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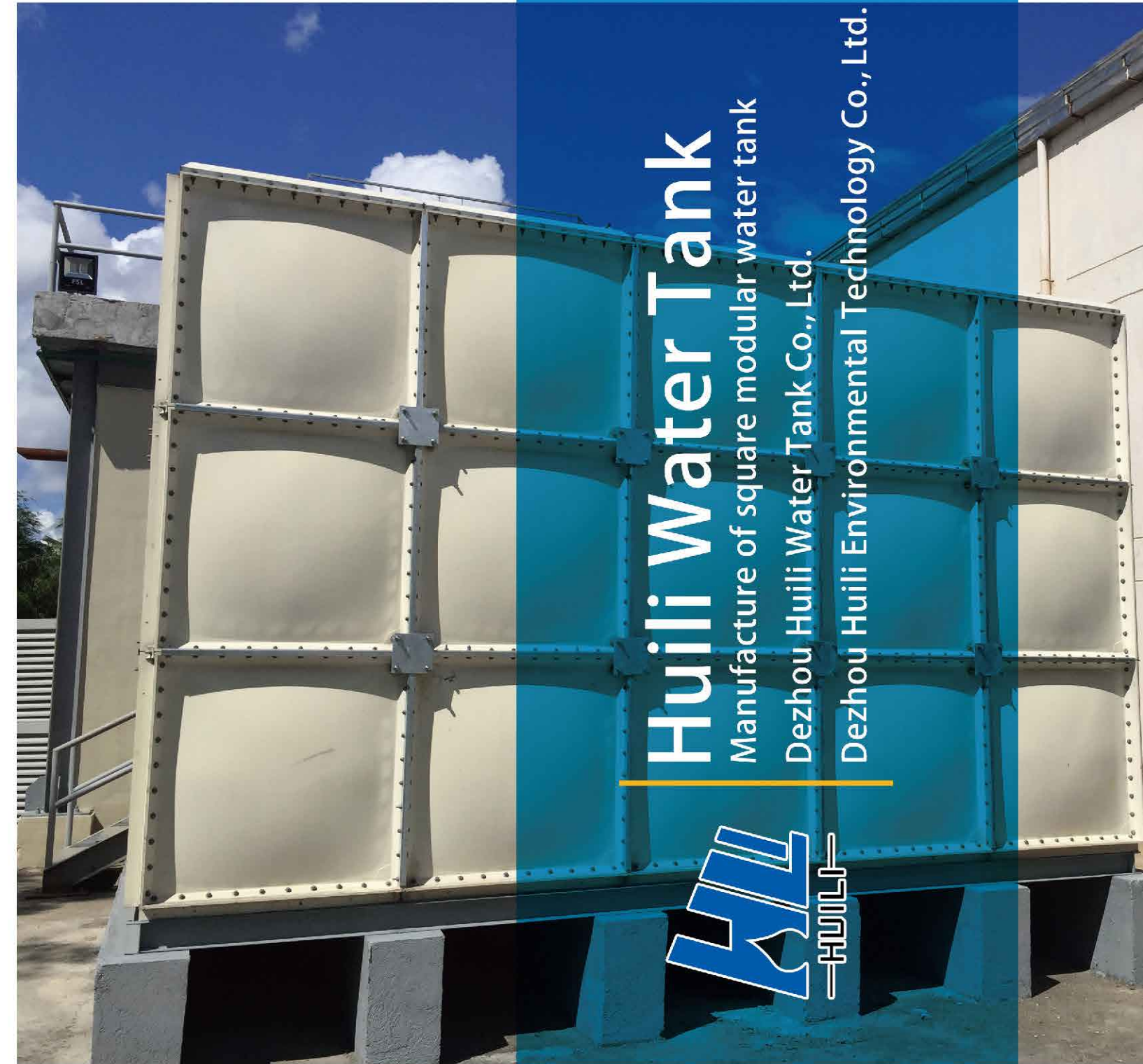
HUILI WATER TANK

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Huili Water Tank

Manufacture of square modular water tank

Dezhou Huili Water Tank Co., Ltd.

Dezhou Huili Environmental Technology Co., Ltd.





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The importance of water to human beings is self-evident, so it's a big issue to store clean water. HUILI's modular water tanks make a solution for this issue with easy installation and cost-effective.

CATAGORY

HUILI manufacturing 4 types modular water tank:

- a). **FRP** (Fiberglass Reinforced Plastic) as known as GRP (Glassfiber Reinforced Plastic)
- b). **Hot dipped galvanized steel**
- c). **Stainless steel** (Welding type and bolted type)
- d). **GSC** (Composite with Galvanized and Stainless steel)

- All tanks are combined by pre-fabricated panels.
- Except Stainless steel welding type, all other tanks are assembled by bolts and nuts.



CORRELATIVE FIELD

POTABLE WATER

Drinking water reserve for bungalow, apartment, condo...
Recommend material type a, c and d.

FIRE FIGHTING

Provide plenty of water for fire system.
Recommend material type a and b.

IRRIGATION

Reserve and bring water for agricultural irrigation.
Recommend material type a and b.

