

FINETANK[®] GRP

GRP Sectional Water Tank

Best Watertightness & Excellent Durability



H&L Global Group is specialized in manufacturing and supplying quality products and services in the field of Mechanical Engineering, Building and Construction. As an expert for global marketing, H&L Global Group manufactures GRP Sectional Water Tanks, Pumps, Water Treatment Systems and Building Materials through its sister companies. H&L Global Group is sincere faithful and professional. H&L Global Group always think customers as a priority.

Your best partner, **H&L Global Group**



GRP Sectional Water Tank factory with press moulding production and steel workshop has been running for over 10 years. Based on international standards quality products have been producing and supplying to private and government sectors.

Stable quality, on-time delivery, fast A/S and technical support are the ones we mostly value for customers satisfaction.

HISTORY

2001. 02 Establishment

2008. 06 Recognized as a Clean Workplace - by Occupational Safety Authority

2009. 10 ISO-9001 certified

2010. 05 Factory was relocated and expanded.

2010. 10 Made on agreement of supply in Nara Market, Public Procurement Service.

2012. 07 WRAS certified

2013. 01 PSB certified









FINETANK GRP

Best Watertightness & Excellent Durability

The SMC (Sheet Molding Compound) raw material is configured to pressuremolded panels (ceilings, floors, and walls) by molding; a water tank which is fully capable via using internal/external reinforcement and sealing tape with excellent recovery as well as basic functions of hygiene, watertightness, and durability.

Your best choice for water storage !

GRP-FINETANK comprises SMC panels; it features convenient capacity adjustment according to size and structure of buildings, apartments, and compound buildings, with particularly outstanding hygiene and durability. FINETANK enables storage of clean and fresh water.



FEATURES OF GRP-FINETANK

Design of Unrestricted Capacity

Easy installation depends on installation space and required capacity as well as dismantling and reassembly.

Quality

We pursue the system superiority via sophisticated interpretation of hygiene, durability, rigorous design criteria, quality management, and reliable structure strength. The basis of structure interpretation ensures safety design for tolerance value. The finest safety rating, considering design-external comparison expected based on property after a long-term use of SMC materials for over 15 years, is achieved through expertise of the GRP-FINETANK.

Excellent Insulation and Dewproofing retaining

The adiabatic function of materials is suitable for single-plate panels of buildings and apartments. Three-overlapping thermal panel boosts insulation effects so as to minimize the difference in temperature resulting from seasonal change.

Perfect Watertightness

Offers flawless watertightness through application of special sealing agent with excellent recovery.

Simple Workability

Standardized components allow on-site assembly and moving installation, expansion or transport to work sites with confined space.

Hygiene and Durability

Blocks external lighting completely, thereby preventing the proliferation of various germs and bacteria inside water tanks. Special coated materials are used inside the structure so as to prevent corrosion and rust; the external structure is resistant to corrosion because of hot-dipped galvanized treatment.

INSTALLATION CONDITIONS AND DESIGN STANDARD

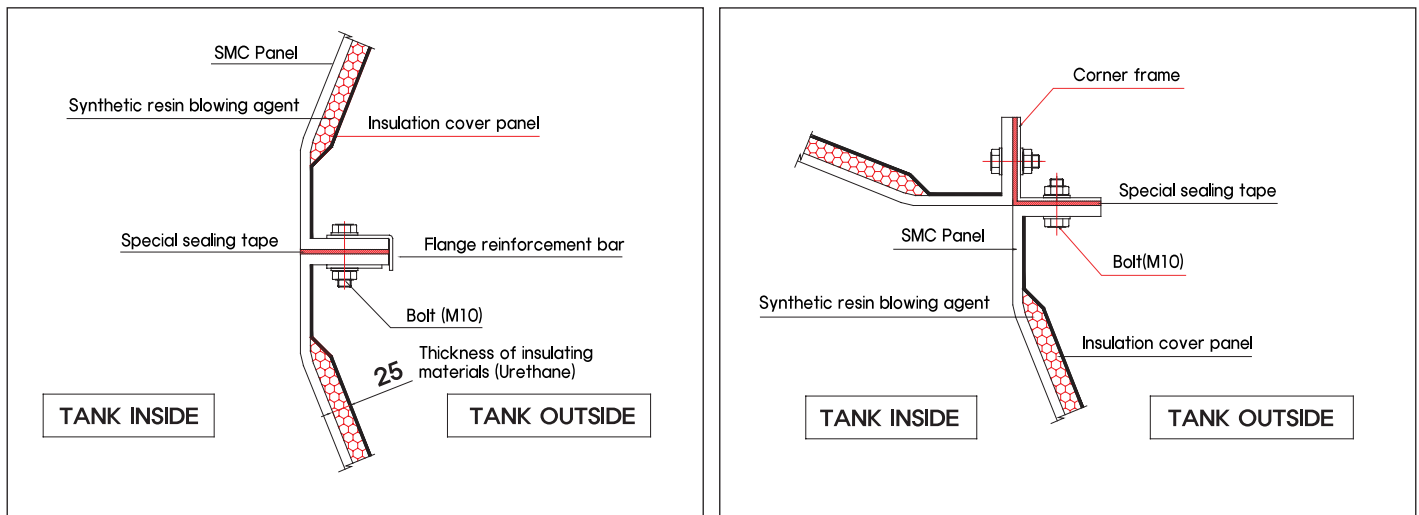
- **Resistance—seismic Coefficient** Design based on horizontal-seismic coefficient $k_h=1/3G$.
- **Resistance Hydrostatic Pressure** Design fully responsive to hydrostatic pressure; when flooded, the maximum strain of side walls is designed to be less than 1.0% of the total height of the water tank after 48-hours.
- **Wind Pressure Resistance** Designed to withstand maximum wind pressure of 50m/sec even when the tank is empty.
- **Outlet Strength** There is no water leakage and no defects in the outlet part even if 100kg load is applied vertically after 100A flange is attached to the side of a full tank with and support with 70cm span.



