GOODWIN GRP WATER TANK

Technology for Environment and Human Beings



GATE NO. : 151, STREET NO : 24, ZONE NO : 81, NEW INDUSTRIAL AREA, PO BOX : 13066, DOHA - STATE OF QATAR
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WRAS APPROVED MATERIAL

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VISION:

GOODWIN recognized as a leading player providing construction and services offering comprehensive solutions to the infrastructure development sector, connectivity requirements of businesses.

MISSION:

GOODWIN provides a continuum of diverse facility services that deliver outstanding value to each customer we serve.
We practice core values in work, giving our customers an experience of trust & customer advocacy that is unique in the business.
We seek to positively transform the built environment, serving customers in multiple industries and facility types.
Our conducts in all our business relationships are in a spirit of real partnership.
Embrace discipline in delivering our services to ensure consistency of performance and a passion to excel in an ever-changing environment.
Perform in all our markets, based on anticipating customer needs and responding with flexible facilities solutions, wherever and whenever we do business.
Embracing the principle that each employee is a resource that is to be continuously we developed. Provide a work environment in which all employees are treated with dignity, fairness and respect, and which balances the needs of our business with those of our employees and their families.
Learning what our customers think gives us the opportunity to build on successes and improve shortcomings.
What a client tells us in their survey drives the cycle of continuous improvement and yields immediate benefits in better understanding and customer service.

COMPETITIVE PRICE & QUALITY

- Until raw materials come out as finished products, there is one-stop at the prdduction lines.
- Best quality and price competitiveness through newest facilites and equipments.
- Productiion system that can produce uniform and superior products under strict quality control every process

MANUFACTURING

PRESS CAPACITY

500TON / 750TON / 1,300TON / 2,000TON PRESS

FEATURES & ADVANTAGES

Utilizing maximum capacity in the basement or other confined areas, it is possible to eliminate unusable space, and utilize the maximum space, by installing a partition type tank. Various uses if partition type tank are installed, one section can be used for drinking water, and the others section for service water (Fire-fighting). Easy maintenance it is convenient for maintenance, because two tanks can be installed as one unit.

SPECAIL FEATURES

Electric shock resistant High endurance capability against cracks resulting by environmental factors Withstand high temperature beside hygienic advantages Rust proof Protected with ultra-violet rays Less permeable to air to protect smells and contaminants from the outsideIt will not break down as quickly in sunlight and varied temperatures Naturally resistant to chemicals and gases keeping your drinking water quality safe & clean Reflective white colorAnti-bacterial coating Another clear advantage of GOODWIN tanks is that the flexible design options of GRP Panel tanks make them more easily adaptable to a wide variety of water and wastewater needs.

DURABILITY : Hot pressed moulded compound (SMC) at 150 C and 100 Kg pressure per cm² produce a uniform panel of solid homogenous constructionAverage serviceable life for panels in normal conditions without maintenance is ± 40 yearsTested for heavy impact, weather, loads, settling and earth quakes Safety factor of 8 x above maximum anticipated load Option of pre-insulated panels to avoid the risk of freezing

PREVENTION OF LEAKAGE : Convex base panels, with exclusive synthetic rubber sealant, create a self-sealing characteristic, which enhances as water pressure increases. Eliminates painting of the external tank surface, and zero maintenance Exclusive design of convex bottom panels with flexible rubber sealant is most effective against risk of leakage. Accessible from all sides including bottom for easy visual inspection

HYGIENIC: Safe for potable water storage, rustproof and fight Growth of bacteria. 100% hygienic inside and outside which does not harbor any foreign materials.

NO ALGAE or BACTERIA GROWTH : GRP panels are 100% opaque and do not permit any light transmission and thereby absolutely no growth of algae or bacteria.

LIGHT WEIGHT : Makes the installation and moving easier.

SOLID AND DURABLE : Quality of materials used in manufacturing the tanks makes them solid, unbreakable & anticorrosive.

PRESSURE RESISTANT : Water tanks have been manufactured to resist pressure.

PERFECT STRENGTH & DURABILITY : Designed to withstand the Horizontal seismic intensity to survive the specific oscillation frequency of the earthquake waves with the advantages of SMC (Sheet Molding Compound) Panels ,It is protected from corrosion and rust because stainless and special nylon#11 coated steel are used for the inside part. The outside metal structure is hot dip galvanized.

FIRE RESISTANCE : Products can be manufactured to different degree of fire resistance. BS 476 Part 7 Class 1 (surface spread of flame, all products). Due to the wide choice of panel and core materials available, products can be made to suit individual customer's needs.

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GOODWIN GRP WATER TANK



The body (The floor, walls, & ceiling) of our GRP water tank is made produced SMC by mixing unsaturated polyster resin with fillers and low profile agents the eco-friendly complex material reinforced with glassfiber, with the oil-hydraulic press at a high temperature over 150℃.
This water tank can be built right at the field only with the simple assembly of bolts. As it is highly sanitary and easily managed and maintained, it is one of the most widely used water tanks in the world including England, Japan & GCC.

