

AWE ENVIRONMENTAL SYSTEMS PTE LTD

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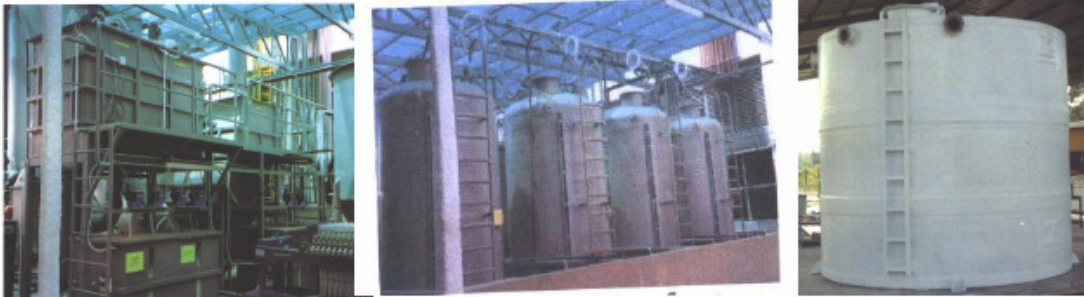


*AWE ENVIRONMENTAL SYSTEMS PTE LTD
(Fiberglass Tanks)*



FIBERGLASS CORROSION-RESISTANT STORAGE TANKS

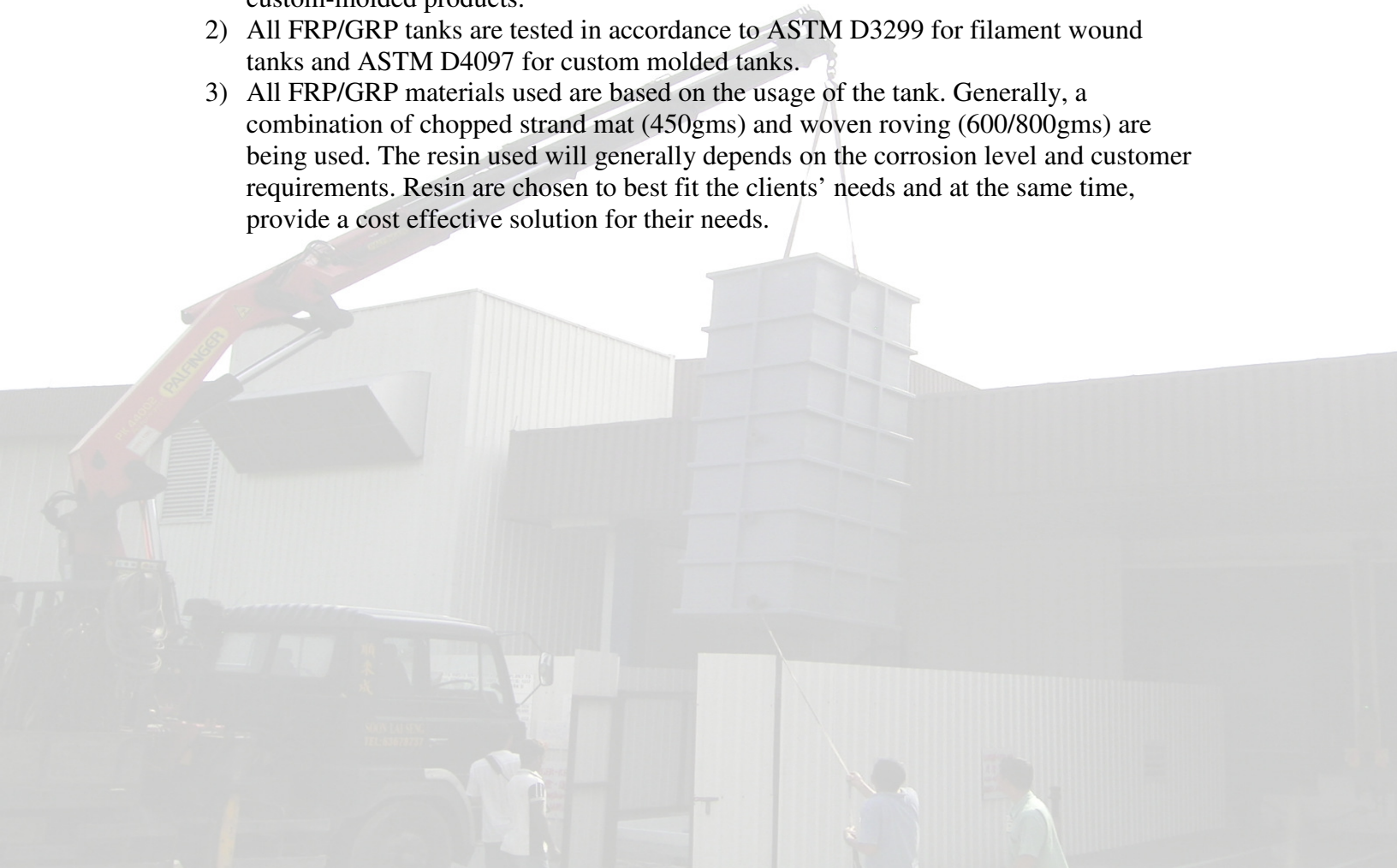
AWE has extensive experience in the manufacture of different shapes and sizes of FRP/GRP tanks to suit individual customers' needs.



