APEX SANITECH TANKS

ONE STOP WATER STORAGE SOLUTIONS

PIPECO

FUTURISTIC AND SUSTAINABLE WATER STORAGE SOLUTION

APEX

Certified & Approved By

Professional Membership

About Us

PIPECO–Malaysia, is a renowned brand that is synonymous with QUALITY, STANDARDS, COMMITMENT and CONSUMER SATISFACTION. Having a vast experience of over 30 years, we have evolved as one of the leading and largest manufacturers in the world for GRP Hot Press Moulded Panel Sectional Water Storage Tanks. Our business Interests are spread throughout the world – we have offices in over 15 countries and product relations in nearly 50 countries.

Our factory is spread over a vast area of 20,000 m^2 and has a capacity to annually produce 3,00,000 GRP tank panels and 50,000 pressed Steel tank panels. This allows PIPECO to fulfil customer's expectations with competitive pricing, prompt delivery and high quality products. Over the years, we have successfully contributed to the success of various prestigious projects all across UAE and the Middle East.

We have a well-established quality management system. Since 2003, PIPECO has been accredited with the ISO 9001 standard. This ensures that the tank panel and accessories are produced under the most stringent quality audits and meet the required durability. By using advanced automated production facilities and employing a team of highly skilled production staff, PIPECO is able to ensure that the tank panel and accessories produced conforms to a consistent high quality standard.

Apex Sanitech & Tank Solutions is the sole distributor for supply and installation of all types of tanks acorss the states in India and in neighbouring countries like Sri Lanka, Maldives, Nepal and Bangladesh. With its rich experience and track record of executing projects across India for more than 20 years, Apex has installed different types of tanks in various capacities for many corporates.

Product Offerings

GRP SMC Panel Tank

GRP - SMC Panel Tie Rod type tank

GRP - SMC Panel Externel Brazing type tank

Skid Base Specifications GRP sectional water tank

GRP - Pre Insulated SMC Panel Tank

Pressed Steel Sectional
HDG Water Tank

Pressed Stainless
Steel Panel Tank

Elevated Steel Structure
for GRP/Steel Water Tanks

Triton Stormwater Solution™

Triton Vault Rain Water
Harvesting Systems

GRP SMC PANEL TANK

GRP SMC panel tanks are a new type of tank made of high quality SMC panels. These panels are made from (SMC) Sheet Moulding Compound which comprises Glass Fibre, Polyester Resins, Catalysts and Fillers. The compound is fed into heavy hydraulic presses and is pressed with a constant temperature of 150°C.

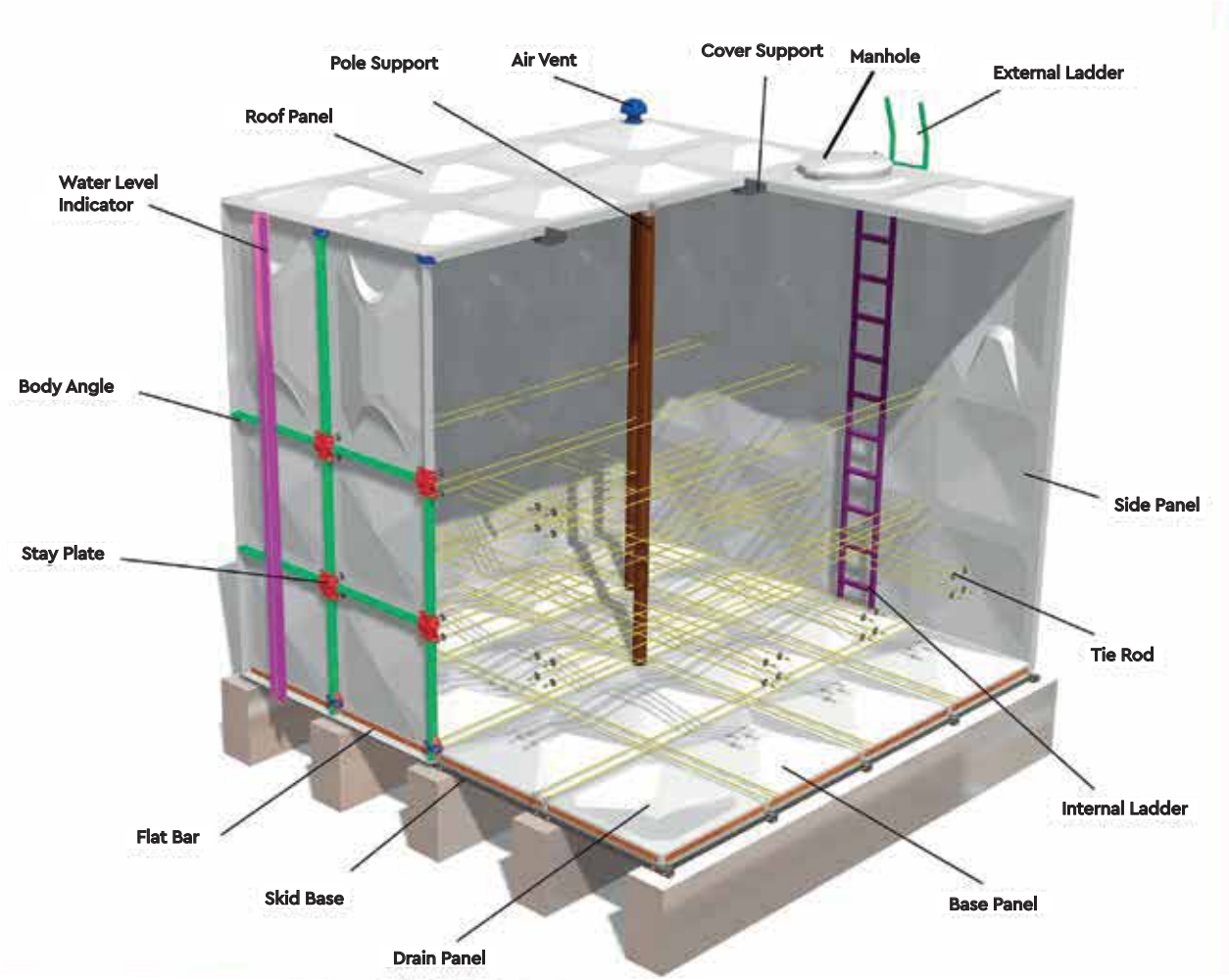
GRP SMC Panel Type Water Storage Tanks are versatile due to their modularity, low maintenance, and excellent thermal and hygienic properties. GRP SMC Panel Type Water Tanks storage system has been designed and developed for the singular purpose of meeting these demands efficiently, with flexibility, with uncompromising levels of quality and reliability. Specified to meet the most rigorous conditions, it has become the first choice around the world for applications ranging from individual homes to major building and industrial complexes.

GRP SMC Panel Type Water Tanks system is supremely flexible. Small units, from 1m3 (260USG), serve as an integral element at the point of use in a piped delivery system. Larger units, even up to 10,000m3 (2,500,000USG), provide free-standing long term storage capacity.

The growth of algae and other microorganisms is closely related to light. To prevent this requires light transmission of less than 0.1% in direct sunlight. All standard GRP SMC Panel Type Water Tanks molded panels have a light transmission of less than 0.005% to prevent algae growth even if the tank is installed in full sunlight. Growth of algae, if allowed to occur, will adversely affect water taste, and can lead to disease such as gastro-enteritis