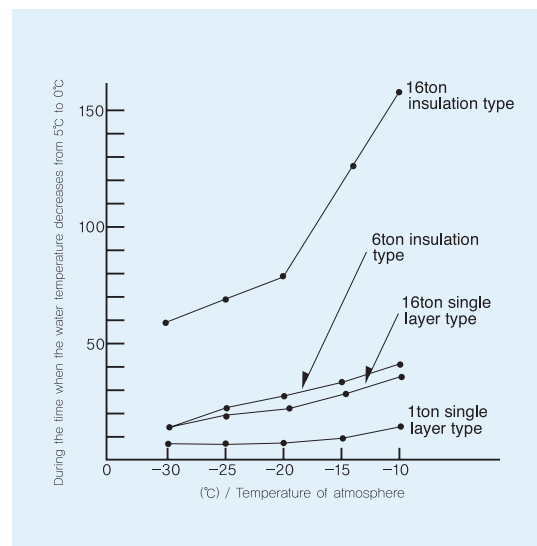
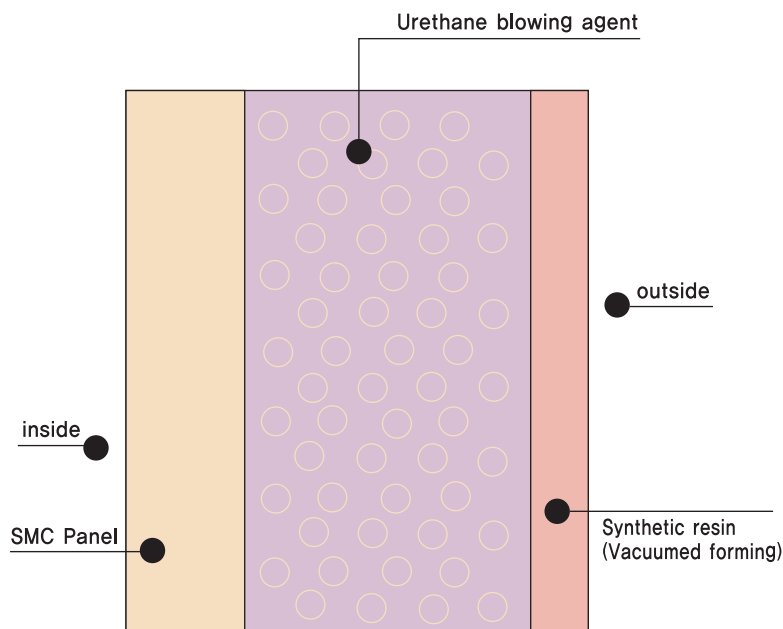
EXCELLENT HEAT INSULATION

GRP-FINETANK is....

SMC insulation panels utilize urethane blowing agent (25mm thickness) that has excellent insulating materials for single-structure panels; the exterior is made of sandwiched-structure panels using vacuumed-molded covers with special synthetic resin for high insulation.

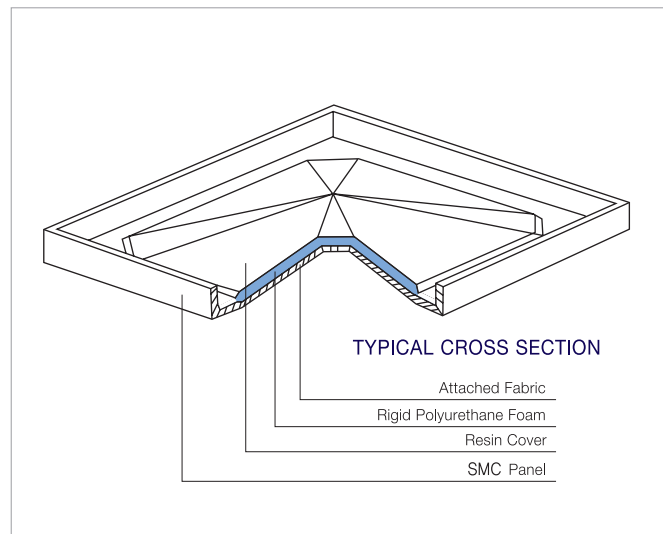
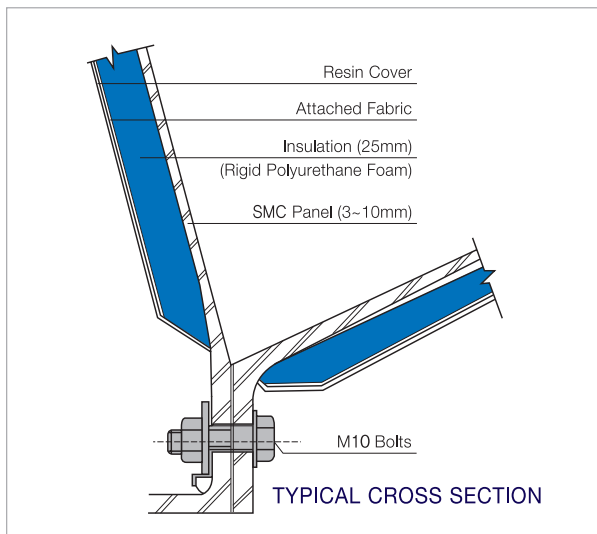