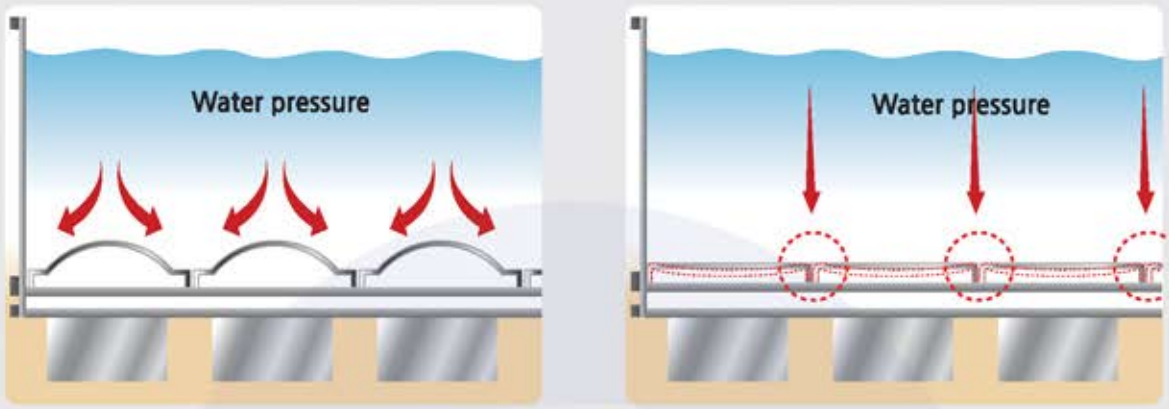
REMARKS ◎ excellent ○ good △ normal × wrong

ITEM	cleanliness	water tight	durability	construct ability	expansion	maintain
GRP WATER TANK	◎	◎	△	◎	○	◎
PDF WATER TANK	◎	△	△	△	△	×
WELDING TYPE WATER TANK STS.Steel	△	○	○	×	△	×
Panel type WATER TANK	△	△	○	×	○	×
FRP WATER TANK	×	○	×	○	×	×

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GOODWIN GRP WATER TANK-Safety of Floor Panel

The protruding floor panel is convex type because it helps to move water pressure, as the level of the water stored in the tank gets higher, the water beeswax of the sealing agent also used on the joints, which elevates watertightness to the maximum.



Convex Type

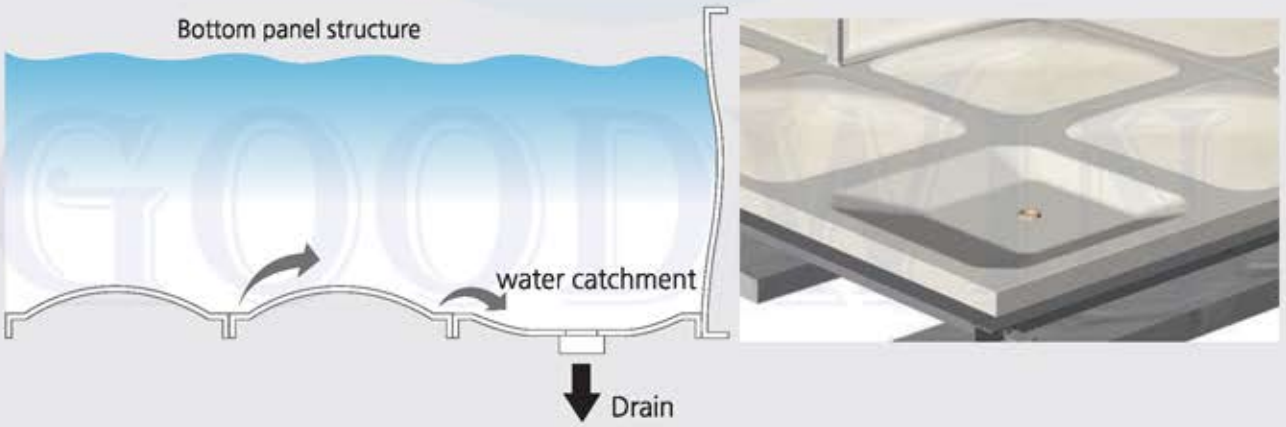
There is no risk for water leak because the floor panel of the GRP tank can be heightens water tightness to the maximum

Flat Type

The structure of the water tank made of flat floor panels that may loosen the joint has the risk of water leak as it broadens the intervals of water beeswax.

GOODWIN GRP WATER TANK- Drain System

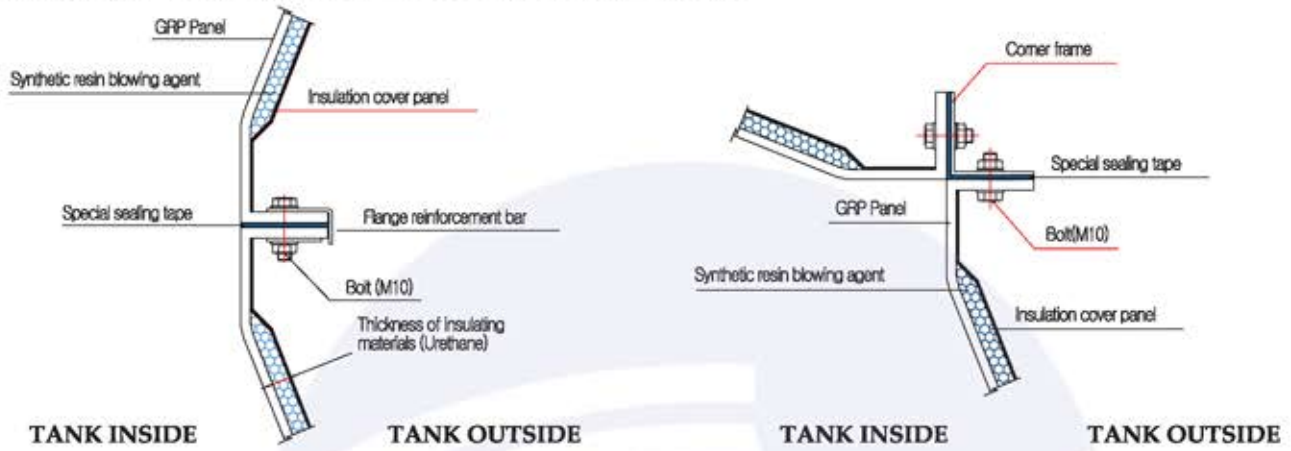
As it applies drain panels that collect water on the floor panels and discharge it, natural drainage can be realized.The structure of floor panels in the water tank Make natural water collect.