Construction of GRP SMC Panel Tie Rod type tank

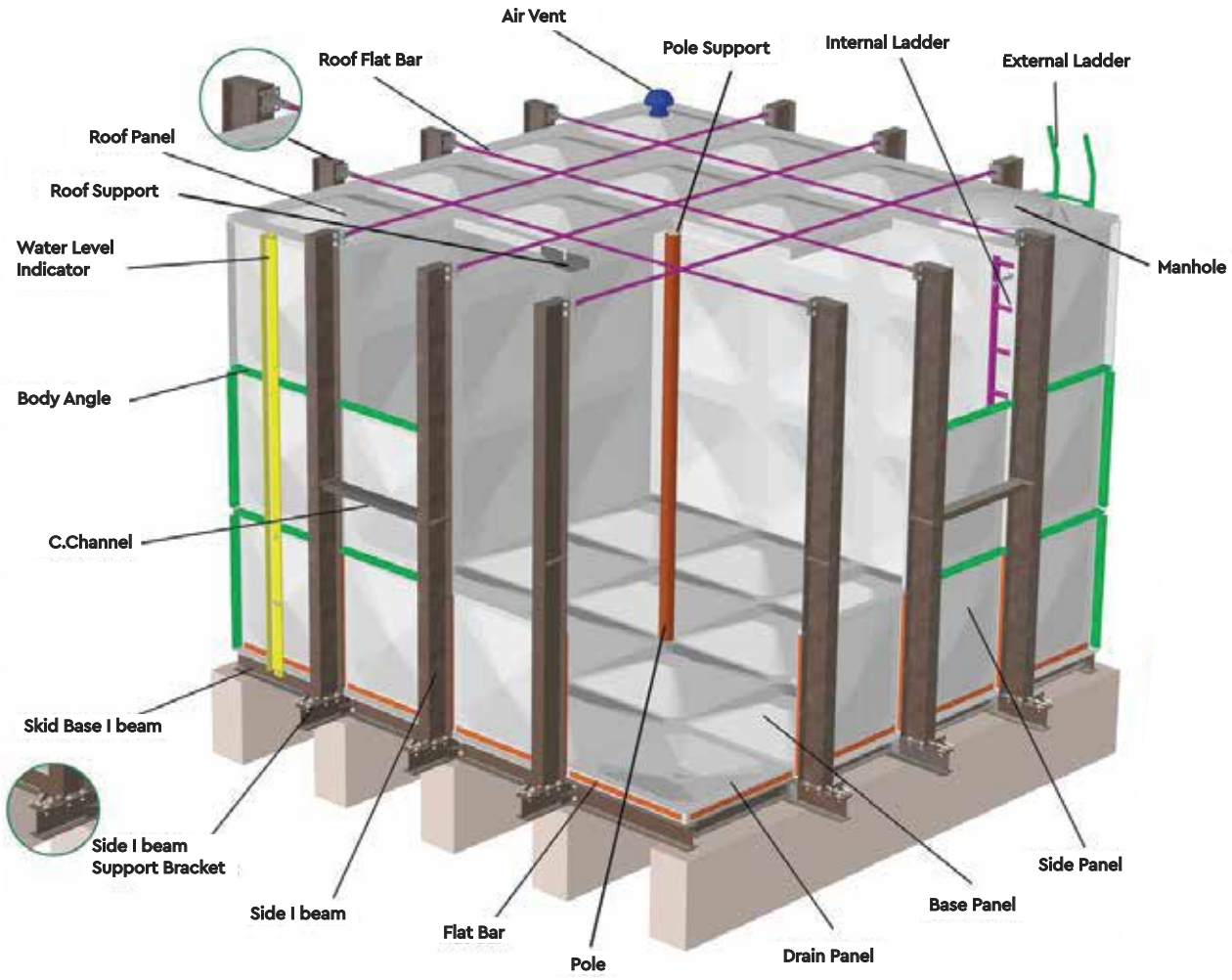
GRP SMC sectional panel water tank is constructed with bottom, side and top panels, complete with external and internal structural reinforcement and necessary tank accessories to facilitate water storage.



Internal Tie Rod type Tank

Main Components	External Structural Support	Internal Structural Support	Tank Accessories
Top Panel	Body Angle	Pole	Access Manhole
Side Panel	Corner Angle	Pole Support	Air Vent
Bottom Panel	-	Tie Rod	Water Level Indicator
Drain/Pit Panel	Flat Bar Stay Plate	Roof Support In Corner Bracket	Internal Ladder External Ladder

Construction of GRP SMC Panel Externel Brazing type tank



External Brazing type Tank

Main Components	External Structural Support	Internal Structural Support	Tank Accessories
Top Panel	Flat Bar	Pole	Access Manhole
Side Panel	Body Angle	Pole Support	Internal Ladder
Bottom Panel	-	Roof Support	External Ladder
Drain/Pit Panel	Flat Bar Stay Plate Roof Flat Bar Side I Beam Support Bracket External Bracing Support	In Corner Bracket	Air Vent Water Level Indicator

Reasons of why GRP SMC panel is one of the best tanks in the world

- Very long life
- Low weight
- Resistant to corrosion
- No electrical conductivity
- Low thermal conductivity
- Has dimensional stabilizers
- Resistant to UV rays
- Hygienic according to all other tanks
- Can be processed in a simple way
- Panels can be produced as insulated
- No recycling
- Paint or maintenance-free
- Can be manufactured in any colour
- Not magnetic
- Light transmittance can be provided
- Chemical & combustion resistance can be increased
- High carrying capacity
- Suitable for food regulations
- Algae in the tank does not occur

Maintenance, Inspection & Cleaning Recommendations

- GRP SMC panel tanks are designed and manufactured for long-term service. Periodic maintenance and inspection shall be conducted to ensure its safe usage.
- We recommend performing the following inspection and maintenance work.

Maintenance Item	Period	Remarks
Clean the inner side of water tank	Once / Year	Use cloth, sponge or any soft material. Void using hard material such as hard wire brush on the surface of the GRP.
Looseness of the bolts and nuts	Once / Year	Retighten any loosen bolts and nuts to rectify leaks or drips.
Check water level indicator	Once / Year	Checking operation of water level control valve.
Check clogginess of Airvent, Overflow Pipe	Once / Year	Remove any trapped objects.
Manhole Cover	Once / 6 Months	Make sure that the manhole cover is completely shut and always keep it locked.
Turbid water	Once / Year	Check the inner parts of the tank, the outlet and the other places for turbid water.
Water leakage and deformation of the tank	Once / 6 Months	If the water tank leaks or panel bulging, immediately contact the local sales representative.
Check all pipe works	Once / 6 Months	Check all piping connected onto the tank is suitably braced & supported.

Care & Maintenance of the Tank

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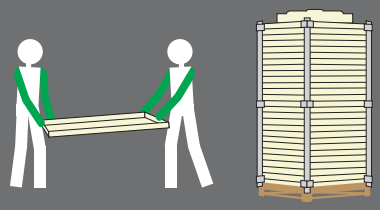
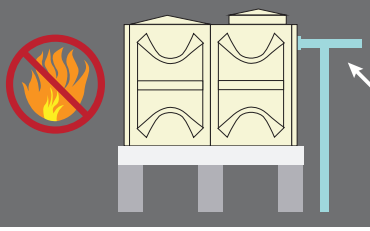
Safe Delivery



Should be safely transported and stored

No flame or heavy load



Timely Inspector

- Piping
- No leakage
- No overload
- No harm material around
- Tighten of bolts

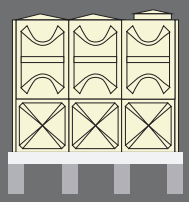
Jan ☑ Jul ☑
Feb ☑ Aug ☑
Mar ☑ Sep ☑
Apr ☑ Oct ☑
May ☑ Nov ☑
Jun ☑ Dec ☑

Timely Cleaning

During cleaning maintian water at other side
Clean with sponge soft material no wire brush or hard material to clean.

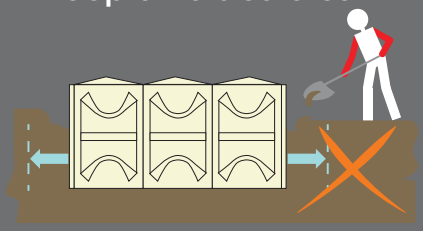
January ☑
July ☑

Stick with Original Parts

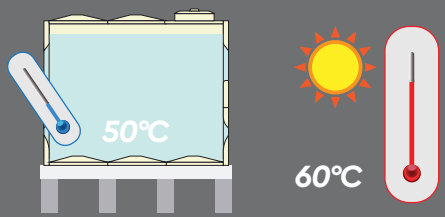


Original parts by APEX

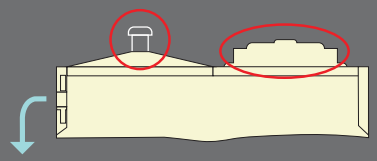
Do not bury keep all sides clear



Max temperature

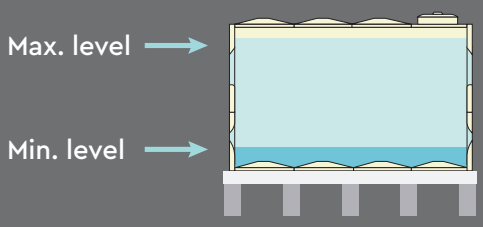


Keep manhole tightly closed and do not block airvent and overflow

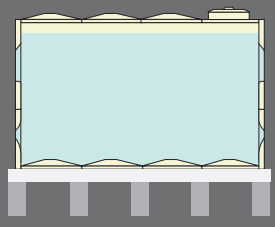


Overflow should not be clogged

Maintain water level



Use water only



5 < pH < *9*

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Recommendation & Precaution

TRANSPORTATION

- Do not place heavy loads of force on the panels during transportation
- Any parts that come in contact with lifting rope or other cargo must be cushioned
- Be careful not to put heavy weight on the pipes that are connected to the fitting