BREEDING

Reserve and bring water for feeding animals.
Recommend material type a and c.

WASTE WATER

Reserve animal waste water, industrial waste water...
Recommend material type a and b.

ETC...



Huili Water Tank

FRP/GRP Water tank





FRP/GRP panel's main raw material is resin and glass fiber roving. Using the hot press machine to manufacture different thickness of panel; its thickness is depends on the weight of raw material. FRP/GRP tank is most popular in Asia, MENA contries, America countries etc.

TECHNICAL DATA

PANELS

● MATERIAL

1. Food grade unsaturated polyester resin
2. Alkali free twist glass fiber roving
3. Thickener (MgO), initiator (curing agent), cross linking agent, etc.

● SIZE & WEIGHT

1. The size of FRP/GRP panel are produced by standard mould, having size 1*1m, 1*0.5m and 0.5*0.5m;
2. The panel thickness is depends on tank height;
3. The available highest height is 5 meters (Add external C channel or I-beam reinforcement for 4m and 5m height).

Size of panel	Weight of each panel								
	5#	8#	10#	12#	14#	16#	18#	20#	22#
1*1m	12kg	17.5kg	21kg	25kg	29kg	33kg	37kg	41kg	45kg
1*0.5m	7kg	9kg	11kg	13kg	15kg	17kg	19kg	21kg	23kg
0.5*0.5m	4.5kg	4.8kg	5.8kg	6.7kg	7.5kg	8.5kg	9.5kg	/	/

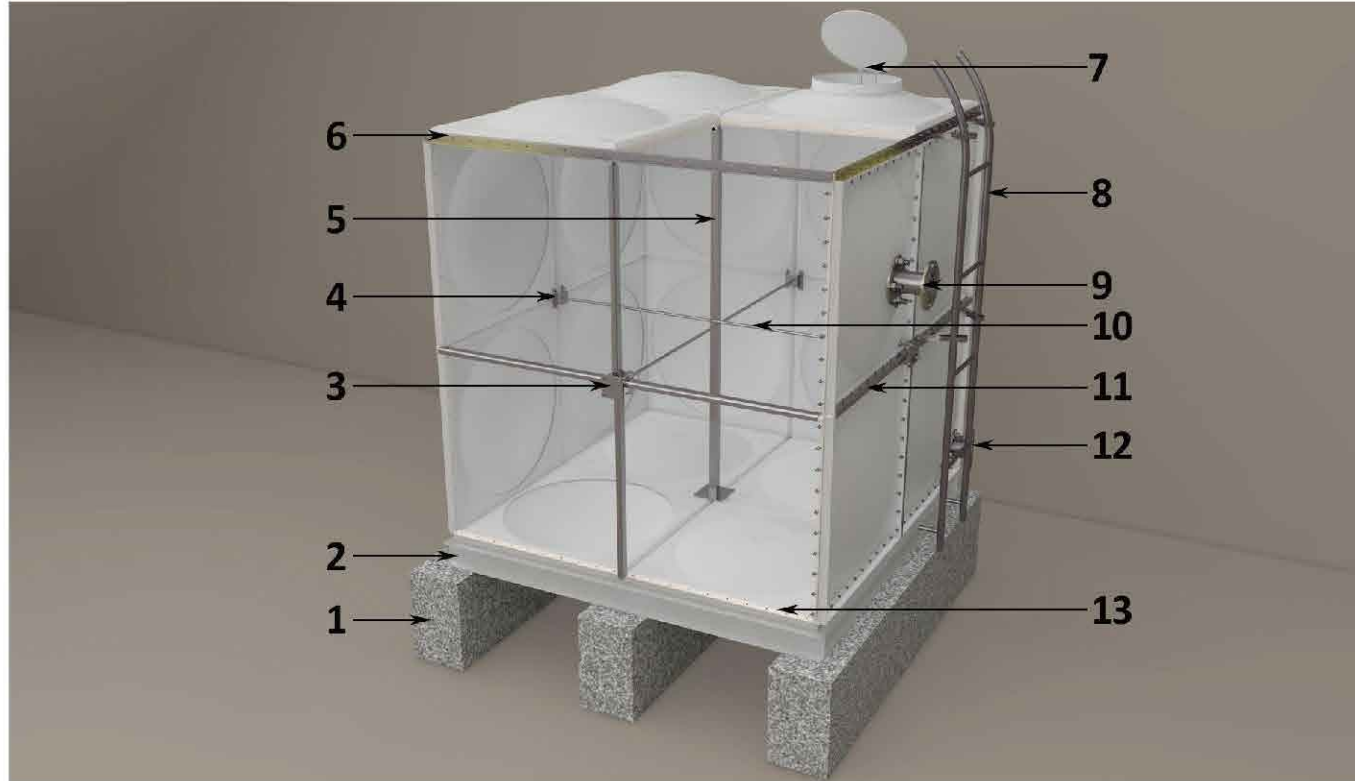
Tank Height (mm)	Thickness of each panel						Roof
	Bottom	1st layer	2nd layer	3rd layer	4th layer	5th layer	
1000	10#	10#	/	/	/	/	5#
1500	10#	10#	8#	/	/	/	
2000	12#	10#	8#	/	/	/	
2500	12#	12#	10#	8#	/	/	
3000	14#	14#	12#	8#	/	/	
3500	16#	14#	12#	10#	8#	/	
4000	18#	18#	14#	12#	10#	/	
4500	20#	18#	14#	12#	10#	8#	
5000	22#	20#	16#	12#	10#	8#	