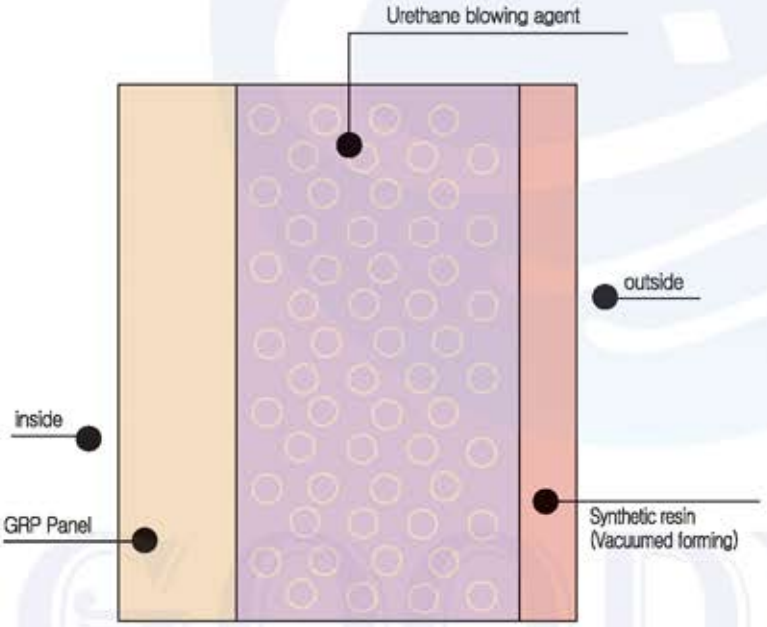
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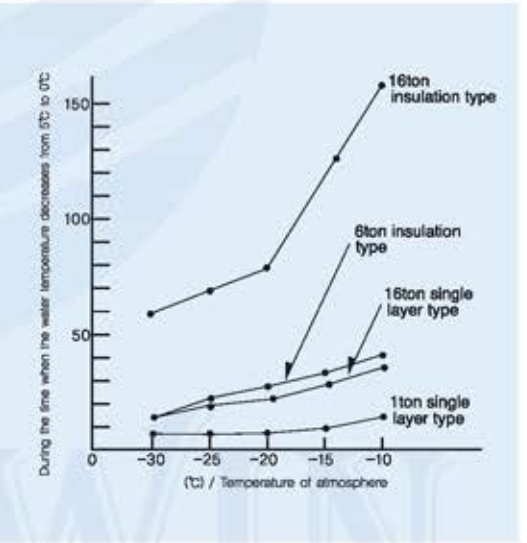
GOODWIN GRP WATER TANK- HEAT INSULATION

With GRP material excellent for heat insulation, urethane with 25mm thickness foamed in for heating and warming insulation covers will be attached appropriately for the external condition, The internal temperature of the water tank will not change even in extreme or tropical environment. Due to its excellent heating and insulation properties, There is no freezing or dew fomation.