PIPE INSTALLATION

- Pipe installation must be started from the water tank side, and be careful not to put unbalanced weight on the fittings
- Take precautions to avoid welding works too near to the tank

MAINTENANCE

- If tank is not used for a very long period of time, be sure to discharge the stored water before re-use
- Tank holds a reservoir of water for human consumption, regular inspection is highly recommended

Comparison with RCC/Steel Tank

Features	R.C.C. TANKS	SMC PANEL TANKS
Possibility of increase in capacity	Not Possible	Possibile simply by adding additional panels
Possibility of replacement and reuse	Not Possible	Possibile simply by adding additional panels
Decay of construction materials	Yes, it decays with time	NIL
Time required for founding + staging of tank	4 to 5 Weeks	2 to 3 Weeks
Time required for installaiton / construction	4 to 20 Weeks	1 to 2 Weeks
Curing time after construction	3 to 4 Weeks	NIL
Speed of construction	Very slow subject to slippage	Fast & Sure
Water Tightness	Moderate	Excellent
Frequency of maintenace	Frequent (Twice a Year)	Virtually NIL
Repair during maintence	Very costly and very difficult	Econimical & Quick
Effect on water quality	Severe (Ph value may change been composite material)	None
Durability	Fair	Excellent
Effect on water on tank	Steel reinforcement of tank may corrode due to seepage of water and weaken the tank structure	No effect

General Specifications

Standard: Singapore Standard SS245: 1995 Cross reference to British Standard BS 7491 Part 3:1994 and BS EN 13280:2001

Materials: Resin-Isophthalic unsaturated polyester resin conforming to BS 3532 specification Fiber Glass-Low alkali fibre glass conforming to JIS R3411 to R3417 or BS 3396, BS 3496 and BS 3749 specifications

Testing Method: BS 2782

Manufacturing Process: SMC hot pressed compression moulding

Tank Structural Support:
External: Standard Type: Hot Dipped Galvanised Steel – Optional Type: External Braced type (Metal-Free tank internal for non-partitioned tank only)
Internal: Standard Type: SS 304 Tie-Rod or Cleat/Angle Stay SS316 – Optional Type: Tie-Rod or Cleat / Angle Stay
Roof Support: PVC Vertical Poles and GRP roof panel stiffener

Sealant: Nontoxic PVC foam

Bolt, Nuts, Washers: **External:** Standard Type: Hot Dipped Galvanised Steel Optional Type: SS 304/A2 or SS 316/A4
Internal: Standard Type: SS 304/A2 (In-contact with water) – Optional Type: SS 316/A4 (In-contact with water)
Roof: Hot Dipped Galvanised Steel or unless otherwise specified

Ladder:
External – Standard: Hot Dipped Galvanised Steel
Internal – Standard Type: PVC Optional Type: GRP or 316

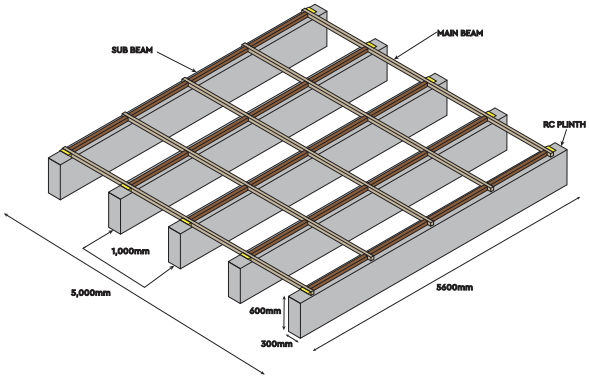
Water Level Indicator:
Standard Type: Reversed Reading Mechanical Ball Float Type with Mouse
Optional Type: Direct Reading Clear Tube Type
Nozzle Panel: Flat panels will be provided for any type of piping materials.

Why You Should Select PIPECO GRP Sectional Water Tank?

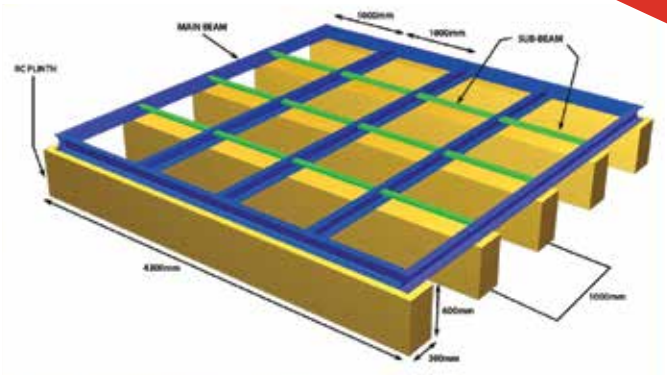
- Exceptionally clean water storage, with WRAS approval.
- Smooth surface finish on both sides of panel to prevent algae and bacterial growth on panels.
- Exceptional corrosion resistance with the corrosion proof nature of GRP panel.
- Each panel and components are manufactured with stringent quality control.
- Excellent strength and rigidity, designed with a safety factor of 6.
- Strong resistance to high UV and harsh weathering conditions.
- Ease of handling, transportation, installation and maintenance.
- Panel design is modular and could accommodate various size and shape requirements to fit space constrained site conditions.
- Excellent thermal insulation performance with the option of an insulated panel.

Skid Base Specifications for GRP sectional water tank

Hollow Section

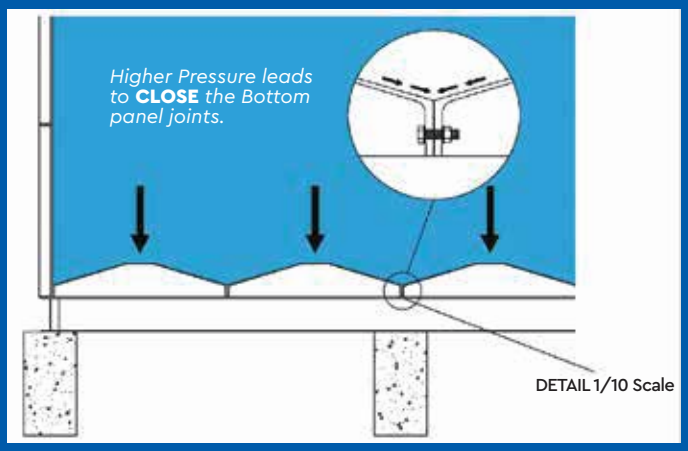


C-Channel

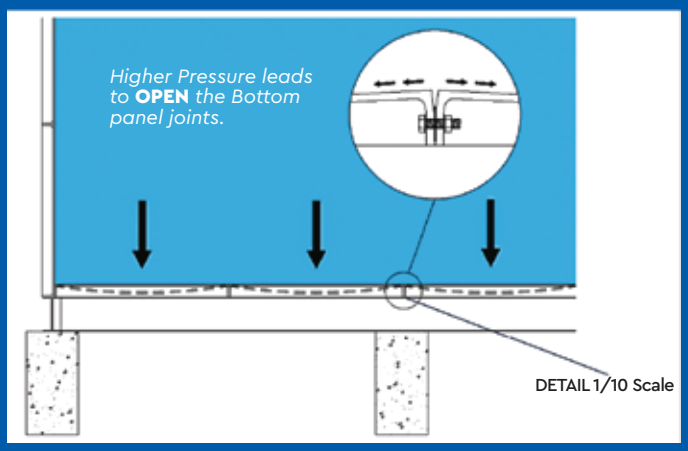


*4m x 4m Foot Print Skid Base Illustration

Tank Height	Main Beam	Sub Beam	Concrete Plinth Distance
1.0 m	Not Provided	Not Provided	1000mm c/c
1.5 m	Hollow Section 50mm x 50mm x 3mm	Hollow Section 50mm x 50mm x 3mm	1000mm c/c
2.0 m	Hollow Section 50mm x 50mm x 3mm	Hollow Section 50mm x 50mm x 3mm	1000mm c/c
2.5 m	Hollow Section 50mm x 50mm x 3mm	Hollow Section 50mm x 50mm x 3mm	1000mm c/c
3.0 m	Hollow Section 50mm x 50mm x 3mm	Hollow Section 50mm x 50mm x 3mm	1000mm c/c
3.5 m	C-Channel 150mm x 75mm	Angle 75mm x 75mm	1000mm c/c
4.0 m	C-Channel 150mm x 75mm	Angle 75mm x 75mm	1000mm c/c



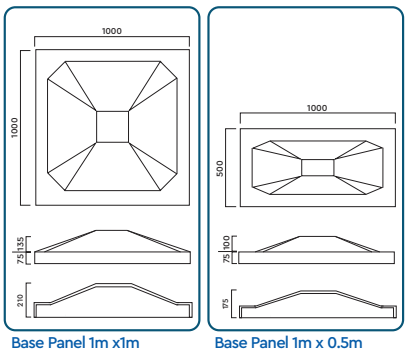
GRP – SMC panel tank new bottom panels improve seals.