● PHYSICAL PROPERTIES

Physical properties	Standard requirement	Result
Tensile strength	≥60 MPa	67 MPa
Bending strength	≥120 MPa	186 MPa
Bending modulus	≥10 GPa	12 GPa
Pap hardness	≥60HBa	64 HBa
Bibulous rate	≤0.5%	0.11%
Glassfiber content	≥25%	30%



ACCESSORIES



- | | | |
|------------------------|---------------------|------------------------|
| 1. Concrete beam | 2. C-channel base | 3. Outer tie rod plate |
| 4. Inner tie rod plate | 5. Vertical support | 6. Top angle bar |
| 7. Manhole | 8. External ladder | 9. Inlet flange |
| 10. Horizontal tie rod | 11. Side angle bar | 12. Outlet flange |
| 13. Sealing rubber | | |

●BOLTS & NUTS

1. Hot dipped galvanized
2. Stainless steel 304/316

●INTERNAL STRUCTURE

1. Hot dipped galvanized
2. Stainless steel 304/316

●SEALING RUBBER

1. Food grade white color EPDM
2. Silicone

●SKID BASE

1. Painting
2. Hot dipped galvanized

●FLANGES

1. Hot dipped galvanized
2. Stainless steel 304/316
3. PVC

●WATER INDICATOR

1. Glass with brass valve
2. Float type

ADVANTAGES

COST-EFFECTIVE

FRP/GRP is a kind of high-technological reinforced plastic. It has low cost and high performance, is a perfect substitute of metal tank.

RELIABLE QUALITY

Our FRP/GRP's raw material are all international famous brand. The life-span can be over 1/4 century.

DIMENSION FLEXIBILITY

The size of panel can be 1*1m, 1*0.5m and 0.5*0.5m, which can assembled kinds of volume from 0.125m³ to 5000m³. That's extremely convenient to select for you.

CONVENIENT INSTALLATION

Factory precast panel is easy to assemble and disassemble, the construction drawing, installation video, and a series of complete installation plan will be provided.

POTABILITY

FRP/GRP material has passed local *Water Quality Inspection* testing. Test result shows our FRP/GRP are suitable for potable water reserve. Roof panel adopt upward bulge to prevent rainwater remain on the top. Further prevent mosquito breeding and dirty water permeate inside the tank.





Huili Water Tank

Hot dipped galvanized steel water tank





HUILI steel water tank adopt Q235B carbon steel as substrate, pressed by advanced integrated molding technique. The pipe terminal will welded on the panel before surface treatment (hot dipped galvanizing/enamel coating).

TECHNICAL DATA

PANELS

● MATERIAL

1. Q235B raw material complying China GB/T 700-2006 standard;
2. Surface zinc layer 70μm thickness complying GB/T19001-2008 standard;
3. Surface treatment optional: Enamel coating.

● SIZE & WEIGHT

1. The size of steel panels are produced by standard with 1.22*1.22m, 1*1m, 1*0.5m and 0.5*0.5m;
2. The panel thickness is depends on tank height;
3. The maximum height available is 5 meters (Need add external reinforcement of I-beam for 5m height).

Panel dimension	Weight of each panel				
	2mm	2.5mm	3mm	4mm	5mm
1*1m	17.4kg	22.7kg	26.6kg	36.2kg	46kg
1*0.5m	9.5kg	12.5kg	14.6kg	19.9kg	25.2kg
0.5*0.5m	5.3kg	6.9kg	8kg	11kg	13.9kg
1.22*1.22m	/	33.6kg	39.3kg	53.7kg	68kg

Tank Height (mm)	Thickness of each panel						
	Bottom	1st layer	2nd layer	3rd layer	4th layer	5th layer	Roof
1000	3mm	3mm	/	/	/	/	2mm
1500	3mm	3mm	3mm	/	/	/	
2000	3mm	3mm	3mm	/	/	/	
2500	4mm	4mm	3mm	3mm	/	/	
3000	4mm	4mm	3mm	3mm	/	/	
3500	4mm	4mm	3mm	3mm	2.5mm	/	
4000	5mm	5mm	4mm	3mm	2.5mm	/	
4500	5mm	5mm	5mm	4mm	3mm	2.5mm	
5000	5mm	5mm	5mm	4mm	3mm	2.5mm	

