



Calamba Water District

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ISO Certificate Registration No. PHP QMS 21 93 0047

PROJECT :PROPOSED 500CUM GLASS FUSED TO STEEL BOLTED TANK WITH BOOSTER PUMPS
LOCATION :Landmark Subdivision, Brgy. Parian, Calamba City
DATE :November 8, 2021

SCOPE OF WORKS AND SPECIFICATIONS

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The work calls for the performance for the Design, Supply & Construction of One (1) Glass Fused to Steel Bolted Tank with a net capacity of 500 Cubic Meter complete with Booster Pumps, Motor Controllers, Pipes, Fittings and Required Valves.

Tank Specifications

A. Tank Design

The tank must be designed suitable for seismic zone 4, 15 psf Deck Live Load and a maximum wind speed of 200 mph.

B. Tank Details

Diameter : 10.7m
Height : 6m
Floors :Glass fused to steel
Wall : Glass fused to steel
Roof : Aluminum deck Roof
With Level Indicator, roof Vent and Internal & External Ladders

Glass Fused to Steel Tank Accesories:

- Silicone sealants applied on the tank wall
- Exterior reinforcing ring (where required by design).
- 1 x Manway 24 " installed on the tank wall
- 1 x Vertical cage ladder with a 1*1M platform.
- Aluminum deck roof with HDG perimeter handrail
- Magnetic water level indicator

Specification of glass fused to steel tank:

- The tank structure design should be strictly conform to the AWWA D103-09 standard, while the coating for drinking water should strictly confirm to the ISO 28765:2016.
- Edge protection of each panel should be with enamel coating (applied with cookware special edge protection technology)
- Each steel panel need to pass the 1500V holiday spark test, test report issued from the factory is needed

- All steel plates and sheets are to be sourced from reputable international steel mills and produced by a hot rolling process.
- Sheet need to be treated with shot blasting, shot blasting shall be performed to the equivalent of SSPC SP10

Specification of sealant:

- The sealant shall be used to seal lap joints, bolt connections, and sheet edges
- The sealant shall cure to a rubber-like consistency and have excellent adhesion to the glass coating, have low shrinkage and be suitable for interior and exterior exposure.
- The sealant for drinking water applications shall be suitable for drinking water and be compliant to US FDA standard. The manufacturer shall provide the copy of a valid certificate issued by a third party certifying agency during the approval stage.

Specification of glass coating:

- The tank coating shall meet the quality requirement on ISO 28765:2016, certificate of ISO 28765 should be provided during approval stage
- Both interior and exterior of the panel should be in blue color(RAL 5004)
- For drinking water: 2-Coats & 2-Firing Process need to be applied to both side of panel,coating thickness should be 200-450 μm, Holiday test: 1500V

Specification of roof:

- The design live load of the deck roof is at least 15psf
- The roof should be designed with little slope for water draining.
- All of the steel structure for roof should be steel HDG
- The roof should include HDG steel perimeter handrail
- The roof is equipped with 1* 650x650mm hatch installed near the ladder platform, and 1*400x600mm vent

Manufacturer's qualification:

- The tank manufacturer should have ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certificates

C. Design and Construction

The Design and Construction of Glass Fused to Steel Bolted tank is with steel floors mounted to a concrete pedestal.

D. Tank Installation

The tank structure should be installed by the accredited and trained Engineers and installation crews suitably skilled utilizing the prescribed methodology and procedure developed by the tank manufacturer. Included in the tank installation are leak testing by hydrotest, Disinfection and Concrete foundation.

E. Tank Concrete Foundation

The tank is designed to sit on simple ring beam with assumed soil bearing capacity of 2000psf.

F. Electro-Mechanical Specification

Supply and installation of:

Two (2) units In-Line Centrifugal Pump, capable of delivering 250 GPM at 60 PSI head, Close coupled to a 15HP, 460 volts, 3600 rpm, 3-phase, squirrel cage induction motor. All in one base plate.

One (1) set Control Panel, suitable for the above two 15HP, 460 volts, 3-phase, 60hz motor.

One (1) lot suction and discharge headers, 8"Ø

Four (4) pcs butterfly valve , 4"Ø

Two (2) pcs Check valve, 4"Ø

Four (4) pcs rubber coupling, 4"Ø,

One (1) lot Nipples, Bolts & Nuts

Included are the automation programming, electrical and mechanical lay-outing, Testing and commissioning.

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