



DUBAI CENTRAL LABORATORY DEPARTMENT INSPECTION AND CERTIFICATION SECTION	CODE :	RD-IC-02-61
DOCUMENT TITLE:	REVISION :	1
SPECIFIC RULES FOR CERTIFICATION OF PIPES MADE OF UNPLASTICIZED POLY(VINYL CHLORIDE) (PVC-U) (AS PER ISO 4422-2:1996) - THROUGH FACTORY ASSESSMENT	PAGE :	Page 1 of 7

SIGNATORIES

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REVISION HISTORY

NUMBER	DETAILS	DATE
0	First draft for comments	28-02-08
0	Final draft	16-3-08
1	Issue for use	07-04-08

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1. INTRODUCTION

- 1.1 This document prescribes the specific rules for the implementation of the DM Third Party Product Certification System through factory assessment as applied to the specific product(s) identified herein, taking into consideration the applicable normative references and standard specifications.
- 1.2 The applicant shall comply with these specific rules, **and** to those already mentioned in the “General Rule for DM Third Party Product Certification Through Factory Assessment “ (**RD-IC-02-01**).

2. SCOPE

- 2.1 This specific rule covers characteristics and properties of extruded pipes made of unplasticized poly(vinyl chloride) (PVC-U), with or without sockets, integral or not, and intended to be used for buried water mains and services and for water supplies above ground, both inside and outside buildings.
- 2.2 The pipes covered in this specific rule are intended for the conveyance of cold water under pressure at temperatures up to approximately 20°C, for general purposes and for the supply of drinking water. This is also applicable to water up to and including 45°C.

3. PRODUCT IDENTIFICATION AND APPLICABLE STANDARD/NORMATIVE REFERENCE

- 3.1 Product Name: Unplasticized poly(vinyl chloride) PVC-U pipes for water supply
- 3.2 Applicable standard/Normative reference: ISO 4422-2:1996 – Pipes and fittings made of Unplasticized polyvinyl Chloride (PVC-U) for water supply – Specifications – Part 2: Pipes (with or without integral sockets) and the reference documents referred to in this standard.
- 3.3 Additional references:
- 3.3.1 ISO 9001:2000 - Quality Management System –Requirements
- 3.3.2 ISO 19011:2002 - Guidelines for Quality and Environmental Management System Auditing
- 3.3.3 NSF Std No. 14 – for Plastic Piping Components and Related Materials
- 3.3.4 NSF Std No. 61 – for Drinking Water Components – Health Effects

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4. DEFINITION OF TERMS

In addition to the definitions given in RD-IC-02-01 and other reference standards, the following shall also apply:

- 4.1 Independent Testing Laboratory - Dubai Central Laboratory Department (DCLD) or any testing laboratory recognized by the DCLD Inspection and Certification Section (ICS).
- 4.2 Independent Test – test performed by or conducted by an Independent Testing Laboratory.
- 4.3 Standard Specification – ISO 4422-2 : 1996 – Pipes and fittings made of Unplasticized polyvinyl Chloride (PVC-U) for water supply – Specifications – Part 2: Pipes (with or without integral or sockets)
- 4.4 Product Quality Assurance Plan – a document being agreed upon both by the Licensee and the DCLD-ICS to ensure continuous compliance of the certified product.
- 4.5 QMS – Quality Management System aligned with the requirements of ISO 9001:2000 Standard

5. APPLICATION

- 5.1 Manufacturers of Unplasticized polyvinyl chloride plastic pipes for water supply shall apply to Dubai Central Laboratory Department through Inspection and Certification Section for the license to use the DCLD Conformity Mark.
- 5.2 Application forms shall be filled-up and submitted by the applicant-company together with the following Documents
 - 5.2.1 Business Trade License
 - 5.2.2 Complete product description and specifications
 - 5.2.3 Brief Description of Manufacturing Process
 - 5.2.4 Copy of the Quality Manual (Controlled Copy – in English language)
 - 5.2.5 Vicinity Map and Factory Layout
 - 5.2.6 Valid Certification to ISO 9001 (if available)
 - 5.2.7 List of key personnel and their designation