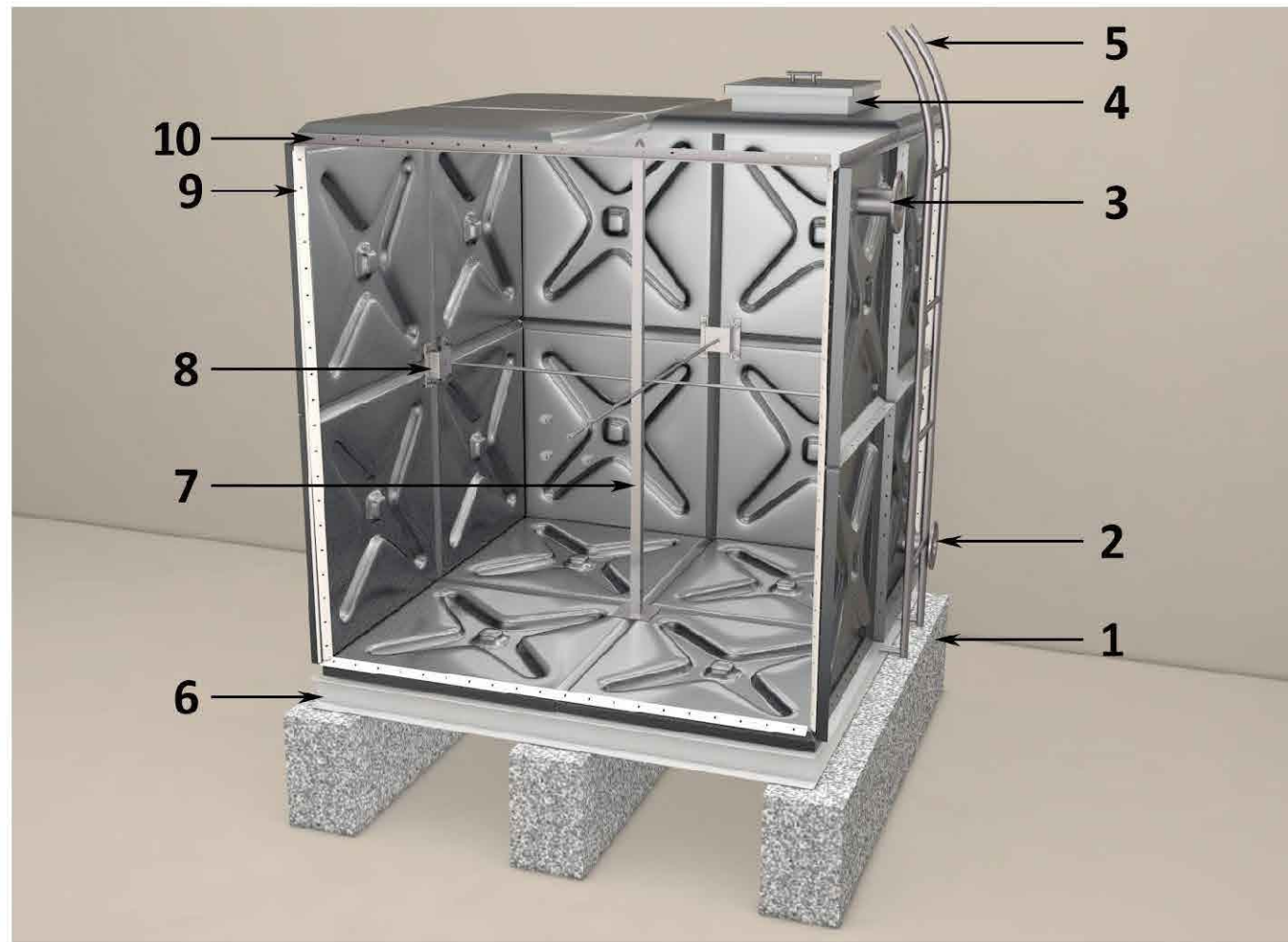
The standard tolerance of thickness is 0.25mm. For example, the actual thickness of 3mm is 2.75mm.

● PHYSICAL PROPERTIES

Physical properties	Standard requirement	Result
Tensile strength	≥350 MPa	509 MPa
Yield strength	≥220 MPa	414 MPa
Elongation	≥23 %	24%



ACCESSORIES



- | | | | |
|--------------------|-------------------|---------------------|------------|
| 1. Concrete beam | 2. Outlet flange | 3. Inlet flange | 4. Manhole |
| 5. External ladder | 6. C-channel | 7. Vertical support | |
| 8. Tie rod plate | 9. Sealing rubber | 10. Top angle bar | |

- **BOLTS & NUTS**
Hot dipped galvanized

- **SEALING RUBBER**
1. Food grade white color EPDM
2. Silicone

- **FLANGES**
Hot dipped galvanized

- **INTERNAL STRUCTURE**
Hot dipped galvanized

- **BASE FRAME**
1. Painting
2. Hot dipped galvanized

- **WATER INDICATOR**
1. Glass with brass valve
2. Float type

ADVANTAGES

ANTI-CORROSION

The thickness of zinc layer is 70 μ m equally, have superior anti-corrosion capability.

RELIABLE QUALITY

Our panel comply the standard of Singapore PSB, SGS, China QSB, etc. The life-span can be over 1/4 century.