INSULATION PANEL SECTION

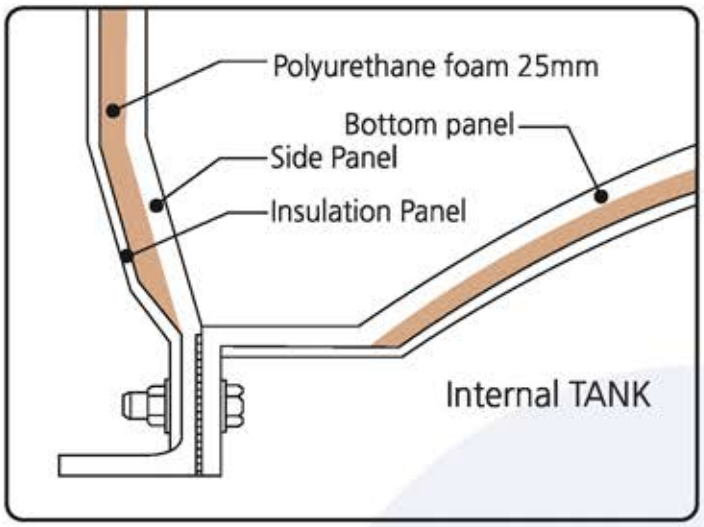


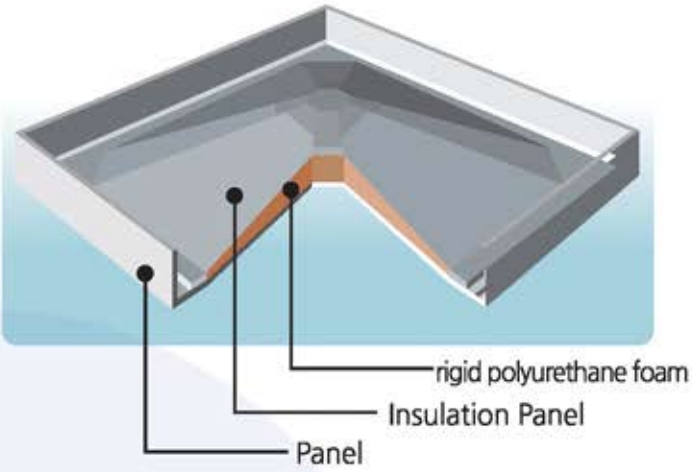


CAPACITY	CLASSIFICATION	TEMPERATURE OF ATMOSPHERE		
		-10	-20	-30
16 tons	Single Layer Type	35	20	13.5
	Insulation Type	164	81	58.5
1 tons	Single Layer Type	11	6	4
	Insulation Type	37.5	23	13.5

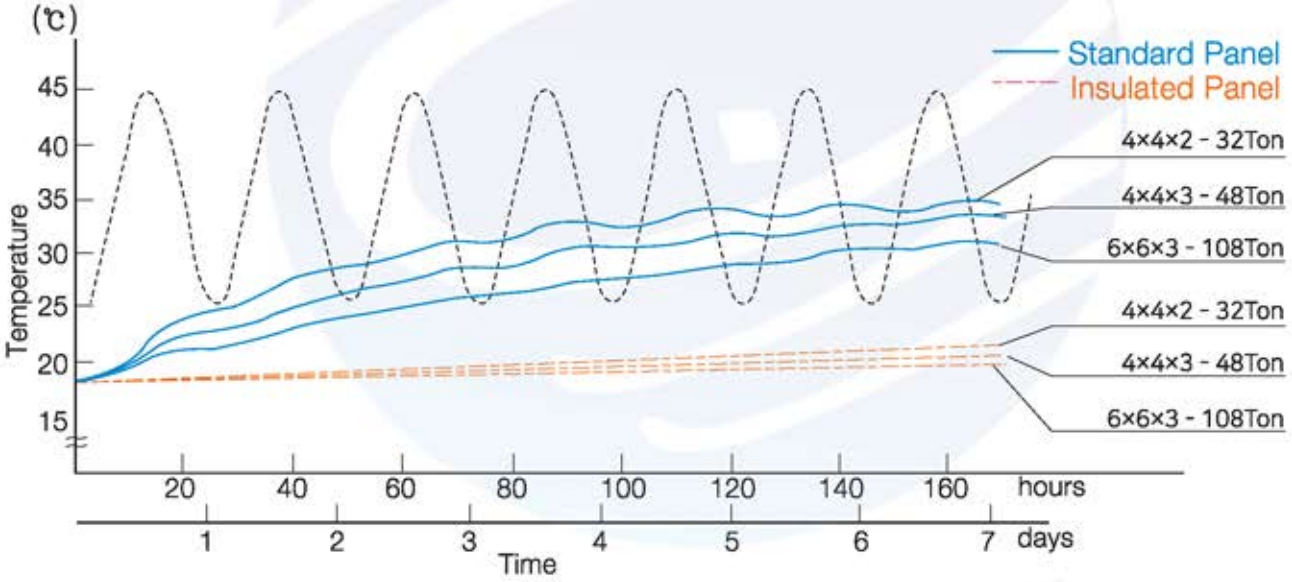
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GOODWIN GRP WATER TANK- Panel





EFFECT OF HEAT



THERMAL CONDUCTIVITY

	Thermal Conductivity Kcal/m.hr° C (J/m hr° C)
STEEL	37.0 (1.55*10^5)
GRP (Standard)	0.15 (630)
GRP (Insulated)	0.02 (84)

