Spiral

Engineered Pipe and Tank Systems

PE WATER TANK

MS ISO 9002 REG. NO AR2379

BUATAN MALAYSIA
MADE IN MALAYSIA

Official Website

www.spirolite.my

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INTRODUCTION

SPIRAL PE Tanks are innovative thermoplastic static non-pressurized storage vessels and have been serving the needs for liquid storage in the housing as well as industrial sector since 1981. The versatility of Spiral PE Tanks makes them the ideal choice for the storage of water and a diverse range of chemicals, effluents and other corrosive materials. The Health Ministry of Malaysia also uses our Spiral PE Tanks in hospitals throughout Malaysia.

GENERAL SPECIFICATION

Material:
PE100

Certified Standard:
MS1225:PART 1: 2014
MS1225: PART 2: 2006

Size:
300mm to 3,000mm in diameter and capacity up to 12,000 gallons

Certified by SIRIM and approved by SPAN

Manufactured using technology from Germany

ADVANTAGE

- Chemical and Corrosion Resistance
- Environmental Resistance
- Inert and Non-Toxic Nature
- Durable
- Lightweight
- Easily Cleaned

APPLICATION

- Roof storage tanks and suction tanks for apartments, condominiums and commercial buildings
- Small capacity individual tanks for housing estates
- Waste water treatment, chemical storage, de-gasifier, D.I. water treatment, flocculation tank
- Chemical mixing for industrial applications
- Storage water for irrigation and livestock for agricultural and poultry farms.

PRODUCTION

Spiral PE Tank components are manufactured from weather resistant Polyethylene using a unique process by which a specially designed extruded profile strip is spirally wound over a pre-heated and revolving mandrel. Overlap on the strip edge is fused homogeneously together while it is in the hot plastic state, producing a smooth internal surface and profiled external surface. The design and wall thickness are determined by the installation environment and operation conditions.

Once the tank component is extruded, it is allowed to cool at room temperature and therefore subjected to less induced stress. Following this, the tank base and cover are fusion welded onto the tank sleeve.

Subsequently, tank fittings and accessories will be installed onto the tank. The sizes and orientation of the fittings are customized to customers' requirement. This allow for more precise installation of the tanks at site and save time and it is cost effective. The entire tank is then ready to be installed at site without the need for additional work to be done.

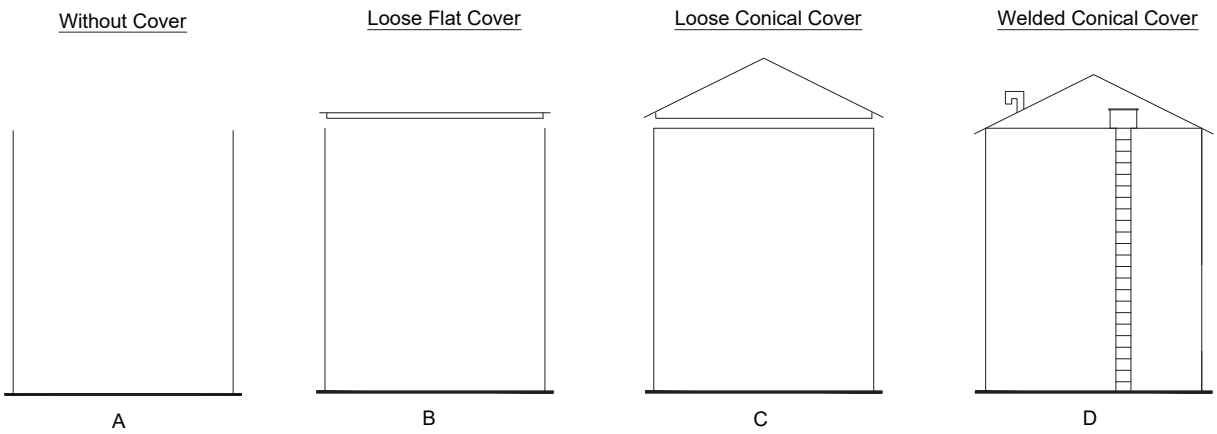
However, before each batch of tanks is sent out, a water tightness test is conducted to ensure that our promise of consistent high quality tanks is maintained. We will send out the tanks upon successful testing results. We follow guidelines of fusion welding as per DIN16960.

DESIGN CONSIDERATION

- Spiral PE Tanks are designed as non-pressure vertical cylinders with flat bases for the storage of liquid.
- The tank walls are designed to resist the hydrostatic pressure head imposed on the cylinder by its contents.
- Tank with considerable height are produced with varying wall thickness for optimum performance
- Tank design is based on hoop stress formula.
- Tanks can be fabricated with variety of fittings and accessories including flanged inlets and outlets, can have either an open top, open top with removable cover or a closed lid with a manhole.
- Designed and fabricated to individual customer's requirement.