DIMENSION FLEXIBILITY

The size of panel can be 1.22*1.22m, 1*1m, 1*0.5m and 0.5*0.5m, which can assemble kinds of volume from 0.125m³ to 5000m³. That's extremely convenient to select for you.

CONVENIENT INSTALLATION

Factory precast panel is easy to assemble and disassemble, the construction drawing, installation video, and a series of complete installation plan will be provided.

DURABLE

Using the 1000T hydraulic press integrated molding, no welding seam at panel corners.

BURY UNDERGROUND

All the HUILI steel material water tank can be bury underground, the thickness of inner structure and panels are thicker than normal tank.

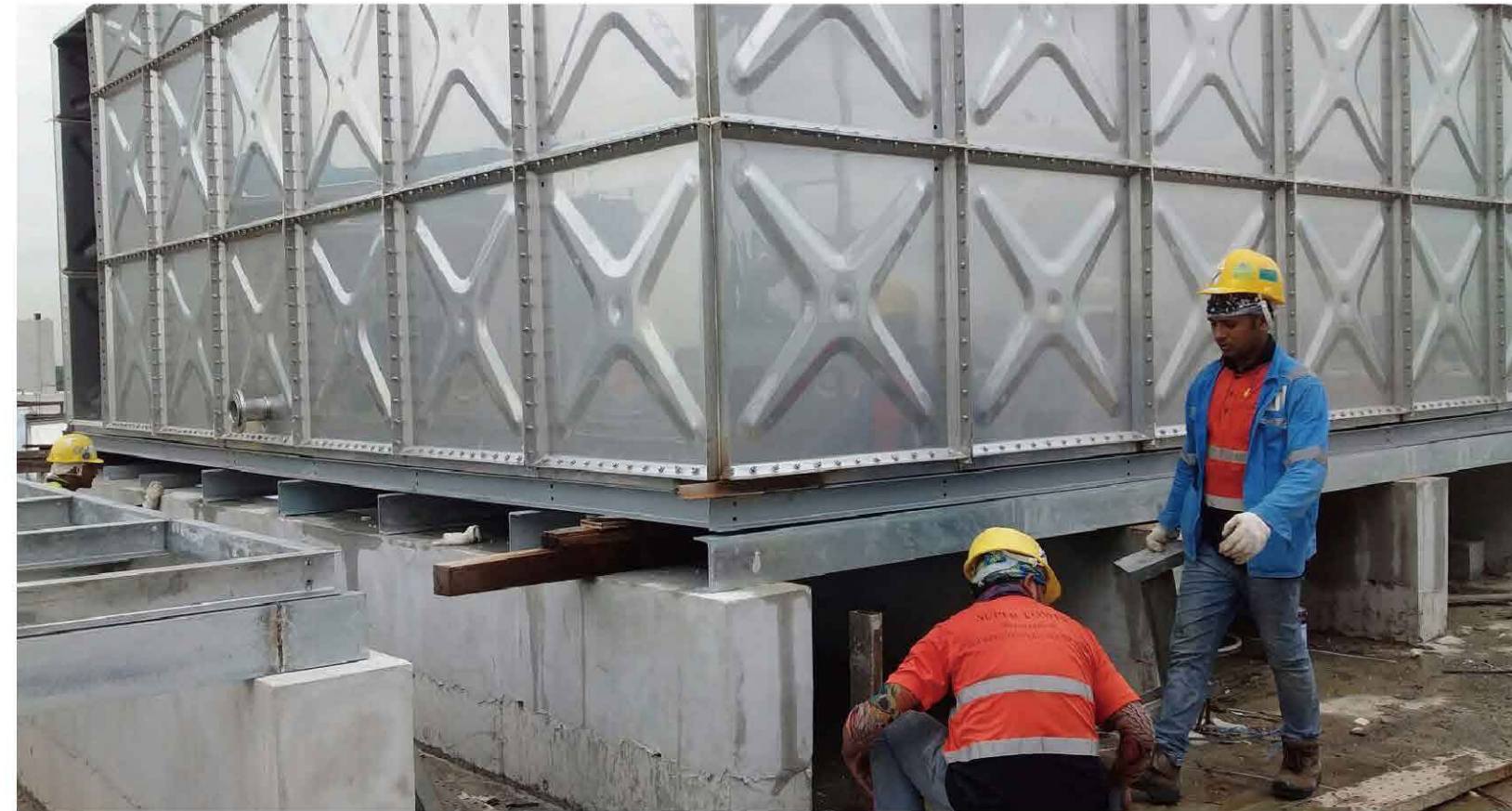


STAINLESS STEEL WATER TANK SERIES
(Welding & Bolted type)



Huili Water Tank

Stainless steel water tank (Welding & Bolted type)



Stainless steel water tank is the best material for water reserve. It has two connection types: argon arc welding & bolted. The appearance and structure of bolted type is same with hot dip galvanized water tank. Raw material can be SS304/2B and SS316L.