INSULATION PANEL SECTION

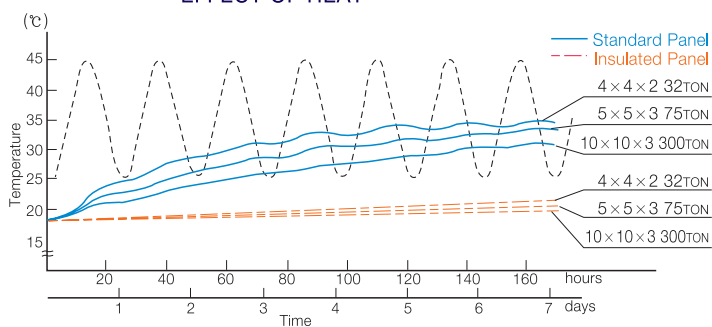


CAPACITY	CLASSIFICATION	TEMPERATURE OF ATMOSPHERE		
		-10	-20	-30
16 tons	Single Layer Type	35	20	13.5
	Insulation Type	164	81	58.5
1 tons	Single Layer Type	11	6	4
	Insulation Type	37.5	23	13.5

GRP-FINETANK - Panel



EFFECT OF HEAT



THERMAL CONDUCTIVITY

	Thermal Conductivity Kcal/m.hr°C (J/m.hr°C)
STEEL	37.0 (1.55*10 ⁻³)
SMC (Standard)	0.15 (630)
SMC (Insulated)	0.02 (84)



GRP-FINETANK - Partition System

Partition Tank

Outline

An affordable and convenient multi-purpose tank with easy maintenance. It can be installed in any location without spatial restriction. Install several partitions to have the effects of several water tanks even with just one tank.

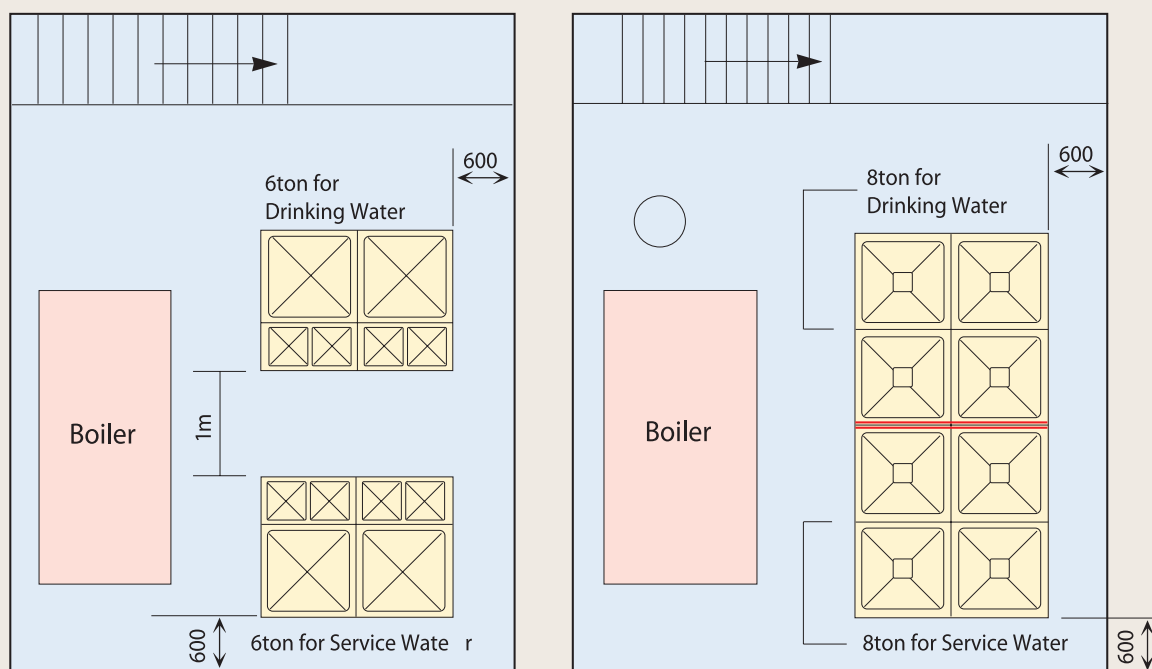
Product Features

1. Allows full capacity installation and optimal utilization of installation area at the same location.
Maximized utilization of restricted areas, such as basements or installation spaces.
2. Application Diversification
Partition installation allows water tank to be used for different purposes, namely for drinking water, living water, fire hydrant water, etc.
3. Convenient Maintenance
As a whole, maintenance is convenient as only one tank is used.
4. Cost-effective Installation
The overall cost decreases as construction cost is more affordable compared to two or more tanks