Compare with other tank types the bottom tend to open on pressure.

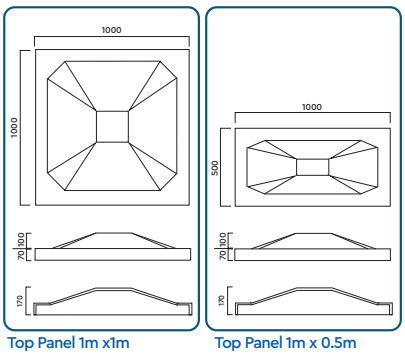
Panel Design

BASE PANEL



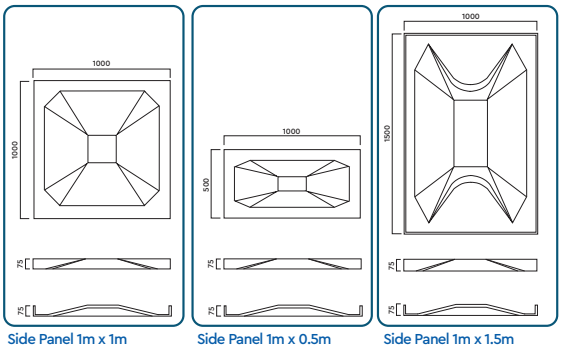
Base Panel 1m x1m | Base Panel 1m x 0.5m

TOP PANEL



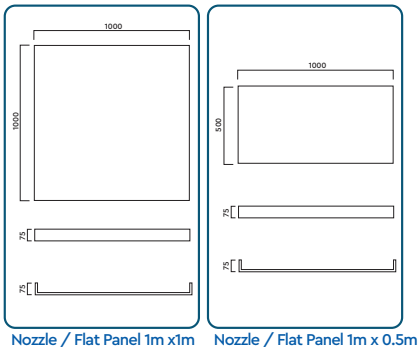
Top Panel 1m x1m | Top Panel 1m x 0.5m

SIDE PANEL



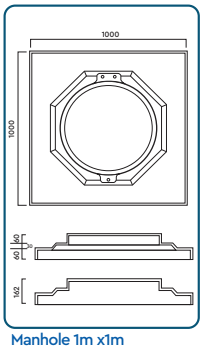
Side Panel 1m x 1m | Side Panel 1m x 0.5m | Side Panel 1m x 1.5m

NOZZLE / FLAT PANEL



Nozzle / Flat Panel 1m x1m | Nozzle / Flat Panel 1m x 0.5m

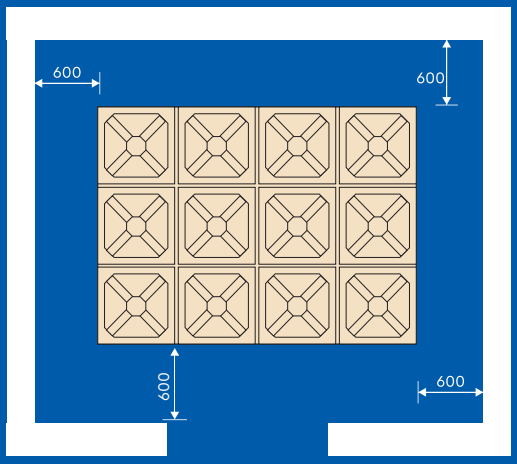
MANHOLE

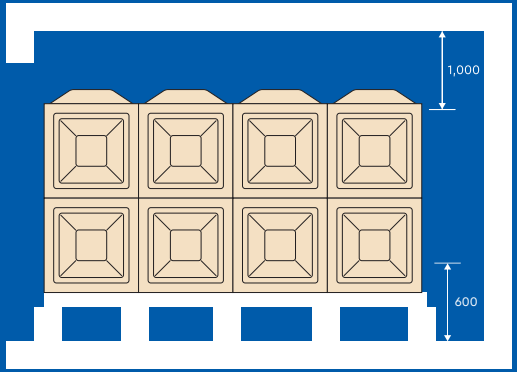


Manhole 1m x1m

Installation Space

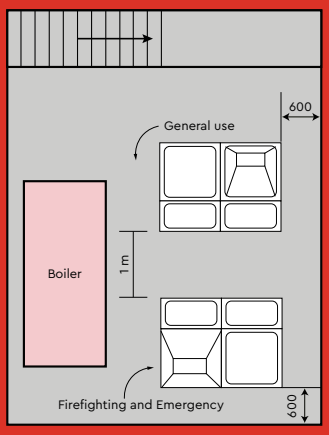
About 600mm space in all directions is required as shown at the bottom image for maintenance and installation of tanks.

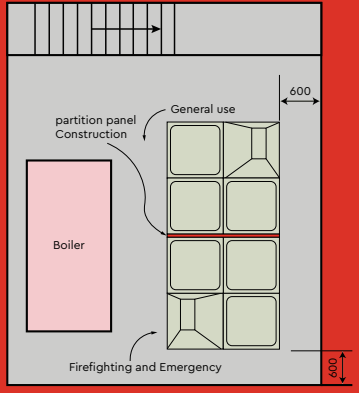




Partition System

When you want to install multiple tanks with different purposes in the confined space of your underground boiler room, you need to keep the installation guideline in mind beforehand. The space of 1 meter in the middle should be secured for maintenance, so you should install two water tanks with 6-ton capacity each. If you install partition-type water tanks as shown in the picture, you can use 16 tons of water with a single water tank, 8 tons for drinking and 8 tons for other purposes. This will reduce your installation cost & bring easy maintenance.





GRP – PRE INSULATED SMC PANEL TANK

GRP – Pre Insulated SMC panel tank Type (1) tank insulated panel has rigid polyurethane (PU) foam, of low thermal conductivity, sandwiched between inner FRP layer and outer Resin cover, as shown. These composite panels are used on the sides and base of the tank, which are directly in contact with the water. Additional protection is not required for the roof of the tank, since a static air layer between the water surface and the tank provides good insulation.

The Pre Insulated SMC material, from which all the GRP SMC panel type water tanks are manufactured, is light, corrosion – free and highly durable, very strong in both tension and compression, and rigid. Unlike steel, it has a low coefficient of expansion, minimizing stress at all fixings caused by temperature variations. Design criteria for all tanks, summarized in table, established a massive 8 times safety factor of panel strength over maximum anticipated load – proof against the worst natural disasters of the last 100 years.

Features

- The convex base panels transmit water pressure to the panel joints, increasing the sealing pressure as water level increases
- The joints themselves are further sealed with a flexible rubber sealant, developed from advanced technology in rubber products, which maintains its properties in all temperatures
- GRP – Pre Insulated SMC panel tanks have similar capabilities to its' non insulated type yet has a significant thermal resistance with strength and durability against natural disasters
- The Pre Insulated SMC insulated panels have been specially developed with rigid polyurethane foam with low thermal conductivity values. The foam is moulded in between the GRP panels as shown below

General Specification

GRP Insulated Sectional Water Tanks Internal Tie-Rod Tank & External Braced Tank Owing to the extreme climatic conditions PIPECO Offers GRP INSULATED SECTIONAL WATER TANKS

By encapsulating a 25mm – 50mm layer of rigid polyurethane foam, PIPECO pre-insulated panel could maintain the desired water temperature stored inside the tank under extreme temperature conditions. PIPECO pre-insulated panels could be selected for water storage where there is a need to stabilize the temperature against extreme heat or freezing conditions so as to prevent dew formation.