STANDARD DETAILS

TYPES OF TANK CONSTRUCTION

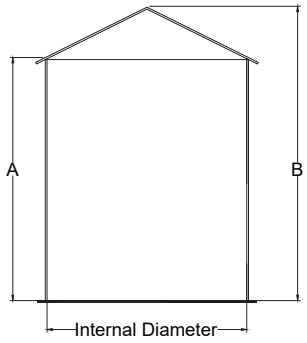


- Connection fittings such as inlet, outlet, overflow, scour etc. have a standard length of 100mm outside the tank outer surface (not including the length of stub end)
- Connection fittings mentioned above need to be welded both internally & externally, to make sure it is firm and stable during water flow
- Connection fittings mentioned above come with single PVC flange attached on it for connections with other pipelines during installation
- Lifting lugs are not necessary, but they are often present in standard design.
- The internal ladder rungs is made from PE
- The external ladder is made from Aluminum
- Manhole and Air Vent only applicable for Type D tank with Welded Conical Cover

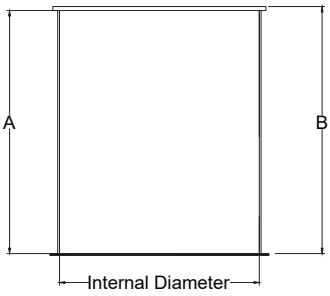
STANDARD DETAILS

TANK DIMENSION

Welded Conical Cover



Loose Flat Cover



Note:
A = Internal Height
B = Overall Height

Capacity		Diameter (mm)		Internal Height	Overall Height (mm)		
(Gallons)	(Litres)	Internal Diameter	Base Diameter	(mm)	Type B	Type C	Type D
100	455	1000	1060	710	722	860	-
100	455	1200	1260	530	542	710	-
150	681	1200	1260	730	742	910	-
150	681	1500	1560	510	524	730	-
200	910	1200	1260	930	942	1100	-
200	910	1500	1560	640	654	860	-
250	1135	1200	1260	1130	1142	1300	-
250	1135	1500	1560	770	785	990	-
300	1365	1200	1260	1340	1355	1520	-
300	1365	1500	1560	900	915	1120	-
400	1820	1500	1560	1160	1175	1380	-
500	2270	1500	1560	1410	1425	1630	-
600	2730	1500	1560	1670	1685	1890	-
700	3180	1500	1560	1930	1945	2150	-
700	3180	1800	1880	1380	1395	1640	-
800	3640	1500	1560	2180	2195	2400	-
800	3640	1800	1880	1560	1575	1820	-
900	4095	1500	1560	2450	2465	2670	-
900	4095	1800	1880	1740	1755	2000	-
1000	4550	1500	1560	2700	2715	2920	-
1000	4550	1800	1880	1920	1935	2180	-
2000	9100	2365	2450	2215	-	-	2565
2000	9100	3000	3100	1410	-	-	1880
3000	13650	2365	2450	3230	-	-	3600
3000	13650	3000	3100	2050	-	-	2520
4000	18200	3000	3100	2700	-	-	3180
5000	22700	3000	3100	3340	-	-	3810
6000	27300	3000	3100	3990	-	-	4460
7000	31800	3000	3200	4620	-	-	5090
8000	36400	3000	3200	5270	-	-	5740
9000	40950	3000	3200	5920	-	-	6390
10000	45500	3000	3200	6560	-	-	7030
11000	50050	3000	3200	7215	-	-	7685
12000	54600	3000	3200	7850	-	-	8320

Note: We are able to customize the sizes to suit your specific requirements.

