updated as per new DM template and new DM logo
06/09/2020	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
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 2.4.2.4), 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	5	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	6	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 the uncoated high tensile strength steel products for the use in Prestressing of concrete and are also used for other tensile applications in the construction field, such as:

Plain wire	7-wire strand
Indented Wire (T1 & T2)	7-wire indented strand
	7-wire compacted strand

- 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: High Tensile Steel Wire & Strand for the Prestressing of Concrete.
- 3.2 Applicable standard/Normative reference: BS 5896:2012 High tensile steel wire and strand for the Prestressing of concrete- Specification
- 3.3 Additional reference:

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ISO 9001 - Quality Management System – Requirements

ISO 19011 - Guidelines for Auditing Management System.

4 DEFINITION OF TERMS

4.1 In addition to the definitions given in BS 5896:2012 and DM-DCLD RD-DP21-2001 (IC), the following shall also apply:

4.1.1 Standard Specification – BS 5896:2012 High tensile steel wire and strand for the pre stressing of concrete - 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. Number of Samples for testing shall be at least 10 pieces by 1.2 meter length per size per product family.

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

- Calipers and other linear measuring test equipment
- Weighing Scale (with an accuracy of 100 grams)
- Tensile Test Equipment
- Relaxation Test Equipment

5.3 Product Evaluation and testing

5.3.1 The product shall conform to the requirements as specified in clauses 7.2 and 7.3, tables 7, 8, 9, and 10 of the standard specification for wires.

5.3.2 The product shall conform to the requirements as specified in clauses 7.2 and 7.3, tables 11, 12, and 13 of the standard specification for strands.

5.3.3 Tests shall be carried out in accordance with BS EN ISO 15630-3 and shall have values as follow:

5.3.3.1 Geometrical Properties for wires shall be as per clause 11.3.2, and tables 7, 8 & 9 of the Standard specification for wires.

5.3.3.2 Mechanical Properties for wires shall be as per clause 7.2.2, and tables 9 & 10 of the standard Specification for wires.

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- 5.3.3.3 Special Properties for wires (isothermal stress relaxation, and stress corrosion resistance) shall be as per clause 7.3, and table 10 of the standard specification for wires.
- 5.3.3.4 Wires designation shall be as per clause 11.1 of the standard specification for wires.
- 5.3.3.5 Geometrical Properties for strands shall be as per clauses 12.2.1, 12.2.2, 12.2.3, 12.3.3, and table 11 of the standard specification for strands.
- 5.3.3.6 Mechanical Properties for strands shall be as per clause 7.2.2 and tables 12 & 13 of the standard specification for strands.
- 5.3.3.7 Special Properties for strands (isothermal stress relaxation, and stress corrosion resistance) shall be as per clause 7.3, and table 13 of the standard specification for strands.
- 5.3.3.8 Strands designation shall be as per clause 12.1 of the standard specification for strands.

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-DP21-2097 (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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