

Cemseal VersiTank Technical Information and Specifications

Cemseal VersiTanks are designed primarily for underground water percolation tanks managing storm water, water infiltration and water storage for rainwater harvesting purposes.

Cemseal VersiTanks are usually used in the construction of man-made swales as an alternative to reinforced concrete drains for channelling storm water, percolation tanks to control storm water at source and promote infiltration of water into the surrounding substrate and detention tanks for the storage and re-use of water.

The following sections contain information and specifications in respect of the following types of Cemseal VersiTank.

- Cemseal VersiTank VT250
- Cemseal VersiTank VT550
- Cemseal VersiTank VT840
- Cemseal VersiTank VT880

The information contained herein serves as a guide to ensure all work processes and methods relating to installation of Cemseal VersiTanks are properly planned and executed according to specifications and that such works can be carried out correctly, efficiently and safely.

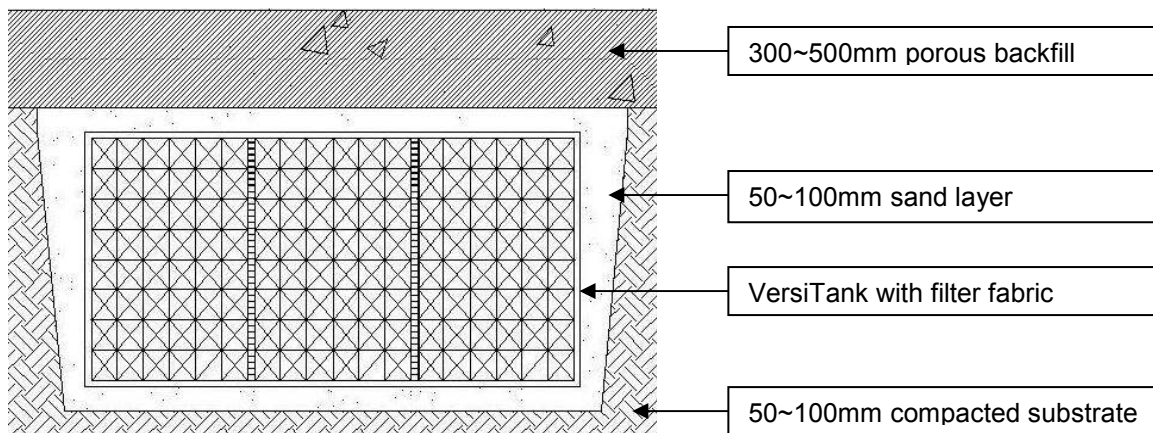
Loading On Cemseal VersiTanks

Common areas subject to high compressive loads are fire engine access, car parking and loading/unloading area. In conventional construction, these areas usually consist of highly impermeable construction materials which result in flooding and discharge of pollutants into the water channels. Cemseal VersiTanks are designed to withstand high compressive loads and yet function effectively as percolation tanks.

Maximum compressive load

	VT250	VT550	VT840	VT880
Max. Load with 2 Stabilizers (kN/m ²)	90	60	-	-
Max. Load with 3 Stabilizers (kN/m ²)	-	80	180	80
Max. Load with 4 Stabilizers (kN/m ²)	-	100	230	100
Max. Load with 5 Stabilizers (kN/m ²)	-	-	270	120

The drawing below shows a typical section of a Cemseal VersiTank installation. It is important that the sand layer is properly compacted to achieve stability to the whole system.



Typical Cemseal VersiTank installation

Design Vehicular Live Load (kN/m²)

Vehicular Type	Live Load (kN/m ²)	Safety Factor	Design Load (kN/m ²)	VersiTank Type
Passenger car	2.5	1.4	3.5	VT250/ VT550
Light commercial vehicle (1,500kg max laden load)	5.0	1.4	7.0	VT250/ VT550
Heavy commercial vehicle (70kN per wheel load)	7.5	1.4	10.5	VT840/ VT880
Loading/Unloading area (120kN per wheel load)	10.0	1.4	14.0	VT840/ VT880
Fire engine access (200kN per outrigger)	16	1.4	22.4	VT840

Volume of Cemseal VersiTank

The number of tanks required is determined by the catchment area, holding capacity and type of Cemseal VersiTank selected. Cemseal VersiTanks may generally be stacked to a maximum of three tiers.

Overflow pipes should be installed to allow excess water from Cemseal VersiTanks to be discharged into culverts/canals. If overflow pipes are not installed, the ground may get choked with water.

Maximum water storage capacity

	VT 250	VT 550	VT 840	VT 880
Volume per tank (m ³)	0.07	0.14	0.125	0.25