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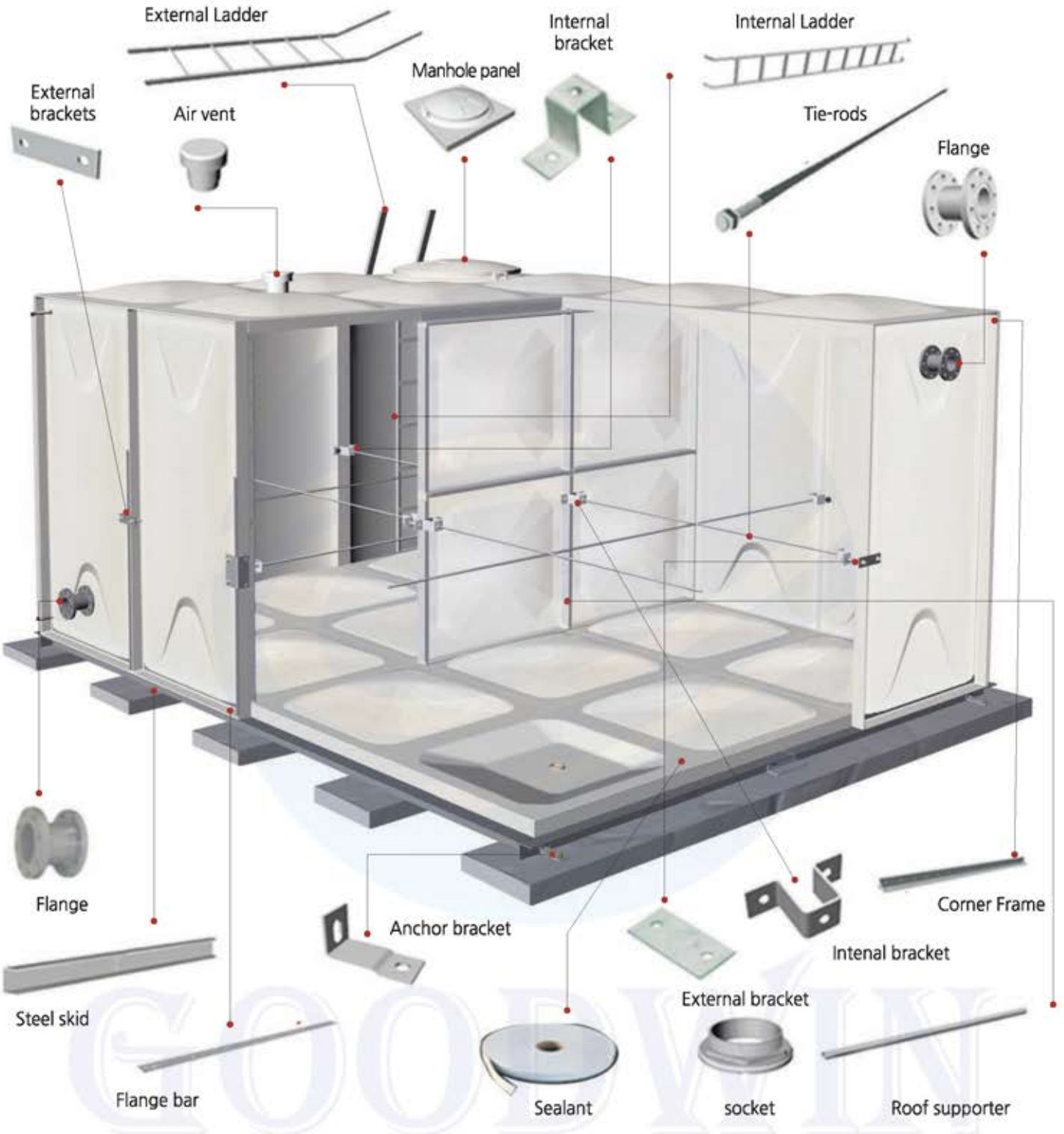
GOODWIN GRP WATER TANK- Panel Composition





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GOODWIN GRP WATER TANK-Subsidiary materials



※ Remarks

Above assembly pricture can be different Compare with actual assembly of water tank

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GOODWIN GRP WATER TANK- Panel Type and Size

Top panel



1000 X 1000 | 500 X 1000 | 500 X 500

Bottom panel



1000 X 1000 | 500 X 1000 | 500 X 500

Partition



1000 X 1000 | 500 X 1000

Side panel



1000 X 2000 | 1000 X 1500 | 1000 X 1000 | 500 X 1000 | 500 X 500

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GOODWIN GRP WATER TANK-Side Panel Arrangement by Height



[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.