FRP Chemical Tanks for Singapore, Hong Kong and Malaysia respectively

AWE's FRP/GRP tanks follows the following principals for manufacture :

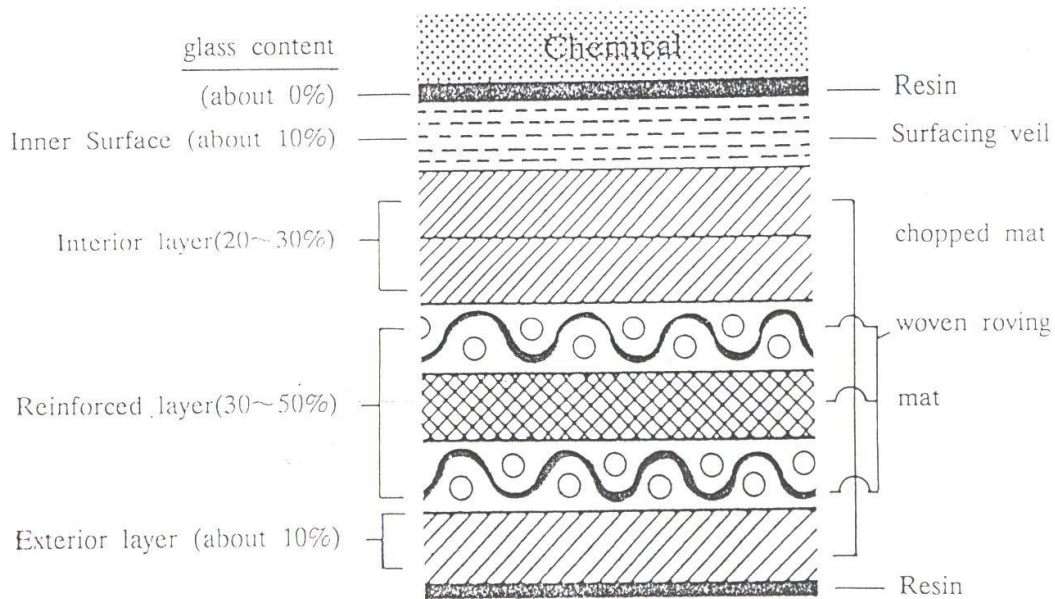
- 1) All FRP /GRP Tanks are designed and manufactured with the consideration of the usage of the tank, the surrounding environment as well as the type of chemical that the tank will come into contact with and the pressure that it needs to be able to withstand. All design is based on British Manufacturer's standard PS15-69 for custom-molded products.
- 2) All FRP/GRP tanks are tested in accordance to ASTM D3299 for filament wound tanks and ASTM D4097 for custom molded tanks.
- 3) All FRP/GRP materials used are based on the usage of the tank. Generally, a combination of chopped strand mat (450gms) and woven roving (600/800gms) are being used. The resin used will generally depends on the corrosion level and customer requirements. Resin are chosen to best fit the clients' needs and at the same time, provide a cost effective solution for their needs.