Green Conscious

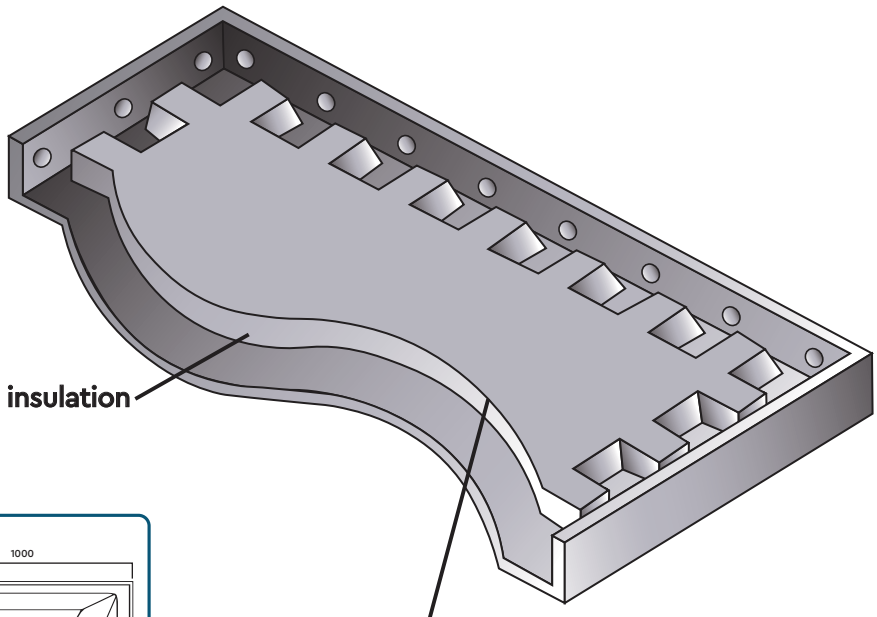
The world is showing an increased awareness of environmental issues when selecting materials for construction or otherwise. The concept of "Green Buildings" is slowly becoming the norm rather than the exception. Recyclability, sustainability and carbon footprint impacts are becoming important considerations when designing infrastructure and building. The life cycle of a water tank from anufacture through to its disposal is becoming the approach to choosing the most suitable tank for a building or outdoors.

Our externally reinforced FRP Panel Type Water Tanks offer significant environmental benefits – they weigh less and require less energy to transport & install than equivalent steel tanks, they have excellent mechanical properties and are corrosion free. Design life is in excess of 40 years and over this time, maintenance requirements will be minimal.

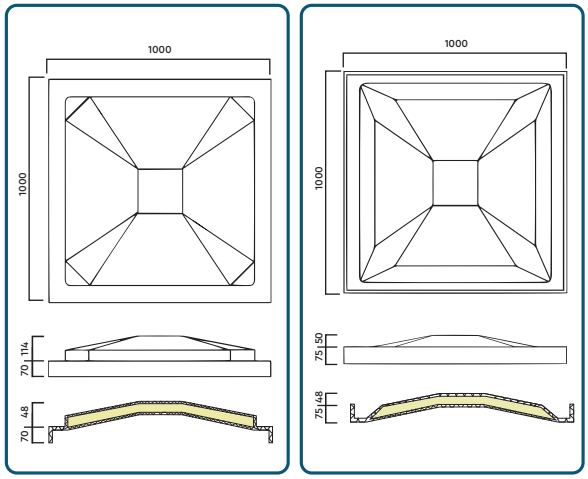
Panel Design

FRP Panel Type Water Tanks have a design life in excess of 40 years. It is likely the tank will last well after this time, with minimal maintenance during its lifecycle required. Ultimately, the steel supports and the GRP panels can be completely recycled as scrap or put to other uses.

Characteristics	*PIPECO GRP - Tank Panel Performance*	*Acceptance Criteria (SS 245:2014 Specification)*
Tensile Strength (MN/m^2)	107	>70 (min)
Bending Strength (MN/m^2)	167	>100 (min)
Elastic Modulus in Bend (MN/m^2)	11953	>6000 (min)
Glass Content (%)	33	>25 (min)
Barcol Hardness	59	>30 (min)
Water Absorption (%)	0.2	0.5 (max)



PRE – INSULATED PANEL



Top Panel 1m x1m

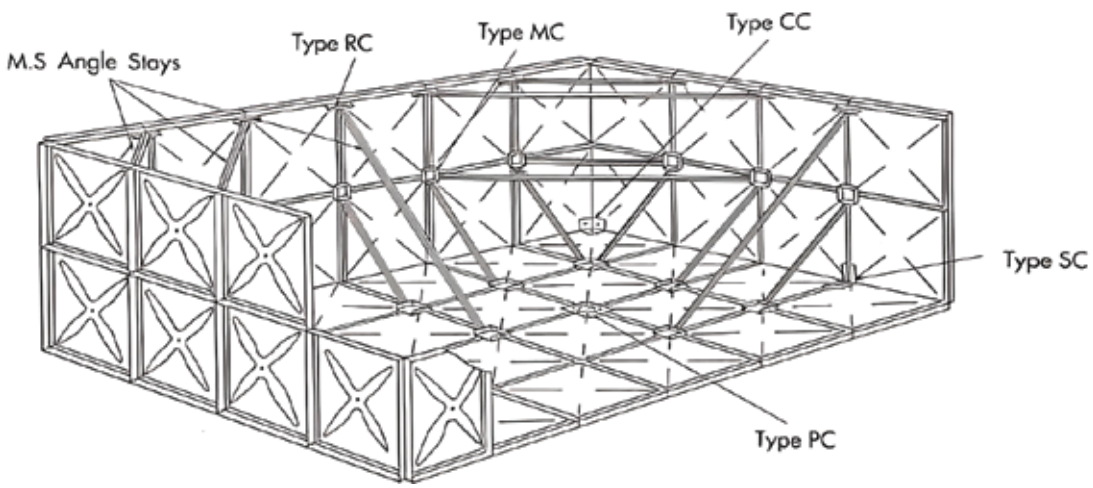
Side Panel 1m x 1m

PRESSED STEEL SECTIONAL HDG WATER TANK

Galvanized pressed steel water tank is also called a pressed steel sectional water tank, galvanised water tank, pressed steel water tank, rectangular steel water tank, and galvanized steel water storage tanks. It belongs to a new type of water tank. It is made of hydraulically pressed panels.

HDG water tank is the short of Hot Dip Galvanized water tank, with 90 μm thick surface zinc coating of Q235 Pressed Steel. Zinc coating can help to prevent rust and corrosion over at least 10 years. HDG water tanks have the most panel types including 1000 × 1000 mm, 1000 × 500 mm, 500 × 500 mm, 1220 × 1220 mm. So HDG water tanks are more flexible and high cost-effective. Meanwhile, the strong steel structure and zinc coating protection has made it available to be used as underground water tanks.

Pressed Steel Sectional Rectangular tanks provide a convenient means for the bulk storage of liquids. And over the years, one name has earned a reputation that's strong as steel for being the reliable choice: HDG. That's because HDG Pressed Steel Tanks are manufactured to the highest level of quality, and conform to the British Standards BS 1564:1975 and Amendments and BS 729:1971 (for hot-dip galvanizing service).



Features

- The tanks are bolted together, complete rigidity is ensured by angle stays fixed to cleats which are bolted onto the tank plates.

- Its seams are sealed with a jointing compound which is non-toxic and does not impart any taste to the water.

- The internal and external surfaces of tank plates, stays and cleats are painted with a non-toxic and non-contaminating block bituminous paint.

- They can be built in awkward locations unsuitable for other forms of construction. They can be built in "L" or "U" shape and can be portioned into two or more compartments as required.

We have many galvanized & metal steel water tanks for sale such as panel water storage tank, mild steel water tank, steel potable water storage tanks, stainless steel drinking water tanks, corrugated metal water storage tanks, especially, 20000 gallon steel water tank. Many of our customers use the pressed steel tank, because of the tank panel that is lightweight and portable.

We give a reasonable price according to the customer's needs, especially, 5000 gallon steel water tank price. Many of our customers have bought 5000 gallon steel water tanks for homes from us.

General Specification

- **Standard** – Pressed steel sectional HDG water tank constructed with hydraulically pressed flanged panels, conform to BS 1564: 1975 and SS22:1979.

- **Materials** – The steel used in the manufacture of the tank plates, stays and cleats conform to the requirements of BS 4360: 1972 grade 43A or ISO equivalent.

- **Flanges of Plates** – Tank plates are pressed with a combined double flange at an angle of 45 degree and 90 degree to the face of the plate on four sides.