TECHNICAL DATA (WELDING TYPE)

PANELS

- SURFACE DESIGN
Rounded shape
- MATERIAL
 1. Food grade SS304/2B
 2. Food grade SS316L
- SIZE
 1. The size of stainless steel panels are produced by standard with 1*1m, 1*0.5m and 0.5*0.5m;
 2. The panel thickness is depends on tank height;
 3. The maximum height available is 6.5 meters (Need add C-channel external reinforcement if over 5.5m height).



PHYSICAL PROPERTIES

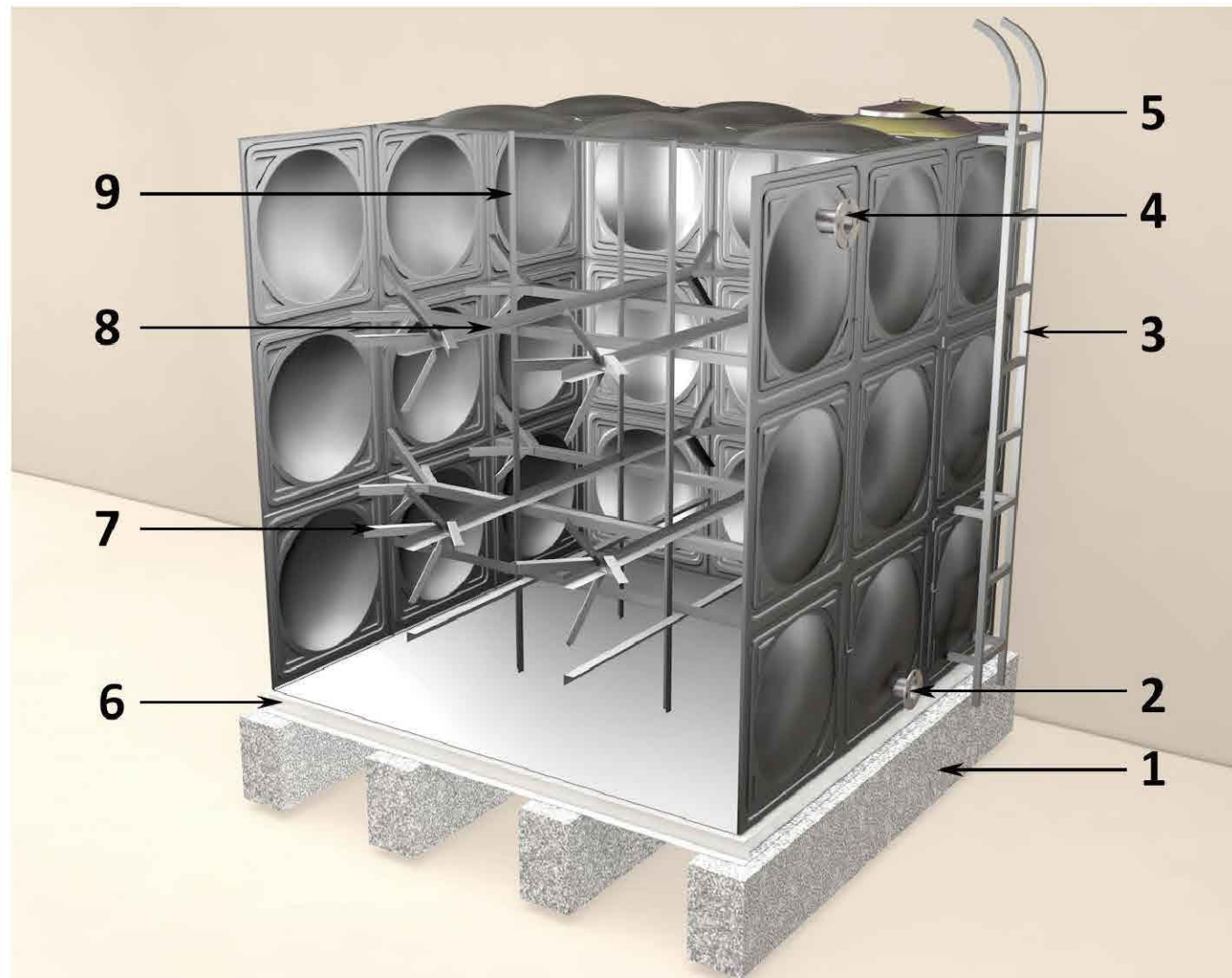
Physical properties	Standard requirement	Result
Tensile strength	≥515 MPa	695 MPa
Yield strength	≥205 MPa	309 MPa
Elongation	≥40 %	54%
Hardness	≤92HRBS	85HRBS

Tank Height (mm)	Thickness of each panel						
	Bottom	1st layer	2nd layer	3rd layer	4th layer	5th layer	Roof
1000	2.5mm	1.5mm	/	/	/	/	1.5 mm
1500	2.5mm	1.5mm	1.5mm	/	/	/	
2000	2.5mm	2mm	1.5mm	/	/	/	
2500	3mm	2.5mm	2mm	1.5mm	/	/	
3000	3mm	2.5mm	2mm	1.5mm	/	/	
3500	3mm	2.5mm	2.5mm	2mm	1.5mm	/	
4000	3mm	2.5mm	2.5mm	2mm	1.5mm	/	
4500	4mm	3mm	3mm	2.5mm	2mm	1.5mm	
5000	4mm	3mm	3mm	2.5mm	2mm	1.5mm	

The standard tolerance of thickness is 0.25mm. For example, the actual thickness of 3mm is 2.75mm.



