

GLASSFIBER REINFORCED PLASTICS (GRP) WATER TANK

GENERAL

All Glass Reinforced Plastic (GRP) Walkway Cover shall be designed, supplied and installed by Yeung's Fiberglass Company, a Specialist Contractors in the "Supply and Installation of Glass (or Fibre) Reinforced Plastic Units" category of the list of approved Suppliers of Materials and Specialist Contractors for Public Works of HKSAR Government.

The Contractor should be in the approved list of registered sub-contractor under PROVISIONAL CONSTRUCTION INDUSTRY CO-ORDINATION BOARD of Hong Kong and should have more than 20 years proven solid experiences on manufacturing GRP Walkway Cover.

The Contractor should also have ISO 9001:2000 certification (with manufacture) must be obtained and submitted in tender stage.

SYSTEM DESCRIPTION

- (1) The Contractor shall submit to the Project Architect / Consultant all necessary information including fixing arrangements and details, with calculation substantiating the structural adequacy of the tank supports to the relevant Authority's approval.
- (2) The one-piece type water tank design shall be complied BS 7491 Part 3:1994 and the panel type design shall be complied with BS 7491 Part 1:1994
- (3) The tank shall comply to the Buildings Department PNAP 222 requirements with structural drawing and calculation proving the structural integrity according to Building (Construction) Regulations Chapter 123
- (4) Material of GRP shall acquire the authorized laboratory's test report according to BS 2782 proving the panels must the following minimum properties:

Type of GRP Laminate	=	35% glass content by weight
Tensile Strength	=	171 Nmm ⁻²
Elongation	=	1.8 %
Tensile Modulus	=	12600 Nmm ⁻²
Compress Strength	=	102 Nmm ⁻²
Flexural Strength	=	250 Nmm ⁻²
Flexural Modulus	=	12810 Nmm ⁻²
Inter-laminate Shear Strength	=	18.5 Nmm ⁻²
- (5) The tank panel shall acquire the authorized laboratory's hydrostatic pressure test report proving the panel can withstand the minimum design hydrostatic pressure to the requirements set-out by the Buildings Department.
- (6) Performance Test shall be done on site for checking the tank deflection and water leakage, after completion of tank installation.

ATTACHMENT OF TANK PANELS

- (1) Layout and install each item in accordance with approved shop drawing
- (2) Space screw fasteners at 300mm c.c max. around GRP units
- (3) At all exposed screw fasteners locations, countersink the GRP and set the screw heads below the finish surface

SITE DELIVERY AND STORAGE

- (1) Before delivery to Site the Contractor shall set aside an area for storage of the GRP units
- (2) The storage area shall be dry, protected from direct sunlight, secure and clearly designated for the sole purpose of storing GRP units.
- (3) During storage the GRP units shall be supported along the edges over their full length and kept out of direct sunlight. Separating pieces, to the manufacturer's recommendations, shall be inserted between all units.