- **Stays and Cleats** – The stays and cleats are made of steel angle bar and steel plate

- **Bolts, Nuts and Washers** – Hot Dipped Galvanised steel bolts, nuts and washers for internal and external.

- **Jointing Materials** – Non toxic PVC foam sealent tape for all jointing between tank panel flange.

- **Tank Cover** – Panel type steel cover supported by trusses 600 × 600 square manhole and 100mm air-vent supplied as standard for each compartment.

- **Water Level Indicator** – Transparent acrylic tube with aluminium casing and height level marking or mechanical ball float type.

- **Nozzles for Connection** – Short pipe with flange or socket for all pipe connections.

- **Ladder** – Aluminium or HDG Steel ladder for internal and external access.

- **Finish** – Hot Dip Galvanised conform to ISO 1461.

STANDARD THICKNESS FOR

1.22 m X 1.22 m TANK PANEL

Type	*1.22 m (H)*	*2.44 m (H)*	*3.66 m (H)*	*4.88 m (H)*
4th side panels				5.0 mm
3rd side panels			5.0 mm	5.0 mm
2nd side panels		5.0 mm	5.0 mm	5.0 mm
1st side panels	5.0 mm	5.0 mm	5.0 mm	5.0 mm
Bottom panels	5.0 mm	5.0 mm	5.0 mm	5.0 mm

Note: Specification may vary according to client's requirement.

STANDARD THICKNESS FOR

1.0 m X 1.0 m TANK PANEL

Type	*1.0 m (H)*	*2.0 m (H)*	*3.0 m (H)*	*4.0 m (H)*	*5.0 m (H)*
5th side panels					5.0 mm
4th side panels				5.0 mm	5.0 mm
3rd side panels			5.0 mm	5.0 mm	5.0 mm
2nd side panels		5.0 mm	5.0 mm	5.0 mm	5.0 mm
1st side panels	5.0 mm	5.0 mm	5.0 mm	5.0 mm	5.0 mm
Bottom panels	5.0 mm	5.0 mm	5.0 mm	5.0 mm	5.0 mm

*Note: *Optional items are to be quoted separately upon request.*

APEX

PRESSED STAINLESS STEEL PANEL TANK

Stainless steel tanks come in various shapes and sizes and are required not only for commercial purposes but also in a high demand for industrial usage.
In Industries it is used for storing RO water, Soft water, Hot water and Process water whereas in commercial cases it is mostly used for storing supply water.
Large Stainless steel panel tanks serve various types of industrial applications.

Numerous Benefits

- Panel tanks are hygienic as they are made of food-grade stainless steel grades SS304 and SS316L which helps to preserve water in its natural form
- Free from risks of chemical reaction
- The weight of stainless steel panel tanks are approximately 30 times less than the concrete tanks
- Installation is much faster, approximately about 1/3rd the time of concrete tanks.
- These tanks also prove to be less expensive as the life of these tanks is much higher
- The heat absorption potential of these tanks is very good
- Stainless steel tanks are more durable than concrete tanks
- The maintenance of stainless steel tanks is much cheaper
- The probability of leakage is very low in stainless steel panel tanks
- Stainless steel has the gifted quality of being corrosion free thereby can be used in storing industrial water also used in process and machine cooling. Large stainless steel tanks come with flexibility to customize it according to the customer's requirement minimizing chances of reengineering work.

A Lifetime Investment

Water storage stainless steel tanks are usually a lifetime investment and there are minimal chances of biomass formation because of the properties of Stainless steel. These large stainless steel tanks and water storage stainless steel tanks provide a lifetime value to buyers.

General Specification

- **Standard** – Pressed stainless steel sectional water tank constructed with hydraulically pressed flanged panels, Grade 304 & 316.

- **Materials** – The tank panel, tie rods, stays and cleats are made from Stainless Steel Grade 304/316.

- **Flanges of Plates** – Tank panels pressed with a 90 degree panel flange to the face of the plate on four sides.

- **Bolts, Nuts and Washers** – Stainless Steel Grade 304/316 bolts, nuts and washer.

- **Jointing Materials** – Non toxic PVC foam sealent tape for all jointing between tank panel flange.

- **Tank Cover** – Panel type tank cover supported by trusses and poles 600 × 600 square manhole and supplied as standard for each compartment.

- **Water Level Indicator** – Transparent acrylic tube with aluminium casing and height level marking/Mechanical Ball Float Type.

- **Nozzles for Connection** – Short pipe with flange or socket for all pipe connections.

- **Ladder** – Internal ladder shall be made of Stainless Steel 304/316 and aluminium for external ladder.

- **Skid Base** – HDG C-Channels.

STANDARD THICKNESS FOR

1.22 m X 1.22 m TANK PANEL

Type	1.22 m (H)	2.44 m (H)	3.66 m (H)	4.88 m (H)
Tank Covers	1.5 mm	1.5 mm	1.5 mm	1.5 mm
4th side panels				2.5 mm
3rd side panels			2.5 mm	2.5 mm
2nd side panels		2.5 mm	3.0 mm	3.0 mm
1st side panels	2.5 mm	2.5 mm	4.0 mm	4.0 mm
Bottom panels	2.5 mm	2.5 mm	4.0 mm	4.0 mm

Note: Specification may vary according to client's requirement.

STANDARD THICKNESS FOR

1.0 m X 1.0 m TANK PANEL

Type	1.0 m (H)	1.5 m (H)	2.0 m (H)	2.5 m (H)	3.0 m (H)	3.5 m (H)	4.0 m (H)
Tank panles	1.5 mm	1.5 mm	1.5 mm	1.5 mm	1.5 mm	1.5 mm	1.5 mm
4th side panles							
3rd side panles							2.0 mm (1x2mm)
2nd side panles				2.0 mm (1x1.5mm)	2.0 mm (1x2mm)	2.5 mm	3.0 mm
1st side panles	2.0 mm	2.0 mm (1x1.5mm)	2.0 mm (1x2mm)	2.5 mm	2.5 mm	3.0 mm	4.0 mm
Bottom panles	2.0 mm	2.0 mm	2.0 mm	2.5 mm	3.0 mm	4.0 mm	4.0 mm

*Note: *Optional items are to be quoted separately upon request.*

Elevated Steel Structure for GRP/Steel Water Tanks

The GRP SMC Panel Type Water Tank is particularly well suited for installation on a steel tower, where a free standing elevated unit is required to supply a permanent head of water.

Where desired, suitable towers of a truss or lattice construction can be designed and supplied, in a form suitable for container shipment. In nearly all such cases, major savings in time and labor required to complete the project will be achieved, compared to traditional installations. Towers of this construction can be supplied for all sizes of unit.

Recommended standard design criteria are shown opposite. However, all concrete foundation work for towers must be specified locally, based on local site conditions, to comply with loading and regulatory requirements, and, where appropriate, seismic requirements.

Steel footings to support and anchor the tank on the tower should be constructed in accordance with the standards set out on the previous pages.

Design Criteria Site Condition Factors

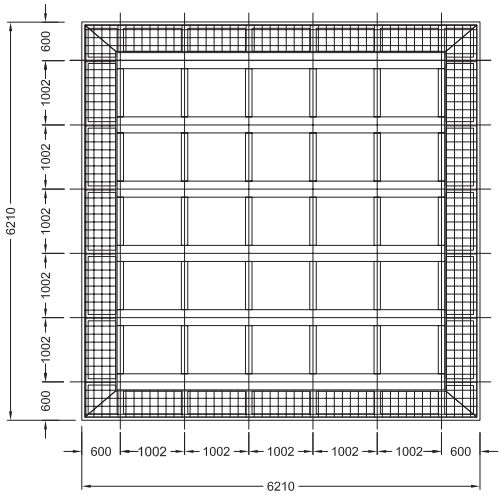
Wind velocity	60m/sec. (134mph)
Allowable strength (short term)	
• Steel tensile	2.4 ton/cm2 (33,650Psi)
• Concrete (compressive cm^2)	0.18 ton.cm2 (2,517Psi)
• Anchor bolt high tension	10 ton/cm2 (140,100Psi)
Seismic coefficient	K=0.3G