DESIGN CHARACTERISTICS

AWE's FRP/GRP Tanks are designed, constructed and tested with the following standards in mind.

a) Fabrication General Structure



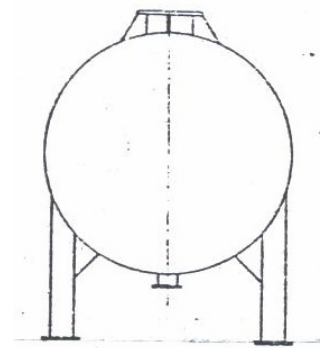
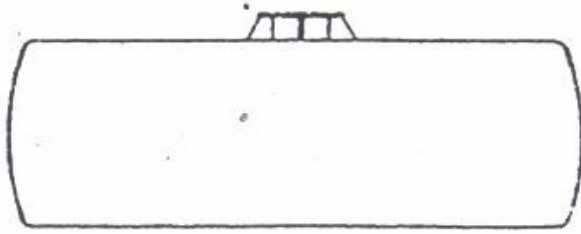
b) Fabrication Standard

Description	Standard
Barcol Hardness	ASTM D-2583
Tensile Strength, psi	ASTM D-638
Tensile Modulus, psi x 10	ASTM D-638
Tensile Elongation, %	ASTM D-638
Flexural Strength, psi	ASTM D-790
Flexural Modulus, psi x 10	ASTM D-790
Heat Distortion Temperature	ASTM D-648
Corrosion Resistance	ASTM C-581

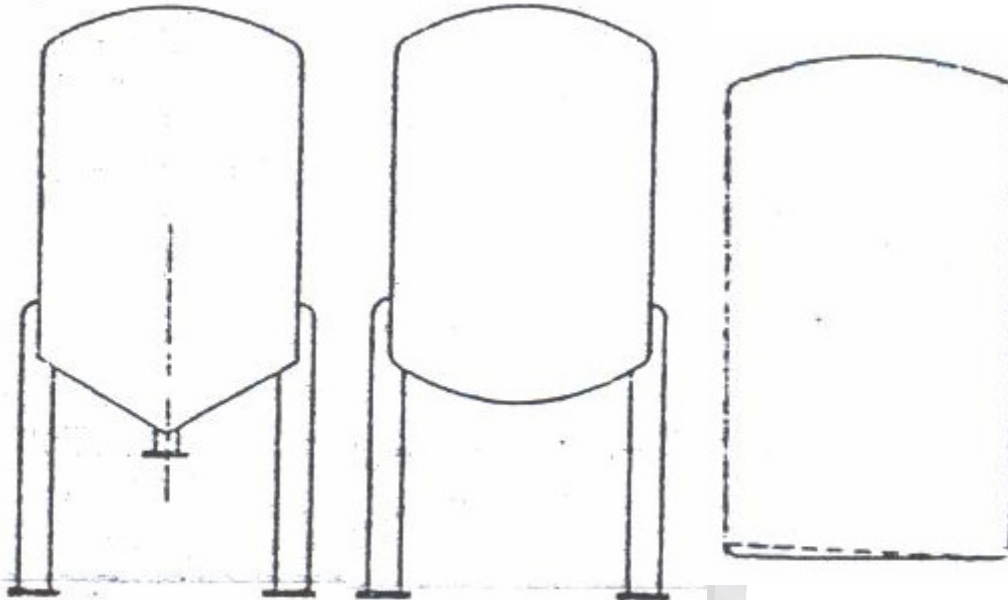
c) Types of Tank

There are many types of tank available for fabrication. Some photo samples will be attached for your references separately.