Height 1M



Height 1.5M



Height 2M



Height 2.5M



Height 3M



Height 3.5M

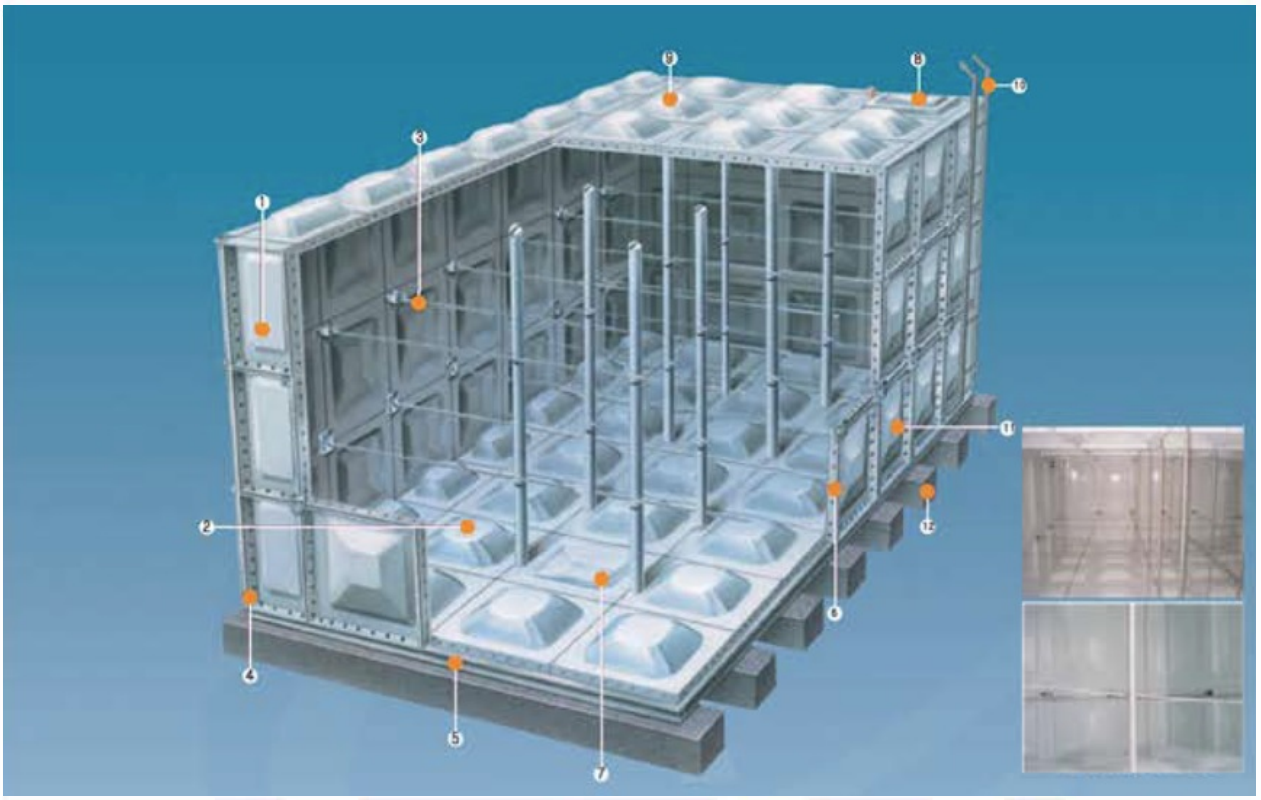


Height 4M

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GOODWIN GRP WATER TANK-Internally Reinforced System

It prevents the reproduction of germs and is highly corrosion-resistant.The panels inside the tank are connected with the STAY of stainless material, which allows this GRP water tank to obtain intensity.

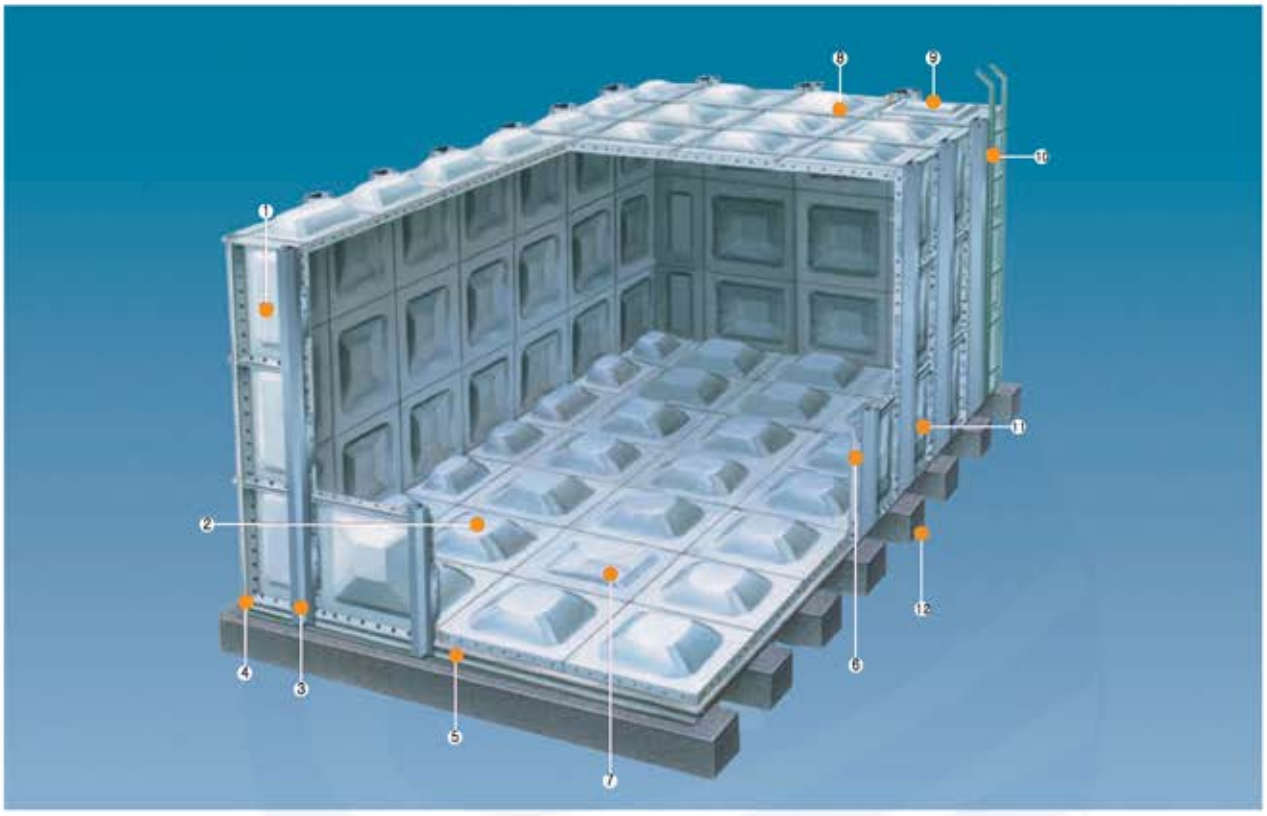


No.	Name	Material
1.	Side panel	GRP
2.	Bottom panel	GRP
3.	Internal reinforcement (Tie-rods and Brackets)	Stainless steel 304 & 316 (Available to accept pipe made by stainless steel for small and middle size tank)
4.	Corner Frame	SS41(Galvanized Steel)
5.	Base frame	SS41(Galvanized Steel)
6.	Assembly bolt	Inside : SUS304 & 316, Dacro Outside : Dacronized Steel Connection : Rubber Cap + Dacro Size : M10.12.14
7.	Drain panel	GRP
8.	Manhole panel	GRP
9.	Top panel	GRP
10.	External ladder	SS41(Galvanized Steel)
11.	Side panel	GRP
12.	Foundation	Concrete plinth