Drawings of Installation Cases

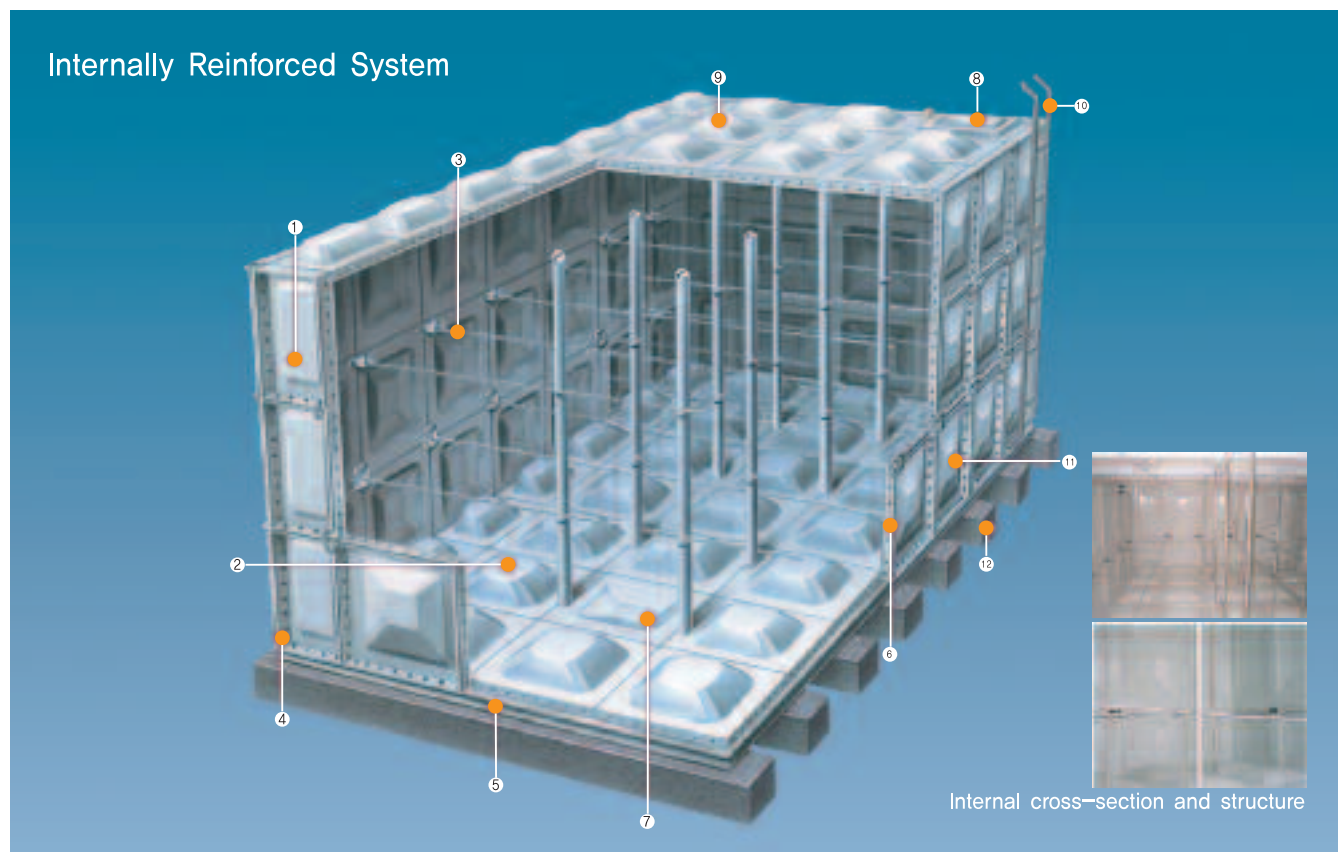
If tanks with different purposes should be installed in a basement boiler system where space is limited, install the partition-type as shown in the image, so as to divide a capacity of 16 tons to two 8 tons for drinking and service water. However, if installed separately, the middle 1m shall be left for maintenance in accordance with legal standards, which means you can install a 6-ton capacity only.

Partition Installation



GRP-FINETANK - Internally Reinforced System

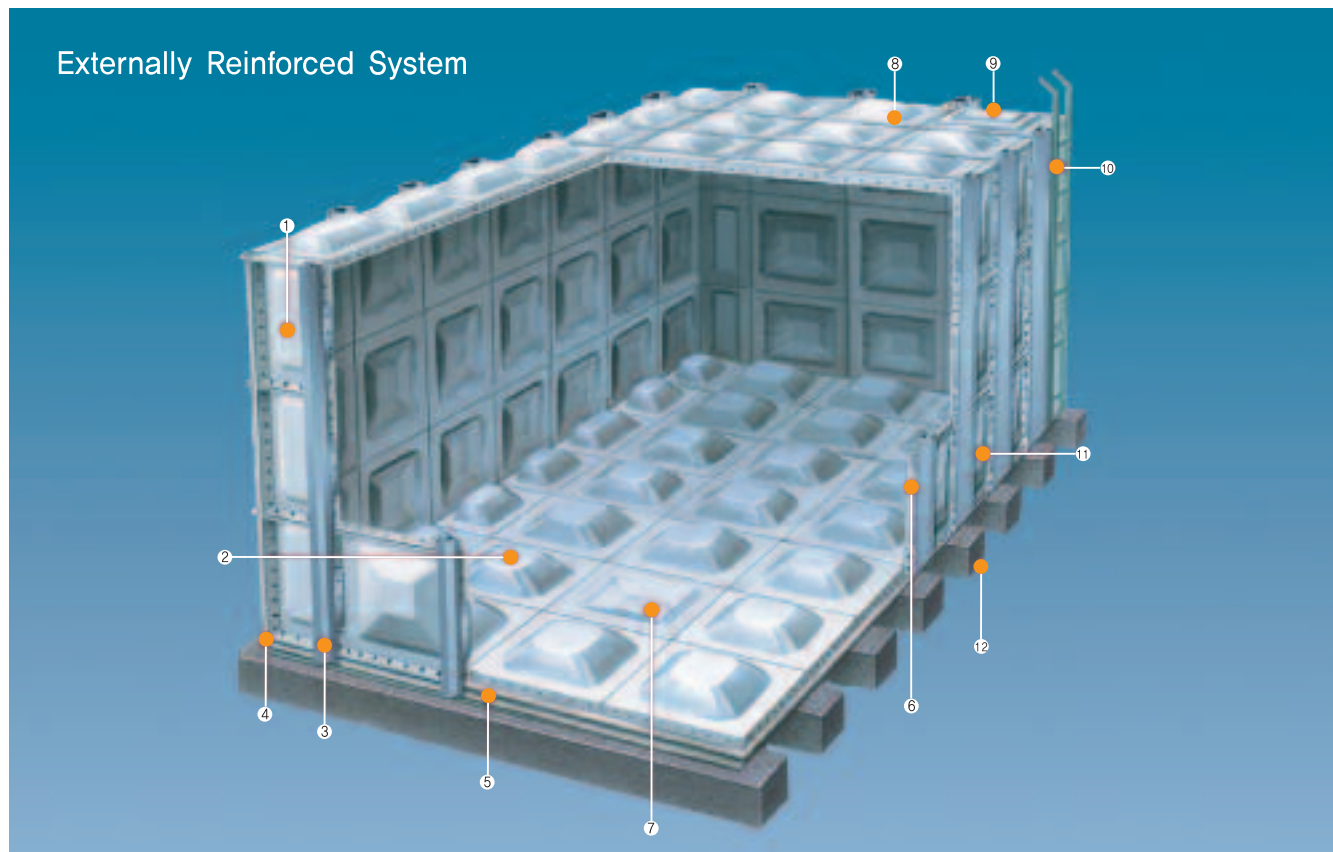
Prevents proliferation of various germs and allows strong corrosion resistance.
The interior panels are connected with stainless stay to secure the strength of the SMC water tank.