Horizontal Tanks

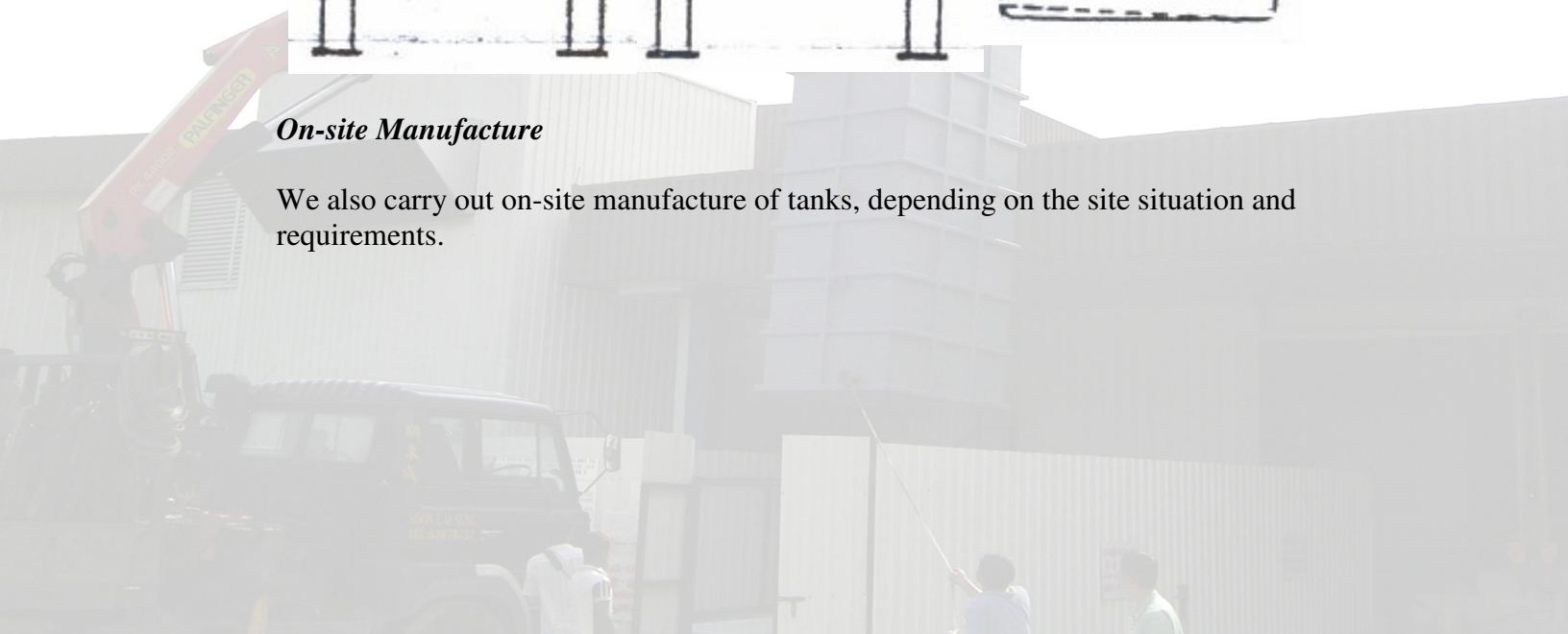


Vertical Tanks



On-site Manufacture

We also carry out on-site manufacture of tanks, depending on the site situation and requirements.



1. TANK SIZES

S/N	Capacity	Vertical Tank		Horizontal Tank	
		Dia (mm)	Height (mm)	Dia (mm)	Length (mm)
1	1m ³	1,000	1,300	1,000	2,040
2	2m ³	1,200	1,700	1,000	2,710
3	3m ³	1,500	1,700	1,400	2,180
4	4m ³	1,500	2,300	1,400	2,830
5	5m ³	1,500	2,900	1,500	3,400
6	6m ³	1,600	3,000	1,600	3,250
7	7m ³	1,800	2,800	1,600	3,750
8	8m ³	2,000	2,600	1,800	3,440
9	9m ³	2,000	2,900	1,800	3,840
10	10m ³	2,000	3,300	2,000	3,800
11	15m ³	2,300	3,650	2,300	4,390
12	20m ³	2,800	3,300	2,500	4,560
13	25m ³	2,800	4,100	2,500	5,580
14	30m ³	3,000	4,300	3,000	5,460
15	40m ³	3,000	5,700	3,000	6,160

Note :

- 1) All tanks are in accordance to ASTM D3299 / ASTM D4097
- 2) Other sizes are also available upon request. The above measurements are only for reference.
- 3) Sizes above those listed above will be quoted based on the feasibility of manufacture on site.
- 4) Height listed for the vertical tanks above excludes the dome top.
- 5) Length listed for the horizontal tanks above includes dished ends.