ACCESSORIES



- | | | |
|----------------------|-----------------------|---------------------|
| 1. Concrete beam | 2. Outlet flange | 3. External ladder |
| 4. Inlet flange | 5. Manhole | 6. C-channel |
| 7. Oblique short bar | 8. Horizontal tie rod | 9. Vertical support |

●INTERNAL STRUCTURE SS304/2B or SS316

●BASE FRAME

- 1.Painting
- 2.Hot dipped galvanized

●LADDER SS304/2B or SS316

●FLANGES SS304/2B or SS316

TECHNICAL DATA(BOLTED TYPE)

PANELS

●SURFACE DESIGN

"X" shape

●MATERIAL

- 1.Food grade SS304/2B
- 2.Food grade SS316L

●SIZE

- 1.The size of stainless steel panel are produced by standard with 1.22*1.22m, 1*1m, 1*0.5m and 0.5*0.5m;
2. The panel thickness is depends on tank height;
- 3.The maximum height available is 5 meters (Need add I-beam external reinforcement if 5m height).



●PHYSICAL PROPERTIES

Physical properties	Standard requirement	Result
Tensile strength	≥515 MPa	695 MPa
Yield strength	≥205 MPa	309 MPa
Elongation	≥40 %	54%
Hardness	≤92HRBS	85HRBS

Tank Height (mm)	Thickness of each panel						Roof
	Bottom	1st layer	2nd layer	3rd layer	4th layer	5th layer	
1000	3mm	2.5mm	/	/	/	/	2mm
1500	3mm	2.5mm	2.5mm	/	/	/	
2000	3mm	3mm	2.5mm	/	/	/	
2500	3mm	3mm	3mm	2.5mm	/	/	
3000	3mm	3mm	3mm	2.5mm	/	/	
3500	4mm	4mm	3mm	2.5mm	2.5mm	/	
4000	4mm	4mm	3mm	3mm	2.5mm	/	
4500	5mm	4mm	3mm	3mm	2.5mm	2.5mm	
5000	5mm	4mm	3mm	3mm	2.5mm	2.5mm	

The standard tolerance of thickness is 0.25mm. For example, the actual thickness of 3mm is 2.75mm.



ADVANTAGES

ANTI-CORROSION

The raw material adopt pure stainless steel 304 or 316; it has excellent corrosion resistance.

POTABILITY

The stainless steel material can be implanted into the human body, it is very best healthy material for us.

RELIABLE QUALITY

Our raw material are all international famous brand. Tank life-span can be over 1/4 century.

DIMENSION FLEXIBILITY

The size of panel can be 1.22*1.22m, 1*1m, 1*0.5m and 0.5*0.5m, which can assembled kinds of volume from 0.125m³ to 5000m³. That's extremely convenient to select for you.

CONVENIENT INSTALLATION

Factory precast panel is easy to assemble and disassemble, the construction drawing, installation video, and a series of complete installation plan will be provided.

SAVE SPACE

For argon arc welding type, all the welding process are handle from inside the tank, so there's no need left space around of tank.





Huili Water Tank

GSC water tank





GSC water tank is latest product. This material combine advantages of galvanized steel water tank and stainless steel bolted water tank together: high strength, super anti-corrosion, reasonable price level, potable water storage. It is specially used for underground water reserve in Chinese market.

TECHNICAL DATA

PANELS

• Design

The full name of GSC is:

- G---Galvanized
- S---Stainless steel
- C---Composite

• MATERIAL

1. Inner layer: 0.4mm food grade stainless steel 304
2. Outer layer: Galvanized steel

• SIZE & WEIGHT

1. The size GSC panels are produced by standard with 1.22*1.22m, 1*1m, 1*0.5m and 0.5*0.5m;
2. The panel thickness is depends on tank height;
3. The maximum height available is 5 meters (Maximum 4 meters if for underground).

Size of panel	Weight of each panel					
	2mm	2.5mm	3mm	3.5mm	4mm	4.5mm
1*1m	19kg	24kg	29kg	34kg	39kg	43kg
1*0.5m	11kg	13.5kg	16.5kg	19kg	22kg	24kg
0.5*0.5m	6kg	7.5kg	9kg	10.5kg	12kg	13.5kg

Tank Height (mm)	Thickness of each panel					
	Bottom	1st layer	2nd layer	3rd layer	4th layer	Roof
1000	3mm	3mm	/	/	/	2mm
1500	3mm	3mm	3mm	/	/	
2000	3mm	3mm	3mm	/	/	
2500	4mm	4mm	3mm	3mm	/	
3000	4mm	4mm	3mm	3mm	/	
3500	4mm	4mm	3mm	3mm	2mm	
4000	4.5mm	4.5mm	4mm	3mm	2mm	

The standard tolerance of thickness is 0.25mm. For example, the actual thickness of 3mm is 2.75mm. If it used for underground, please seek advice from sales consultant.

