



STRUCTURAL SPECIFICATIONS

- 1.) All materials & workmanship are to be in accordance with AS 3600 (latest issue), 'Concrete structures.'
 - 2.) Concrete shall comply with AS 1379. It shall have a characteristic strength of 50 MPa, a slump of 230 mm, and shall contain 7-10 mm aggregate. The water/cement ratio shall be 0.30-0.40.
 - 3.) Concrete shall be properly compacted by mechanical vibration.
 - 4.) For tanks on ground:
 - a. Remove all vegetative & organic matter. Foundation material to have a min. bearing capacity of 100kPa.
 - b. The design exposure classification is B1, applicable to exposed locations more than 1 km from the coast.
 - c. For exposed locations less than 1 km from the coast, refer to the Engineer.
 - 5.) For tanks in-ground or partially in-ground:
 - a. Soils are to be non-aggressive, and only the presence of fresh water is permitted.
 - b. Tanks are not designed to support any lateral loading other than that applied by natural material.
 - c. As required by AS HB230-2006, 'Rainwater tank design & installation handbook', in clay soils, either the site must be designed so that sub-soils remain dry, or means must be taken to prevent hydrostatic uplift. Suitable means include:
 - i) Providing slurry back-fill in accordance with Drawing No. VT-03.
 - ii) Designing the tank outlets to ensure that a minimum depth of water remains in the tank at all times, and/or over-topping the tank with a concrete slab or soil. Table 1 gives the thickness of a concrete slab, or, alternatively, the depth of soil required, to restrain a tank, for various minimum depths of water remaining.
- NOTE:**
A concrete floor slab in a habitable building may not be used to restrain hydrostatic uplift in an underfloor tank.

USER NOTES

- 1.) The weight of the tank is 11.7 tonne.
- 2.) Lids are designed to support 5.0 kPa vehicle loading in addition to an extra 3.5 kPa applied loading. This means that up to 150mm th. fill may be placed on lid, and light/medium vehicle traffic is acceptable. For pedestrian traffic, only, up to 400mm of fill may be applied to the lid.
- 3.) For other combinations of lid loadings, special designs are available, and reference should be made to the manufacturer.
- 4.) Tanks are designed to store liquids in below-ground situations, but they may be also used for other purposes, such as for the storage of dry goods, or as wine cellars, either above- or below-ground. For this purpose, above-ground tanks may be fitted with a door in one wall. Refer to Drawing Nos. VT-04 & VT-05.
- 5.) For sub-floor installation, an opening in the lid to allow access from above, is provided (refer to Drawing No. VT-07). The note under para. 5c (ii) of the Structural Specifications is applicable.
- 6.) In above-ground situations, a tank may be used to retain soil placed against one long wall. In this situation, reference must be made to RPE Engineering Services Report No. 10010.r01, and installation details must comply with the requirement of this report.

TABLE 1

Min. Depth of Water in Tank mm	Over top of Tank		Soil Th. mm	RPEES ref. no.
	Slab Th. mm	mm		
0	530	700		10010-L
200	460	610		drawn
400	390	520		RPEES
600	320	430		date
800	250	340		09-03-11
1000	180	250		

RPE Engineering Services

Ph. (02) 6559 3400 Fax (02) 6559 3411

VERSATILE TANKS

22500 litre Tank

issue	description	date	checked
	VERSATILE DRAWING No.		

VT-01