No.	Name	Material
1.	Side panel	SMC
2.	Bottom panel	SMC
3.	Internal reinforcement (Tie-rods and brackets)	Stainless steel 304 or 316
4.	Corner Frame	SS41(Galvanized Steel)
5.	Base frame	SS41(Galvanized Steel)
6.	Assembly bolt	Inside : Stainless steel 304 or 316 Outside : Galvanized steel (with or without rubber cap) Size : M10 / 12 / 14
7.	Drain panel	SMC
8.	Manhole panel	SMC
9.	Top panel	SMC
10.	External ladder	SS41 (Galvanized steel), Stainless steel 304 or 316)
11.	Side panel	SMC
12.	Foundation	Concrete plinth

GRP-FINETANK - Externally Reinforced System

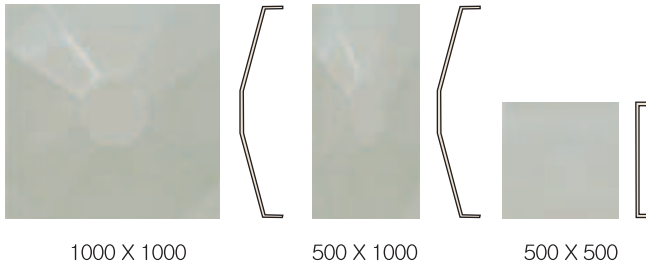
Prevents proliferation of various germs and allows strong corrosion resistance. Supported with externally reinforced frame and top fastened with angular or round bar stay, while the bottom is integrated via bolts using brackets for integrated connection.



No.	Name	Material
1.	Side panel	SMC
2.	Bottom panel	SMC
3.	External reinforcing frame	Stainless steel 304 or 316
4.	Corner Frame	SS41(Galvanized Steel)
5.	Base frame	SS41(Galvanized Steel)
6.	Assembly bolt	Inside : Stainless steel 304 or 316 Outside : Galvanized steel (with or without rubber cap) Size : M10 / 12 / 14
7.	Drain panel	SMC
8.	Manhole panel	SMC
9.	Top panel	SMC
10.	External ladder	SS41 (Galvanized steel), Stainless steel 304 or 316)
11.	Side panel	SMC
12.	Foundation	Concrete plinth

GRP-FINETANK - Panel Type and Size

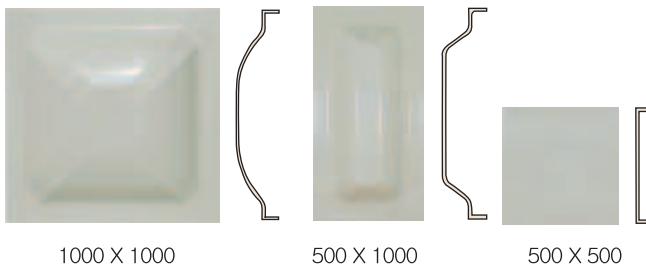
Top panel



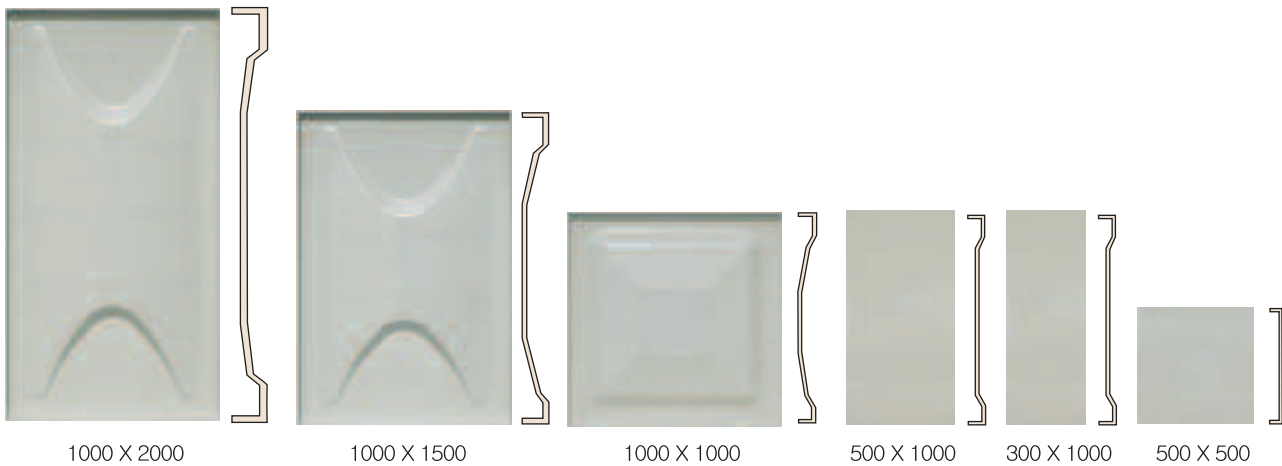
►► Type and Specification

GRP-FINETANK panels are pressure-formed with SMC press using mechanical strength, dimensional precision, heat and water resistance, offering strength, durability, and aesthetics; the rectangular-shaped manhole also ensures easy maintenance and cleaning.

