

Document Control

UV Stability of GRP Cold Water Storage Tanks

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Manufacturer Information

Item	Detail
Manufacturer	Decca Plastics Ltd
Established	1973
Manufacturing Location	Preston, Lancashire, United Kingdom
Product Range	GRP Sectional Tanks / One-Piece Tanks / Two-Piece Tanks / GRP Housings / GRP Combi-units & GRP Panels

Standards Reference

GRP cold water storage tanks manufactured by **Decca Plastics Ltd** are produced in accordance with recognised industry standards applicable to water storage tanks and polymeric material performance.

Applicable standards include:

- **BS EN 13280**
Specification for Glass Reinforced Thermosetting Plastics (GRP) Tanks for Water Storage
- **BS 8558**
Guide to the Design, Installation, Testing and Maintenance of Services Supplying Water for Domestic Use
- **ISO 4892**
Plastics – Methods of Exposure to Laboratory Light Sources (UV Weathering)
- **WRAS Approved Materials**
Compliance with potable water requirements

BS EN 13280 requires materials used within GRP tanks to be suitable for the service environment. Where tanks may be installed in externally exposed locations, UV stabilised resin systems and protective gelcoat surfaces are utilised.

Key Technical Summary

- GRP laminate construction using polyester resin systems
- Resin systems incorporate UV stabilisation
- External surfaces protected by pigmented gelcoat layer
- Typical gelcoat thickness 0.4 – 0.6 mm
- Suitable for internal plantroom and external installations
- Materials selected to maintain durability under typical environmental conditions

1. Overview

Glass Reinforced Plastic (GRP) cold water storage tanks manufactured by Decca Plastics Ltd utilise thermosetting polyester resin systems reinforced with glass fibre to provide structural strength and durability.

Where tanks may be installed in locations subject to environmental exposure, the laminate structure incorporates **UV stabilised resins and a protective gelcoat surface layer** designed to minimise the effects of ultraviolet radiation and natural weathering.

This construction method ensures the external laminate surface remains protected while maintaining the structural integrity of the tank throughout its operational service life.

2. GRP Construction

Decca GRP tanks are manufactured using **glass fibre reinforcement combined with thermosetting polyester resin systems**.

The laminate structure typically comprises:

- Protective **pigmented gelcoat outer surface**
- Structural **glass fibre laminate reinforcement**
- Polyester resin matrix incorporating **UV stabilisation**

The external gelcoat layer provides the primary protective barrier against environmental exposure including ultraviolet radiation, moisture and atmospheric conditions.

3. UV Protection Characteristics

UV resistance within the laminate system is achieved through both material selection and protective surface construction.

Key characteristics include:

- UV stabilised polyester resin systems
- Pigmented gelcoat outer layer applied during manufacture
- Laminate construction designed to prevent fibre exposure
- Surface protection against environmental weathering

These characteristics assist in maintaining both surface integrity and structural durability throughout the operational life of the tank.

4. Typical Gelcoat Thickness

The external protective surface of the GRP laminate incorporates a gelcoat layer applied during manufacture.

Typical thickness values are as follows:

Component	Typical Thickness
External protective gelcoat	0.4 – 0.6 mm
Pigmented surface layer	UV resistant

The gelcoat layer acts as the primary environmental barrier, protecting the structural laminate beneath from ultraviolet exposure and general weathering.

5. Environmental Suitability

The GRP materials and laminate construction used in Decca tanks are suitable for installations including:

- internal plantroom environments
- rooftop installations
- externally located service areas
- exposed environments subject to natural weathering

The gelcoat surface layer provides resistance to ultraviolet radiation, atmospheric moisture and environmental exposure typically encountered in building services installations.

6. Applicability

This technical note applies to the following Decca Plastics product ranges:

- GRP Sectional Water Storage Tanks
- GRP One-Piece Water Storage Tanks
- GRP Two-Piece Water Storage Tanks
- GRP Laminated Panels used in sectional tank construction

All utilise GRP laminate construction incorporating protective gelcoat surfaces and UV stabilised resin systems.

7. Manufacturer Statement

Decca Plastics Ltd has manufactured GRP cold water storage tanks in the United Kingdom for over **50 years**, supplying the construction, infrastructure and building services sectors.

The materials and manufacturing processes utilised within Decca tanks are selected to ensure durability, structural integrity and environmental resistance suitable for both internal plantroom installations and externally exposed locations.

Technical Disclaimer

This technical note is provided for general reference regarding the material characteristics of GRP tanks manufactured by Decca Plastics Ltd. Final tank specification and installation conditions should be confirmed against project-specific requirements and applicable design documentation.