6. REQUIREMENTS FOR INITIAL FACTORY ASSESSMENT

- 6.1 DCLD-ICS duly authorized representative shall visit the applicant company's factory/plant with the aim of ascertaining that the factory's quality management system is in accordance with the requirements of ISO 9001: 2000
- 6.2 An independent certification to ISO 9001 issued by a QMS certification body recognized by DCLD-ICS shall be considered as having satisfied this requirement; however, the DCLD-ICS will still carry out verification audit to confirm that the factory is in compliance with the QMS requirements.
- 6.3 Verification audit shall be conducted by designated audit team based on ISO 19011:2002 – Guidelines for Quality and Environment Management System Auditing

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7. REQUIREMENTS FOR INITIAL TESTING OF THE PRODUCT

7.1 Sampling

7.1.1 Three sets of at least six (6) pieces by one meter length pipes per type per model per brand, as samples shall be subjected to testing; the first set shall be tested in the plant supervised by a duly authorized DCLD-ICS representative, the second set will be sent to independent testing laboratory. The third set will be kept by the manufacturer as reference for future use.

7.1.2 Test sample(s) for independent test shall be packed/sealed and signed in the presence of DCLD-ICS representatives and shall be submitted to an independent testing laboratory by the DCLD-ICS representatives.

7.2 Minimum Required Test Equipment

7.2.1 The manufacturer of Polyvinyl Chloride Pipes shall have the following minimum test equipment to check product compliance with the requirements of ISO4422-2:1996

7.2.1 Calipers and other linear measuring test equipments

7.2.2 Hydrostatic Test Equipment

7.2.3 Resistance to External Blow Equipment

7.2.4 Oven for Longitudinal Reversion

7.2.5 Dichloromethane test Equipment

7.3 Product Evaluation

7.3.1 The product shall conform to the requirements as specified in clauses 6, 7, 8, 9, 10 of the standard specification, ISO 4422-2:1996.

7.3.2 The tests to be carried out in accordance with ISO 4422-2:1996 requirements and values shall be as follows;

7.3.2.1 General Requirements for pipes as per clause 6

7.3.2.2 Geometrical Characteristics as per clause 7

7.3.2.3 Mechanical Characteristics as per clause 8

7.3.2.4 Physical characteristics as per clause 9

7.3.2.5 Product Marking as per clause 10

7.3.3 Products intended for contact with potable water shall be evaluated, tested and certified for conformance with ANSI/NSF Standard No. 61 or the health effect portions of NSF Standard No. 14 by an acceptable certifying organization when required by the regulatory authority having jurisdiction.

7.3.4 Independent tests shall only be conducted if the result of the applicable in-plant test shows satisfactory results.

7.3.5 If the result of any test conducted by the independent testing laboratory shows non-conformance to the specified requirements, the reference sample kept by the manufacturer shall be subjected for re-test to those that failed.

7.3.6 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.

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7.3.7 All test results shall be held strictly confidential by the independent testing laboratory concerned. Copies of the results will be provided only to the DCL-ICS and manufacturer.

8. COMPLIANCE AND RESPONSIBILITIES OF THE LICENSEE

8.1 Compliance

8.1.1 When the results of the factory and product assessments show conformity to the requirements as specified in the general rule and specific rule, the license to use the DCLD Conformity Mark shall be issued to the manufacturer for the type(s)/model(s)/brand(s) of the product tested.