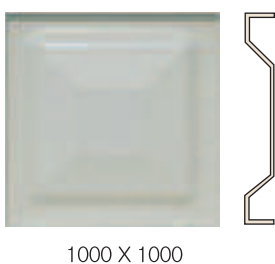
Bottom panel



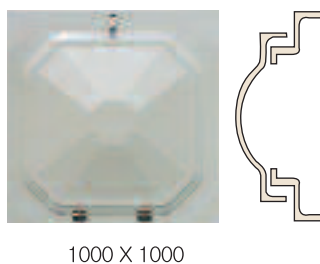
Side panel



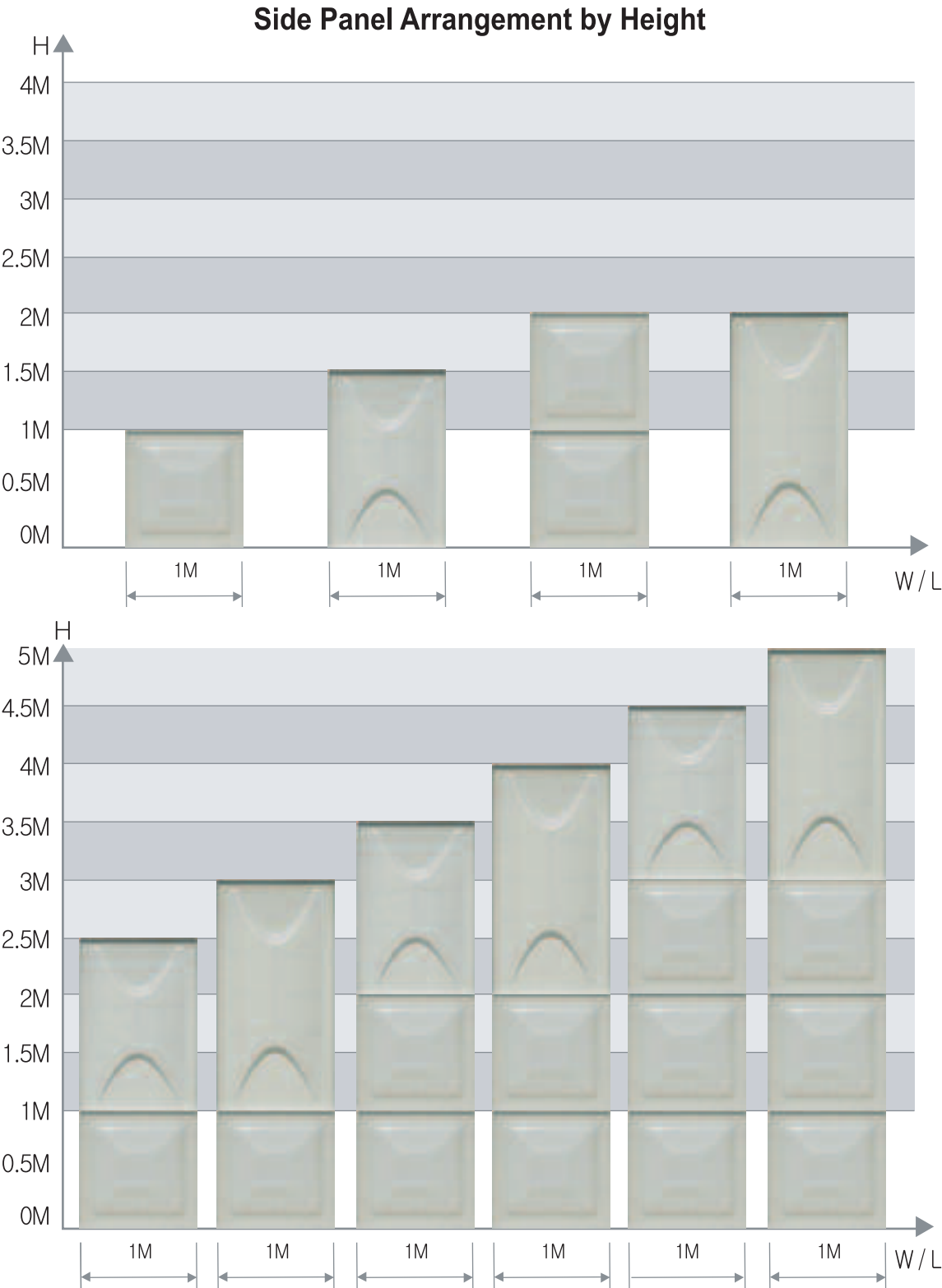
Drain panel



Manhole panel



GRP-FINETANK - Panel Composition



- [Note] 1. Different heights are available: 1.3H, 1.8H, 2.3H, 2.8H, 3.3H×3.8H, 4.3H, and 4.8H
(Components of the 300 1000 product are not specified.)
2. Product components can be varied depending on installation locations.

GRP-FINETANK - Work Area

Construction Scope

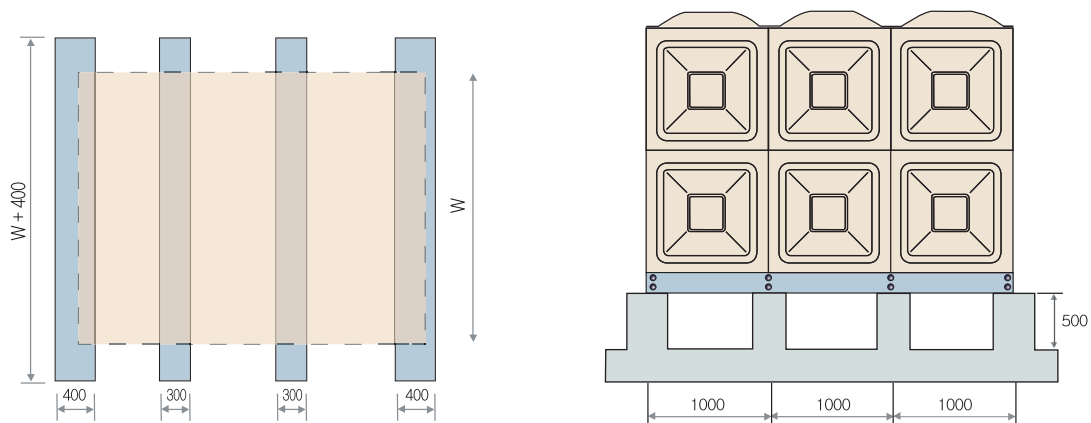
1. Foundation Work

Foundation work shall be carried out by the customer according to design specifications, considering the soil strength of tank basic bolt location. The concrete strength of the foundation shall have a capacity of 180kg/cm^2 or more. The top of the concrete foundation shall be plastered so as to maintain leveling and finished mortar under 20mm in thickness.