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GOODWIN GRP WATER TANK-Externally Reinforced System

It prevents the reproduction of germs and is highly corrosion-resistant.
It is supported by the external reinforcement FRAME vertically attached to the joint of the side panel.
The top is fixed with the angle and round bar STAY, and the bottom is combined and fixed integrally with brackets and bolts.

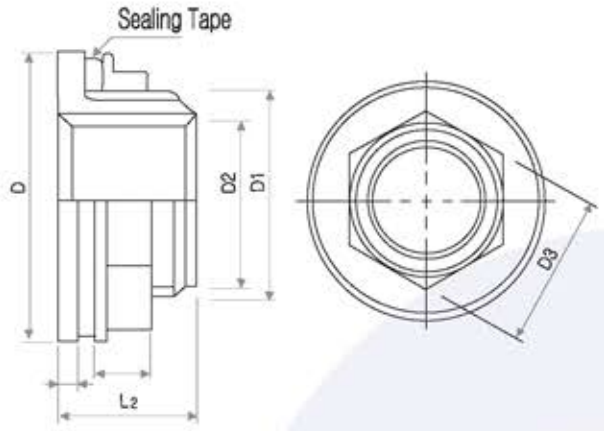


No.	Name	Material
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3.	Internal reinforcement (Tie-rods and brackets)	SS41(Galvanized Steel)
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5.	Base frame	SS41(Galvanized Steel)
6.	Assembly bolt	Inside : SUS304 & 316, Dacro , Outside : Dacronized Steel Connection : Rubber Cap + Dacro , Size : M10,12,14
7.	Drain panel	GRP
8.	Manhole panel	GRP
9.	Top panel	GRP
10.	External ladder	SS41(Galvanized Steel)
11.	Side panel	GRP
12.	Foundation	Concrete plinth

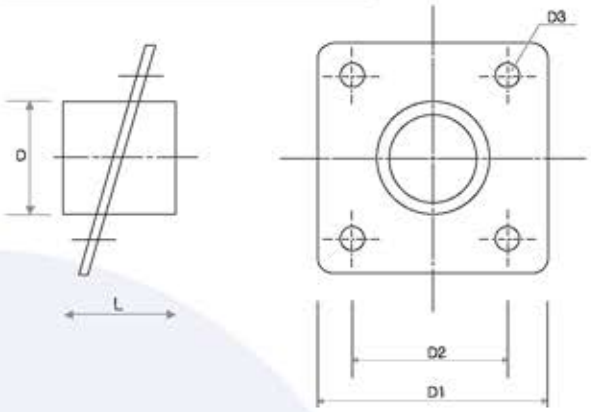
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GOODWIN GRP WATER TANK- Panel Fiitting

1. Socket (red brass)

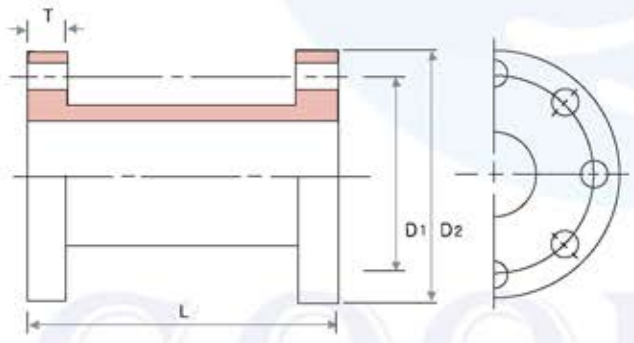


2. Inclined socket (SUS)

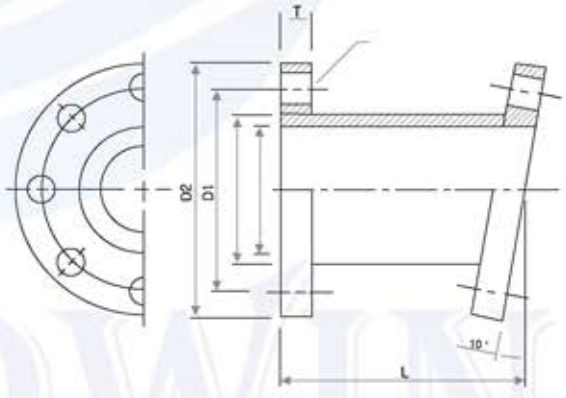


1	D	D1	D2	D3	L1	L2	T
20A	55	33.5	24.1	38	10	25	3.5
25A	65	40	30.3	46	12	30	4
30A	79	49	39	55	12	30	4
40A	85	55	45	61	14	30	4
50A	98	66.5	56.7	72	14	30	4
65A	120	84	72.2	93	16	50	6
75A	132	97	85	105	16	50	6
100A	170	120	110	127	18	40	7