1 m^3 = 220 gallons 1 gallon = 4.55 litres

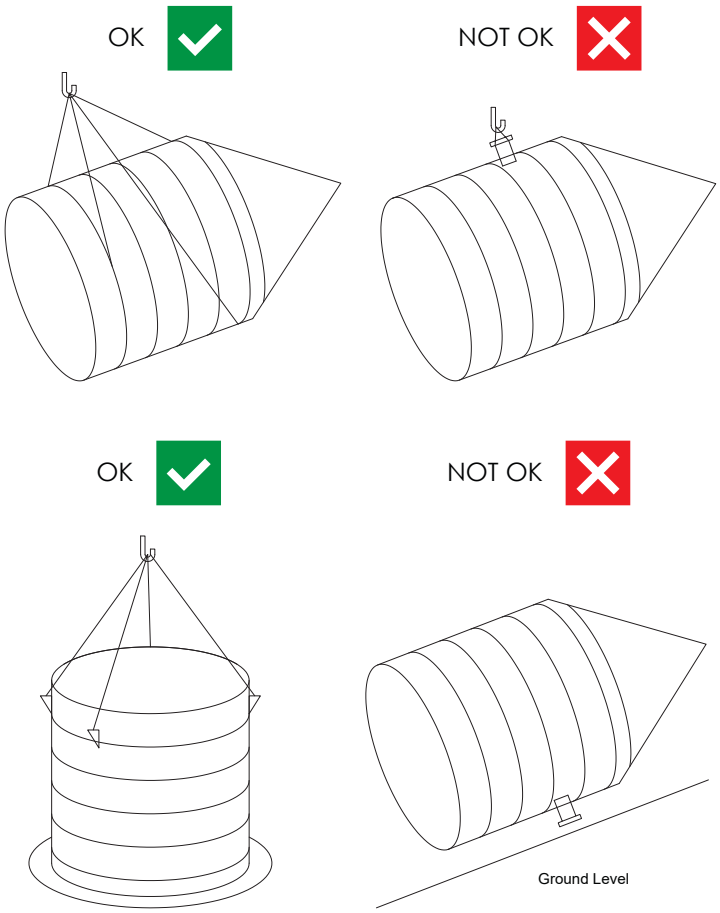
STACKING & HANDLING

Spiral PE Tanks are ductile and easily able to accommodate the normal handling knocks associated with tank installations. However, a few precautions will ensure minimal damage. Tanks should be lifted or unloaded using a crane or similar by:-

- Attachment of ropes or nylon slings to all the lifting lugs where provided
- Wrapping slings around the body of the tanks where lugs are not provided, taking care that slings do not bear against fittings

- Fittings are not structural members and should not be used as lifting aids.

- Placing (small tanks only) on pallet and moving with a fork lift.
  Tanks should be placed on level, even surface, free or debris or rocks. Tanks with side fittings should not be rolled.
- Spiral PE Tanks should only be lifted when empty of liquid.
- After the tank is positioned, ensure that all connecting pipe work is correctly aligned and supported so that the tank fittings are not under stress.



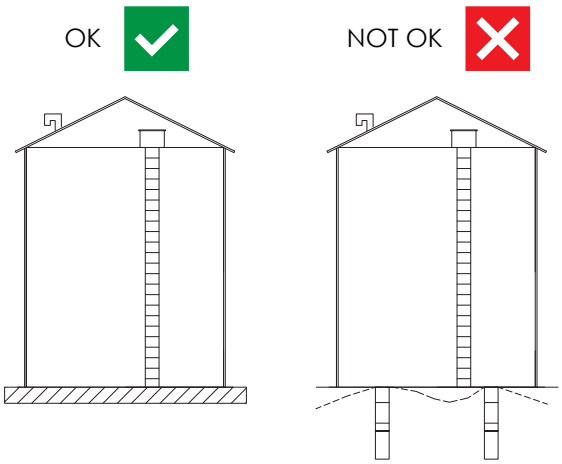
FITTING

Inlet, outlet, overflow, scour, internal PE ladder, external aluminum ladder, manhole, pulley-type or sight gauge level indicator, balancing fitting, air vent, anchor lugs, baffles and etc.

Standard fittings include PE stub end and loose PVC flange. Other type of flanges can be made available upon request.

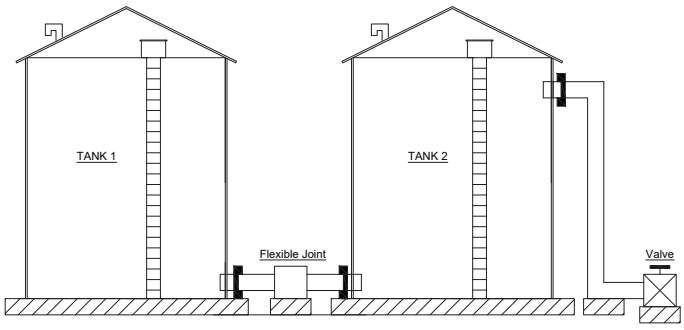
INSTALLATION

Tank must be supported on continuous and flat support, to prevent the tank base from deforming and may cause leakage



Flexible expansion joint is recommended for interconnecting tanks, so that movement of tank is allowable in case we need it. As PE tanks expand and contract frequently due to loading & unloading of liquid inside and weather condition, flexible joint is more suitable to be used.

Proper support for pipe works are required to avoid tension force imposed on tank fittings



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