2. Piping Work

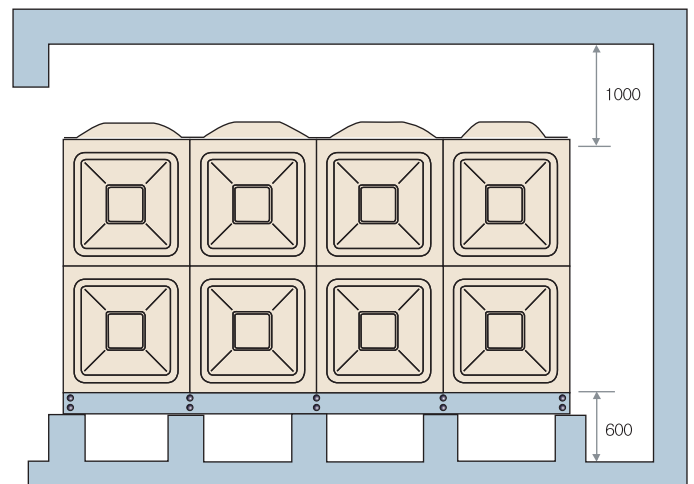
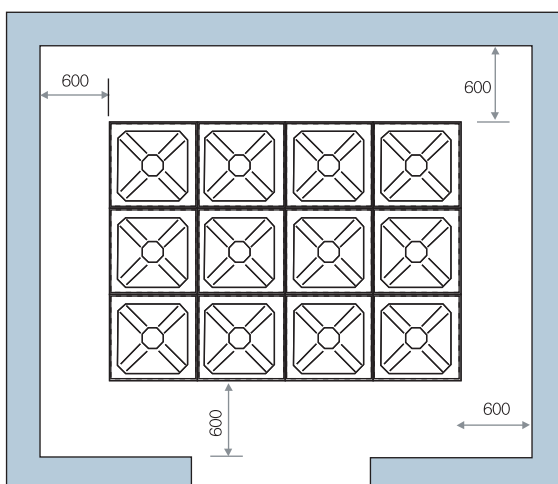
Customers shall decide inlet/outlet of water and socket dimension of drain when placing a tank order. The company assembles sockets (flanges) for piping only.

Customers shall carry out socket (flanges) connection for piping, piping work, as well as insulation. Please install a support to prevent excessive load to the diffuser during piping work; pipes on tanks shall be installed first.



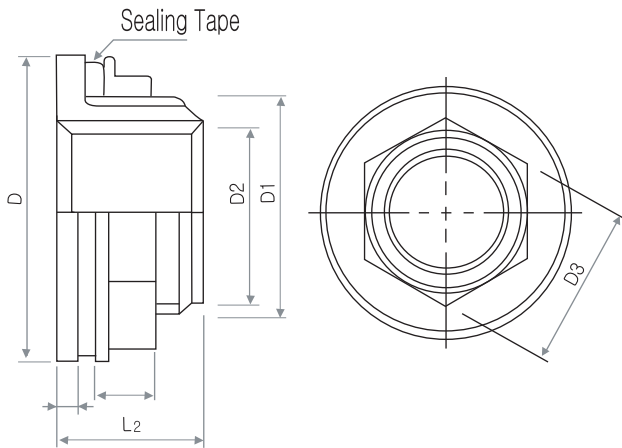
※ For Reference

1. Installation Space : About 600mm space in all directions is required as shown at the bottom image for maintenance and installation of tanks.
2. Regular Inspection : GRP-FINETANK is a water tank that stores living water; thus, we recommend two regular inspections per year.

