

 حكومة دبي GOVERNMENT OF DUBAI	Organization/Unit: إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	 بلدية دبي Dubai Municipality
	Document Title: Certification of GRP water tanks as per BS EN 13280	عنوان الوثيقة:	
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1 INTRODUCTION

- 1.1 This document prescribes the specific rule for certification of GRP water tanks, 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 rules, and both shall always be read together.

2 SCOPE

- 2.1 This specific rule applies to Glass Fiber Reinforced Plastic (GRP) cisterns of one-piece and sectional construction, used for above-ground cold water storage intended for human consumption.
- 2.2 For GRP water tanks used for human consumption, only approved polymer resins and reinforcement materials that meet BS 6920 and BS EN 13280 standards should be used. These materials must not impart any taste, odor, or harmful substances into the water and must maintain long-term hygiene and structural integrity. The materials shall be as per ANNEX A.
- 2.3 It provides the general conformity assessment criteria for evaluation and certification. Regulatory requirements from local authorities must also be met.
- 2.4 This specific rule does not -by itself- permit the use of the below product market access or building use approval. 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: GRP Water Tanks – One-piece and Sectional Cisterns for Cold Water Storage
- 3.2 Applicable standard/Normative reference: BS EN 13280:2001— Specification for GRP cisterns of one-piece and sectional construction.

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3.3 Additional reference:

ISO 9001 Quality Management System – Requirements
 ISO 19011 Guidelines for Auditing Management Systems

4 DEFINITION OF TERMS

In addition to the definitions given in BS EN 13280:2001 and the General Rule of the scheme [DM-DCLD- RD-DP21-2001 (IC)], the following shall apply: -

Standard Specification – BS EN 13280:2001— Specification for GRP cisterns of one-piece and sectional construction.

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:

- Internal pressure (leakage) tester
- Dimensional test equipment
- Hydrostatic Testing equipment
- Barcol Hardness Tester
- Load Testing Equipment
- Visual Inspection Tools: (White light torch / flashlight, Inspection mirror, Magnifying glass (5–10x), Measuring tape or ruler)
- Universal testing machine

5.3 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. Frequency of sampling and testing shall be as mentioned in 5.4.3 of this specific rule.

5.4 Product Evaluation and testing

5.4.1 The tank shall comply with Clause 5 of BS EN 13280 and be tested according to Clause 6

5.4.2 Tests to be carried out in accordance with BS EN 13280 requirements and shall have values as follows:

5.4.2.1 Design and Dimensions: Must conform to BS EN 13280 Figure 1, 2 and Table 1.

5.4.2.2 Workmanship: As per clause 5.2 (no defects, smooth inner surfaces, uniform construction)

5.4.2.3 Physical/Mechanical Tests:

5.4.2.3.1 Leak test (Annex E)

5.4.2.3.2 Impact resistance (Annex F)

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5.4.2.3.3 Hot water resistance (Annex H)

5.4.2.3.4 Cover rigidity (Annex J)

5.4.2.3.5 Water absorption (Annex A)

5.4.3 Sampling shall be done as per the table below:

Test Category	Sample Length / Size	Notes	Frequency
Visual Inspection / Dimensional Check	Full section or full tank panel	Usually one standard size panel (e.g., 1 m ² or factory-made panel)	Every batch
Material Identification / Laminate Check	Minimum 300 mm × 300 mm panel	Should represent typical GRP wall section, including gel coat if present	Every batch
Flatness and Deformation Test	Minimum 500 mm × 500 mm flat panel	Larger samples preferred to measure warping or deformation	Every batch
Water Tightness Test	Full jointed panel setup or scaled tank assembly	Preferably a real assembly section with joints, gaskets, bolts	Yearly
Impact Resistance Test	300 mm × 300 mm (or larger)	For drop or weight impact testing; cut from actual wall or lid	Yearly
Deflection or Panel Strength Test	Full-size structural panel or tank side (≥ 500 mm length)	For hydraulic loading tests	Every batch
Thermal Cycling / Stability	200 mm × 300 mm to full panel depending on test rig	Simulates expansion/contraction; fully cured material required	Yearly
Hygienic Suitability (if BS 6920 tested jointly)	See BS 6920 sampling: total 2000–4000 cm ²	Typically, 3–5 flat panels, each approx. A4-sized (200 × 300 mm)	Yearly
Mechanical test	BS 2782, ASTM D638, ASTM D 790	Tensile/ flexural / hardness	Every batch

5.4.4 Sample Handling and Preparation:

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5.4.4.1 Samples must be clean, unused, and fully cured.

5.4.4.2 Cut using clean tools to avoid contamination.

5.4.4.3 Label clearly with production batch, panel type, and tank specifications.

5.4.4.4 Seal in polyethylene packaging for hygienic or chemical tests.

5.4.5 The results of testing must meet the requirements as per the standard specification.

5.5 Marking

Marking on the chambers shall be as per clause 9 of the standard specification which includes the following:

5.5.1 Manufacturer name or trademark

5.5.2 Date and location of manufacture

5.5.3 Product code

5.5.4 Nominal capacity and classification

5.5.5 Reference to "BS EN 13280"

5.5.6 Material Type (Optional)

5.5.7 "Suitable for potable water"

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 Use of the DCL Conformity Mark shall be as per DM-DCLD-RD-DP21-2069 (IC).

6.3 Fees shall be as per DM-DCLD-RD-DP21-2074 (IC) and other relevant provisions in the general rule.

6.4 DCLD-CQPS shall carry out surveillance of certified clients based on the approved periodic plans and related provisions in the general rule.

6.5 Appeals, disputes, and complaints shall be in line with the relevant provisions in the General Rule.

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ANNEX A

Component	Type
Gel Coat	Isophthalic or Vinyl Ester based food-grade gel coat or NPG
Base Resin	Isophthalic Polyester or Vinyl Ester or NPG
Curing System	MEKP (Methyl Ethyl Ketone Peroxide) or TBPB in high temperature curing system for hot press molding (sectional panel).
Thixotropic Agent	Fumed silica or WRAS-tested additives
<p>Ortho phthalic resins are not approved for internal potable water contact. They may be used in structural or external layers only, never in contact with water.</p> <p>Important Certification Notes</p> <ul style="list-style-type: none"> Certification is only valid for the full system, not just individual resin or gel coat unless specifically tested as a material. Each unique formulation (resin + additives + colorants) needs its own BS 6920 test. A change in supplier, formulation, or cure method may invalidate prior approval and require re-testing. 	
Reinforcement Material	Type
E-glass Fiberglass Mat	E-glass (Electrical Grade Glass) as per BS EN 13280

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