3. Flange type (PVC,SMC)



4. Inclined flange type (PVC,SMC)

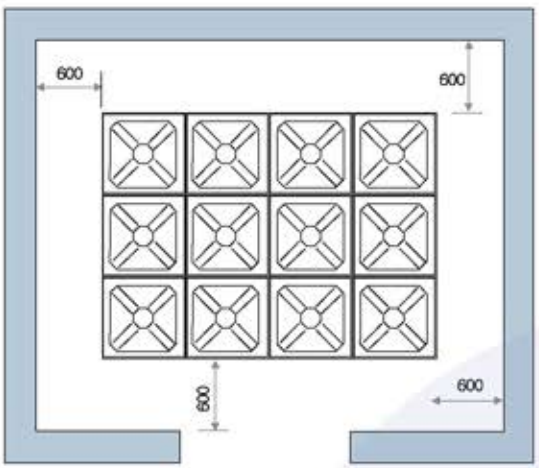


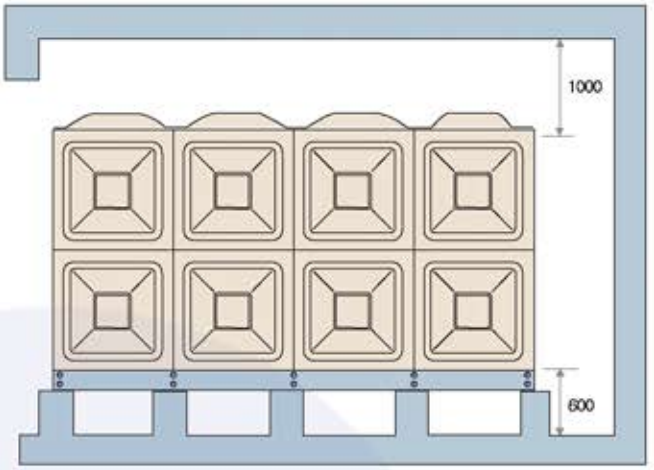
Nominal Specification	D 1	D 2	T	L
65A	140	175	18	150
80A	150	185	18	150
100A	175	210	20	150
125A	210	250	20	150
150A	240	280	20	150

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GOODWIN GRP WATER TANK- Partition System

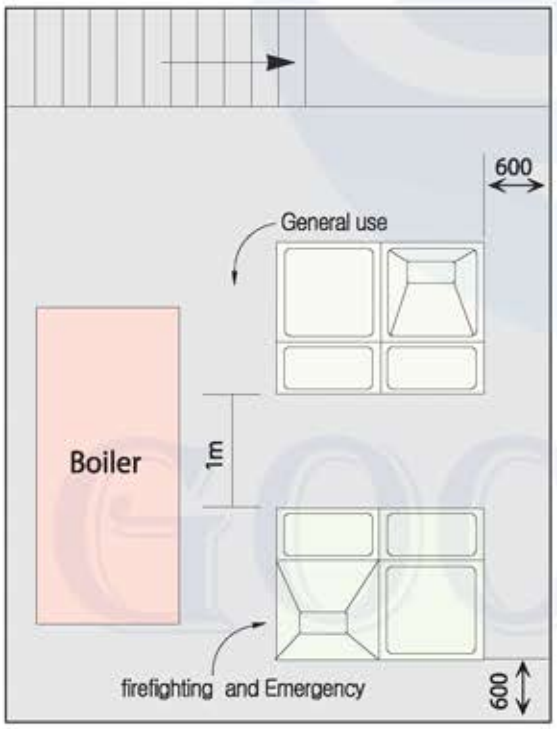
Installation Space : About 600mm space in all directions is required as shown at the bottom image for maintenance and installation of tanks.

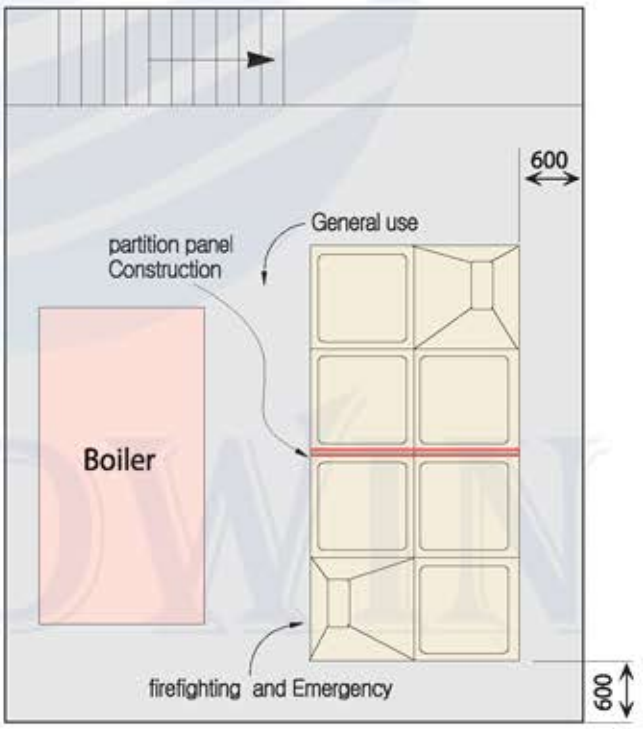




GOODWIN GRP WATER TANK - Partition Installation

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 and also bring easy maintenance.





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