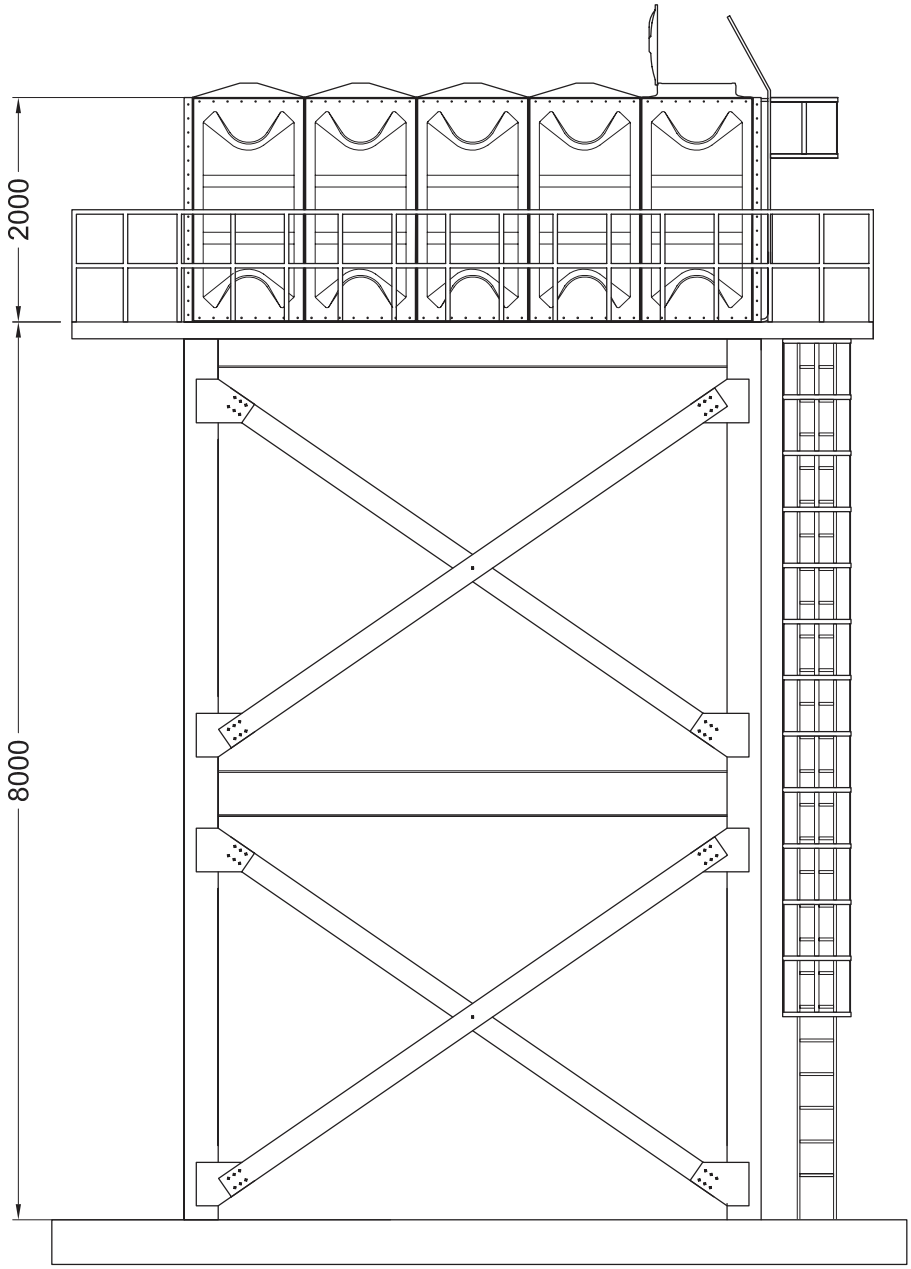
(For more severe earthquake conditions the factor can be increased up to 1.0G)

SITE CONDITION FACTORS

Local conditions must be established in order to determine:

1. Allowable soil bearing pressure load
2. Seismic load coefficient
3. Maximum wind velocity
4. Snowlead





TRITON
STORMWATER SOLUTIONS

APEX

TRITON STORMWATER SOLUTION™

Triton Stormwater Solutions is the premier provider of underground stormwater management systems. As the need to effectively manage stormwater has become a paramount issue around the world, it is essential to work with a company that has a customer. Service-minded business approach. At Triton, we have the experience to ensure successful results by providing superior products and service.

Features

Flexible: Modular system can be adapted to fit small drain fields can be used with or without catch basins and manifolds Double – or triple-stack capability proven since 2007 Online or perpendicular Main Header Row for inflow management.

Stronger: Exceeds ASHTO LERD Bridge Design Spec – 1 48,000-pound single-axle load-bearing capacity Bury up to 50,' deep Designed to exceed ASTM F2418, F2787, f2922 standard and third-party performance testing.

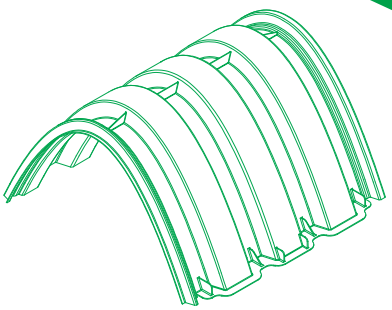
Greener: Eco-friendly soy-based construction Carbon-neutral product can achieve up to 18 LEED credits Lightweight and easily nested chambers save fuel in shipping Filter options to target specific pollutants.

Cost Effective: Lower shipping costs fewer man-hours per cubic foot to install Soy-resin based – more stable pricing than competitor's 120-year lifespan less stone required direct connections to top, front and side eliminate manifold systems and catch basins.

Easier to Install: Lightweight – allows one-person installation Three chambers can be installed in less than eight seconds Engineered connection allows easy placement of chamber sections.

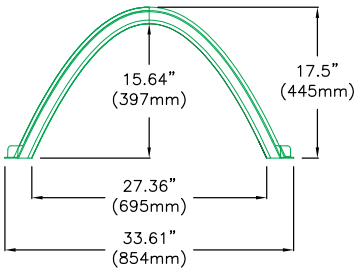
General Specification

LIGHTER
- 46% lighter per cubic foot of storage
- Chambers weigh just 32 pounds – a fraction of what the competition weighs
- Nest easily for ease of shipping and carrying

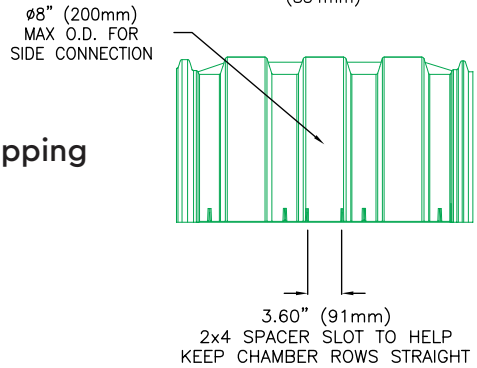


FLEXIBLE
- Modular system can be adapted to fit small drain fields
- Can be used with or without catch basins and manifolds
- Double- or triple-stack capability proven since 2007
- Inline or perpendicular Main Header Row for inflow management

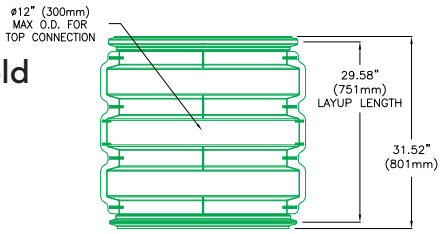
STRONGER
- Exceeds ASHTO LFRD Bridge Design Spec 1
- 48,000-pound single-axle load-bearing capacity
- Bury up to 50′ deep
- H-30 Load Rating
- Designed to exceed ASTM F2418, F2787, F2922 standard and AASHTO LRFD Bridge specifications; all validated through third-party performance testing



GREENER
- Eco-friendly soy-based construction
- Carbon-neutral product
- Can achieve up to 18 LEED credits
- Lightweight and easily nested chambers save fuel in shipping
- Filter options to target specific pollutants



COST EFFECTIVE
- Lower shipping costs
- Fewer man-hours per cubic foot to install
- Soy-resin based – more stable pricing than competitors
- 120-year lifespan
- Less stone required
- Direct connections to top, front and side eliminate manifold systems and catch basins



EASIER TO INSTALL
- Lightweight – allows one-person installation
- Three chambers can be installed in less than eight seconds
- Engineered connection allows easy placement of chamber sections
- Direct connections to top, front and side
- Requires less stone and geofabric than competitive systems

L.E.E.D. CERTIFICATION

Note: Because of its eco-friendly attributes, Triton chambers can help a project achieve up to 18 credits from the Leadership in Energy and Environmental Design (LEED) Green Building Rating System. [Sustainable Sites – 5 credits; Water Efficiency – 5 credits; Materials and Resources – 4 credits; Innovation and Design process - 4 credits; Carbon neutrality – 3 credits).