• PHYSICAL PROPERTIES

Physical properties	Standard requirement	Result
Tensile strength	≥350 MPa	405 MPa
Yield strength	≥220 MPa	296 MPa
Elongation	≥23 %	24%



Inner layer



Outer layer

WATER TANK INSULATION (Additional)

Water tank insulation is the composite structure: an insulation layer and a protective layer stick together. The role of insulation is to maintain water temperature inside the tank; the protective layer is to protect insulation against external forces (impact, rain, wind) to maintain good insulation effect.



TECHNICAL DATA

INSULATION LAYER

Polyurethane is the most widely used and best insulation materials. Advantages include: better heat/cold preservation, durability, low water absorption, strong adhesion. According to water temperature, room temperature and the insulation effect required; the different thickness of insulation panel for selection: 50mm, 80mm, 100mm, 150mm. Thermal conductivity is 0.042w / k.m2.



PROTECTIVE LAYER

Protective layer and the insulation layer are bonded together to form a composite structure. External layer of insulation can protect against external force (impact, wind, rain) damage, to maintain good water tank insulation effect. The material of protective layer have following options:

● PAINTING STEEL PLATE

Cold-rolled steel sheet as the steel substrate, coated with organic coating. The color can be white or blue, both functional and beautiful. This material get popular use because of economic price. The thickness is 0.4mm.



● STAINLESS STEEL PLATE

This protective layer is austenitic stainless steel 304. The main elements is chromium and nickel composition, has very good corrosion resistance. Stainless steel plate suitable for all environments except in sea fog. The thickness range is 0.5mm -3mm.



● HOT DIPPED GALVANIZED PLATE

Hot dipped galvanized plate is a hot zinc layer attached to the surface of the high-Q235 steel plate. Surface treatment greatly improved the corrosion resistance of acid and alkali. The scope of application is wider than the painting steel plate. The thickness can be 0.5mm, 1mm, etc.



IMPROVEMENTS



Welding corners

Integral forming



Rainwater retention

Flat roof & good manhole



Black sealing rubber

White EPDM sealing rubber

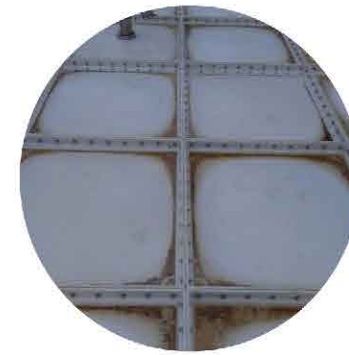


Black sealing block

Silicone sealing block



IMPROVEMENTS



Rainwater retention

Bulge shape



Rusted electro galvanizing

SS304 washer



Crude way

Silicone sealing



Single option

Multiple option



**Magnetic level indicator,
Float type indicator,
PMMA tube level indicator**

PACKAGE SOLUTION



TYPICAL TANK CAPACITY CHART

The nominal capacity is calculated by taking the internal dimensions of a tank filled to its maximum level. When mounting hydraulic accessories such as the water level indicator, it is necessary to leave a minimum height of 0.20m roof clearance.

The useable volume is estimated based on the following formula: $L \times W \times H - 0.20(m)$

Example of 1000x1000mm panel

Height (mm)	Length (mm)	Width (mm)	Pcs of panels	Volume (Liters)	Useable volume (Liters)
1000	1000	1000	6	1,000	800
	2000	1000	10	2,000	1,600
	3000	2000	22	6,000	4,800
	5000	3000	46	15,000	12,000
	5000	5000	70	25,000	20,000
	10000	5000	130	50,000	40,000
	10000	10000	240	100,000	80,000
2000	2000	2000	24	8,000	7,200
	3000	2000	32	12,000	10,800
	4000	2000	40	16,000	14,400
	5000	2000	48	20,000	18,000
	5000	5000	90	50,000	45,000
	10000	5000	160	100,000	90,000
	10000	10000	280	200,000	180,000
3000	3000	3000	54	27,000	25,200
	4000	3000	66	36,000	33,600
	5000	5000	110	75,000	70,000
	7000	5000	142	105,000	98,000
	10000	5000	190	150,000	140,000
	10000	10000	320	300,000	280,000
	20000	20000	1,040	1,200,000	1,120,000
4000	4000	4000	96	64,000	60,800
	5000	4000	112	80,000	76,000
	10000	5000	220	200,000	190,000
	10000	10000	360	400,000	380,000
	15000	10000	500	600,000	570,000
	15000	15000	690	900,000	855,000
	20000	20000	1,120	1,600,000	1,520,000

Note:

- 1).The chart showing are only typical size, the 1*0.5m and 0.5*0.5m panels can be provided to meet dimension requirement.
- 2).The accurate useable volume is depends on effective height.
- 3).The largest tank installed is 5000m³.
- 4).The maximum height of the tank is 5 metres, need to add C-channel/I-beam external reinforcement if 5 meters height.
- 5).For conversion to UK gallons is liter multiply by 0.22.