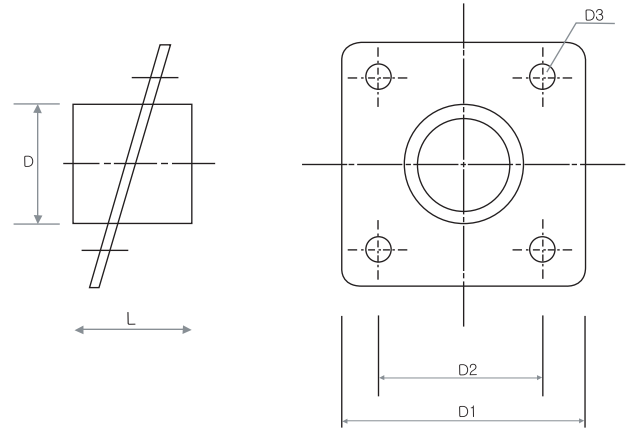


GRP-FINETANK - Fitting

1. Socket (red brass)

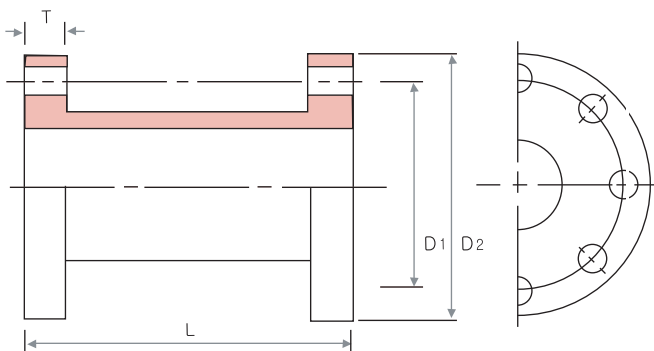


2. Inclined socket (SUS)

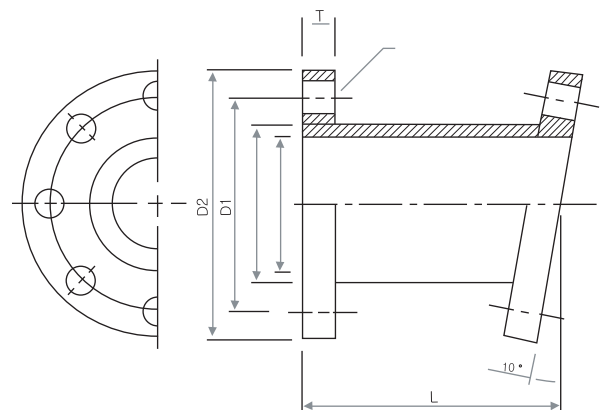


1	D	D1	D2	D3	L1	L2	T
20A	55	33.5	24.1	38	10	25	3.5
25A	65	40	30.3	46	12	30	4
30A	79	49	39	55	12	30	4
40A	85	55	45	61	14	30	4
50A	98	66.5	56.7	72	14	30	4
65A	120	84	72.2	93	16	50	6
75A	132	97	85	105	16	50	6
100A	170	120	110	127	18	40	7

3. Flange type (PVC,SMC)



4. Inclined flange type (PVC,SMC)



Nominal Specification	D 1	D 2	T	L
65A	140	175	18	150
80A	150	185	18	150
100A	175	210	20	150
125A	210	250	20	150
150A	240	280	20	150

Manufacturing Procedure of GRP Panels



Cutting SMC (Sheet Molding Compound),
the mixture of unsaturated polyester resin,
glass fiber, filler, mould release agent and catalyzer



Measuring Weight
The weight depends on the panel size and the panel
assembly position.



Placing Materials in Molds
Charge the molds with materials
(SMC and Glassfiber mat)
according to designed patterns.



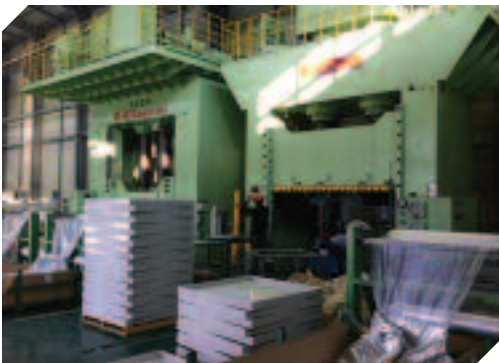
Press Molding
Press SMC with GF mat under high temperatures up
to 150 °C and high pressure of min. 500~1500 tons.



Ejecting Molded Panel
After certain period time of molding, take out the
molded panel from molds.



Trimming
Trim the rough edges of the panel.



Marking the Panel Grade
Stamp the panel grade so that the
panel assembly position is easily
recognized.



Drilling Bolting Holes
Depends of panel assembly position,
the bolting hole locations also vary.



Ready for Delivery
After piling the panels on pallet,
wrap with wrapping vinyl.



Completion of Installation
Assemble panels with steel
reinforcement members on site

Warranty

Supplier warrants that FINETANK fully complies with specifications agreed by each party and shall be free from defects under following terms and conditions.

Purchaser warrants and undertakes that it shall use the goods strictly in accordance with the technical documents of the supplier.

This warranty is not applicable to damage or failure that may occur as the result of incorrect or careless storage, incorrect or careless service, excessive duty or incorrect usage of the commodity, incorrect assembling, or non-observance by the purchaser.

This warranty is waived if

1. Damages are caused by natural disasters including (but not limited to) flood, fire, lightning, thunderbolt or landslide or by any other external circumstances such as building collapse.
2. In situations where the tank has been used to store anything other than normal temperature drinking water in excess of 40°C.
3. In situations where faulty concrete foundation (including, but not limited to, unlevelled or insufficient strength of the concrete) has caused damage.
 - ※ Manufacturer's recommendation ;
 - . Foundation concrete: must possess minimum compression strength of 180 kg/cm²
 - . The level differences in the foundation concrete, foundation frame, and bottom plate : 2mm or less.
 - . As for the foundation concrete and frame foundation, the degree of the horizon should be 1/500 mm or less.
 - (and the total or accumulated degree of the horizon should be 2mm or less)
4. In situations where the frame foundation is excessively deflected or lacks flexural strength, which leads to defects in the bottom panel.
 - ※ Manufacturer's recommendation ;
 - . The maximum amount of deflection for the frame foundation : L/500 up to a maximum of 5mm when the tank is full of water.
 - . Flexural strength : 1600 kg/cm² or more.
5. In situations where the tank is deformed due to concussion or compression damage.
6. In situations where there has been a structural change without supplier's approval (including arbitrary changes in internal or external components).
7. In situations where facilities, including pipes, which have been installed without fixtures, around the FINETANK have directly or indirectly applied loads to the tank.
8. In situations where failure to follow the cleaning guidelines has led to damage.
 - ※ Manufacturer's recommendation ;
 - . Cleaning frequency : Twice a year (this is required to check whether the re-filled water is of adequate quality)
 - . No rough sponges like "lufa" or any organic solvents (thinner or acetone) may be used for cleaning.
 - . No high-pressure jet washing is available.
9. In situations where the customer has not followed the "Management Instructions for GRP Water Tank Users".
10. In situations where the tank installation has not followed the stated standards suggested in the construction manual.





Water Treatment, Storage and more



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