Certificates

NSF International

789 N. Dixboro Road, Ann Arbor, MI 48105 USA

RECOGNIZES

Pipeco Tanks Malaysia Sdn. Bnd.

Malaysia

AS COMPLYING WITH NSF/ANSI/CAN 61 AND ALL APPLICABLE REQUIREMENTS.
PRODUCTS APPEARING IN THE NSF OFFICIAL LISTING ARE
AUTHORIZED TO BEAR THE NSF MARK.

Certification Program Accredited by the American National Standards Institute

Certification Program Accredited by the Standards Council of Canada

This certificate is the property of NSF International and must be returned upon request. This certificate remains valid as long as this client has products in Listing for the referenced standards. For the most current and complete Listing information, please access NSF's website (www.nsf.org).

May 13, 2020
Certificate# C0463454 - 01

Theresa Bellish
General Manager, Water Systems

APEX

TEST CERTIFICATE

This Certificate is issued to: Pipeco Tanks Malaysia Sdn Bhd
Lot 3, Lorong 2/1, Solok Hishamuddin,
Kawasan Perusahan Selat Kelang Utara,
42000 Pelabuhan Kelang, Selangor Darul Ehsan,
Malaysia

FOR

Product: GRP Water Tank

Brand/Model: PIPECO

Detail: Sizes: 1m, 1.5m, 2m, 2.5m, 3m, 3.5m, 4m

Tested to: SS 245: 2014, SS 375: 2015

Test Report reference: 22105190/01-CLC, 22105190/02-CLC, 22105190/03-CLC, 22105190/04-CLC, 22105190/05-CLC, 22105190/06-CLC, 7191161904-MEC17/02A-LAS, 7191160025-CHM17-LYP, 7191158372-CHM17-LYP

A sample of product submitted was tested and found to comply with the test requirements of the above standard(s).

Certificate number: 210469

Date of original issue: 22 Jul 2021

Date of last renewal: -

Date of expiry: 21 Jul 2023

SLS
Singapore Laboratory Services

Jimmy Lee
President
Singapore Laboratory Services

SIRIM QAS INTERNATIONAL

No Lesen : PP020401
Licence No :

LESEN PENSIJILAN BARANGAN
Product Certification Licence

SIRIM QAS International Sdn. Bhd. dengan ini menganugerahkan kepada
SIRIM QAS International Sdn. Bhd. hereby grants to

**PIPECO TANKS MALAYSIA SDN. BHD.
LOT 3, LORONG 2/1, SOLOK SULTAN HISHAMUDDIN 1
KAWASAN PERUSAHAAN SELAT KLANG UTARA
PELABUHAN KLANG
42000 KLANG
SELANGOR, MALAYSIA**

Lesen untuk menggunakan Tanda Pensijilan di atas barangan
a licence to use the Certification Mark on

PRESSED STEEL SECTIONAL RECTANGULAR TANK PANEL

Please refer to detail in the SCHEDULE

sebagai mematuhi keperluan
as complying with

BS 1564 : 1975

Nur Fadhilah binti Muhammad
Ketua Pegawai Eksekutif
Chief Executive Officer
SIRIM QAS International Sdn. Bhd.

SIRIM QAS International Sdn. Bhd.
(No. Syarikat 199601037981(410334-X))
1, Persiaran Dato' Menteri
Seksyen 2, Peti Surat 7035
40700 Shah Alam
Selangor Darul Ehsan
MALAYSIA.
Tel : 603-5544 6400
Emel : cserviceqas@sirim.my
https://www.sirim-qas.com.my
https://www.malaysiancertified.com.my

Tarikh Mula Pensijilan : **29 December 1998**
Certified Since

Sah Sehingga : **25 February 2024**
Valid Until

Tarikh Dikeluarkan : **07 March 2023**
Issue Date

No Siri : 083101
Serial No

Lesen ini dianugerahkan tertakluk kepada syarat-syarat Perjanjian Pensijilan Barangan SIRIM QAS International Sdn. Bhd.
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SIRIM QAS INTERNATIONAL

No Lesen : PC001657
Licence No :

LESEN PENSIJILAN BARANGAN
Product Certification Licence

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SIRIM QAS International Sdn. Bhd. hereby grants to

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LOT 3, LORONG 2/1, SOLOK SULTAN HISHAMUDDIN 1
KAWASAN PERUSAHAAN SELAT KLANG UTARA
PELABUHAN KLANG
42000 KLANG
SELANGOR, MALAYSIA**

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a licence to use the Certification Mark on

GLASS-FIBRE REINFORCED POLYESTER (GRP) SECTIONAL WATER TANKS

Please refer to detail in the SCHEDULE

sebagai mematuhi keperluan
as complying with

MS 1390 : 2010

Nur Fadhilah binti Muhammad
Ketua Pegawai Eksekutif
Chief Executive Officer
SIRIM QAS International Sdn. Bhd.

SIRIM QAS International Sdn. Bhd.
(No. Syarikat 199601037981(410334-X))
1, Persiaran Dato' Menteri
Seksyen 2, Peti Surat 7035
40700 Shah Alam
Selangor Darul Ehsan
MALAYSIA.
Tel : 603-5544 6400
Emel : cserviceqas@sirim.my
https://www.sirim-qas.com.my
https://www.malaysiancertified.com.my

Tarikh Mula Pensijilan : **03 April 2015**
Certified Since

Sah Sehingga : **25 February 2024**
Valid Until

Tarikh Dikeluarkan : **28 February 2023**
Issue Date

No Siri : 082873
Serial No

Lesen ini dianugerahkan tertakluk kepada syarat-syarat Perjanjian Pensijilan Barangan SIRIM QAS International Sdn. Bhd.
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SPAN

Ruj. Kami : SPAN/BPAI/300-10/213/A/W-2
Tarikh : 17 Mar 2023

PIPECO TANKS MALAYSIA SDN BHD
LOT 3, LORONG 2/1, SOLOK HISHAMUDDIN 1,
KAW PERUSAHAAN SELAT KELANG UTARA
PELABUHAN KLANG,
42000 KLANG
SELANGOR DARUL EHSAN

(U/P: ENCIK HASSAN BIN KASIM)

Tuan,

PERAKUAN PENYENARAIAN PEMBEKAL UNTUK PRODUK-PRODUK KEGUNAAN INDUSTRI PERKHIDMATAN AIR

Perkara di atas adalah dirujuk.

2. Sukacita dimaklumkan bahawa syarikat tuan telah disenaraikan sebagai pembekal produk-produk kegunaan industri perkhidmatan air seperti berikut:

					Maklumat Sijil Barangan		
Bil	**No Penyenaraian SPAN**	**Kegunaan**	**Produk**	**Jenama**	**No. Sijil**	**Standard**	**Tempoh Sah Laku**
1	SPAN/BPAI/300-10/213/A/W-2	Sistem Bekalan Air	STORAGE CISTERN / TANK - FRP WATER TANK - SECTIONAL	PIPECO	SIRIM PC001657 Pengilang: PIPECO TANKS MALAYSIA SDN BHD	MS 1390:2010	25 Feb 2024

3. Penyenaraian adalah **tertakluk sepenuhnya mengikut skop dan tempoh sahlaku sijil barangan** yang dikemukakan kepada SPAN. Penyenaraian ini juga tertakluk kepada syarat-syarat khusus yang telah ditetapkan seperti yang dinyatakan di dalam lampiran sekiranya ada.

4. Syarikat yang memasuki penyenaraian ini adalah **bertanggungjawab** untuk **memastikan bahawa sijil barangan adalah sah** *(valid)* pada sepanjang penyenaraian dan **mengemaskini maklumat sijil barangan** kepada SPAN setiap kali pembaharuan sijil dibuat atau sekiranya terdapat perubahan pada skop pensijilan.

Suruhanjaya Perkhidmatan Air Negara

Manufacturing Facility

Projects

APEX

Client Reference

PIPECO TANKS MALAYSIA SDN BHD,
APEX SANITECH AND TANK SOLUTIONS Pvt. Ltd.,
Second Floor, No. 10/25, 21st Street, Nehru Colony,
Nanganallur, Chennai - 600 114, Tamil Nadu, INDIA.

Contact : +91 44 43585224, +91 44 48517517,
+91 9840090294, +91 94442 95550

Visit : www.apextank.com , info@apextank.com

Chennai Bengaluru Hyderabad Mumbai Goa