8.1.2 The factory shall agree with the DCLD-ICS 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. The plan shall consist of (1) an internal product quality assurance, and (2) an independent testing plan

8.1.2.1 Internal product quality assurance plan

The factory shall prepare and submit to DCLD-ICS for approval 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

8.1.2.2 Independent testing plan

The factory shall agree to an independent testing plan to be prepared and implemented by the DM Certification Body. The independent testing plan shall consist of testing of the finished product at the independent testing laboratory at the expense of the licensee. The plan shall include, as a minimum, the following:

SN	REQUIREMENTS	FREQUENCY OF TEST
1	General Requirements for pipes	Every 3 months
2	Geometrical Characteristics	Every 3 months
3	Mechanical characteristics	Every 3 months
4	Physical characteristics	Every 3 months
5	Product Marking	Every 3 months
6	Potability	Once a year

8.2 Responsibilities of the Licensee

8.2.1 Every licensee shall ensure that his product, for which a license 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-ICS, a system of quality control including inspection and testing.

8.2.2 The licensee shall give the duly authorized representative(s) of DCLD-ICS, access during working hours, without prior notification, to the premises of the factory where certified product is

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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.

- 8.2.3 The licensee shall inform the DCLD-ICS in writing of any change of management, transfer of plant site, modification in the product, manufacturing process or factory's quality management system.
- 8.2.4 Upon transfer of plant site, the license shall be deemed valid only after factory and product audit at the new site has been satisfactorily completed.
- 8.2.5 Any infraction stated in terms and conditions for the use of DCLD Conformity Mark shall constitute sufficient grounds for suspension, withdrawal and cancellation of the license against a licensee.
- 8.2.6 Use of DCLD Conformity Mark.

9. SURVEILLANCE

9.1 DCLD-ICS shall carry out periodic surveillance to ensure consistent compliance with the requirements of this certification scheme.

9.2 Factory surveillance visit

The DCLD-ICS shall carry out a surveillance visit to the factory once a year to ensure continuing compliance with the certification requirements. During this visit, the The DCLD-ICS shall confirm that the factory QMS continues to be implemented effectively. The DCLD-ICS shall examine the results of the internal product quality assurance plan to verify continuing compliance of the product with the Standard Specifications.

9.3 Market surveillance visit

The DCLD-ICS shall carry out market surveillance, thrice a year to ensure continuing compliance with the certification requirements. Market Surveillance shall mean drawing up of samples in the market.

Note: The DCLD-ICS shall have the option to increase the frequency of the surveillance visits, depending upon the performance history and results of the previous audits.

9.4 Product Sampling and Testing

As part of the surveillance audit and whenever possible, samples of the certified products shall be drawn from the factory and/or market in coordination with the company representative for the following tests by an independent testing laboratory;

- 9.4.1 General Requirements for pipes as per clause 6
- 9.4.2 Geometrical Characteristics as per clause 7
- 9.4.3 Mechanical characteristics as per clause 8
- 9.4.4 Physical characteristics as per clause 9
- 9.4.5 Product Marking as per clause 10
- 9.4.6 Products intended for contact with potable water shall be evaluated, tested and certified for conformance with ANSI/NSF Standard No. 61 or the health effect portions of NSF Standard No. 14 by an acceptable certifying organization when required by the regulatory authority having jurisdiction

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9.5 The results of independent testing shall be evaluated to confirm that the product continues to comply with the Standard Specifications.

10. USE OF THE DCL CONFORMITY MARK

10.1 The design and use of the DCLD Conformity Mark shall be in accordance with the Terms and Conditions for the Use of the DCLD Conformity Mark, RD-IC-02-98

10.2 The licensee shall submit a product-marking proposal for approval by the DCLD-ICS. The proposal shall include drawings and/or diagrams showing the location and size of the marking for each size of the product container.

10.3 The license to use the DCLD Conformity Mark is non-transferable.

11. FEE SCHEDULE

11.1 The licensee shall pay the applicable fees and charges related to the granting of the license to use the DCLD Conformity Mark based on the DCL Official Fee Structure, RD-IC-02-97.

11.2 The fees for this certification scheme shall include but not limited to the following;

- 11.2.1 Application Fee
- 11.2.2 Initial Assessment Fee
- 11.2.3 Certification Fee
- 11.2.4 Surveillance Fee
- 11.2.5 Annual Renewal Fee
- 11.2.6 Testing Fee
- 11.2.7 Marking Fee

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