TERRAWICK PVD DRAIN

PRODUCT DESCRIPTION

TerraWick PVD is a geocomposite vertical drain comprising an extruded ribbed both faces polypropylene core and a polypropylene nonwoven geotextile filter sleeve.

PVD Drains (Wick Drains) are used to accelerate the consolidation of embankments built on saturated fine grain soils to expedite construction and limit long term settlement. Preloading of the embankment can be designed to induce these settlements in an accelerated time frame and minimise the long term residual settlements to within acceptable limits. PVD drains greatly increase the rate of consolidation, delivering substantial programme savings for the construction time of earth embankments.

No recycled materials are used for the manufacture of the core of TerraWick PVD, only 100% virgin PP is used.
Cores manufactured from recycled materials may pass the required strength test at the first compliance test but a serious decrease in water discharge may result caused by deformation and reduction of the core cross sectional area of the water channels under lateral soil pressure resulting in the ground settlement being delayed

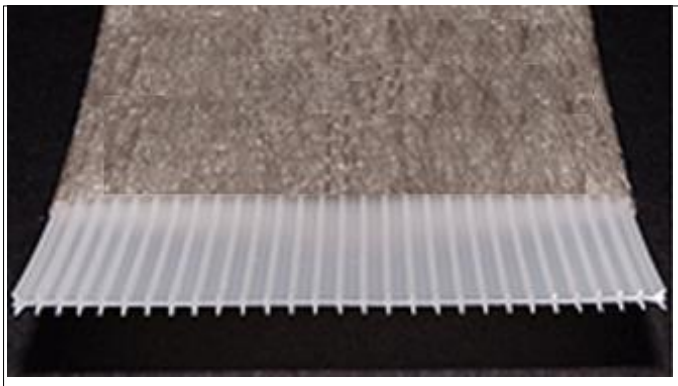
APPLICATIONS

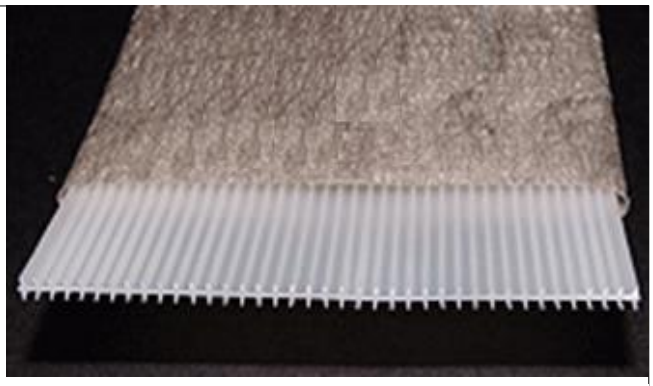
- Land reclamation
- Industrial sites
- Ports and harbours
- Mitigation of liquefaction
- Earth embankments
- Highways

FEATURES & BENEFITS

- Accelerates the consolidation of fine grained soils.
- Strengthens underlying soil to accommodate superimposed loads
- Limits long term settlement
- Manufactured from virgin material

TerraWick Specification Sheet					
Properties	Unit	ASTM Test	Specification		
Composite Drain			**VD-707**	**VD-808**	**VD-849**
Core configuration			Ribbed	Ribbed	Ribbed
Core material		D276	Polypropylene	Polypropylene	Polypropylene
Discharge Capacity straight @ 350 kPa,(i = 1.0)	cm^3/s	D 4716	≥140	≥ 140	≥ 120
Tensile Strength (full width)	N	D 4595	≥ 2500	≥ 3000	≥ 4000
Tensile Strength (full width) @ 10% elongation	N	D 4595	≥ 2000	≥ 2500	≥ 3000
Thickness	mm	D 5199	3.0± 0.5	3.5± 0.5	4.0 ± 0.5
Width	mm	D 3774	100 ± 5	100 ± 5	100 ± 5
Filter Sleeve Geotextile					
Material			Polypropylene	Polypropylene	Polypropylene
Grab Tensile Strength (MD)	N	D 4632	≥ 600	≥ 600	≥ 700
Elongation	%	D 4632	≥ 15	≥ 15	≥ 15
Wide Width Tensile Strength (MD)	kN/m	D 4595	≥ 7.0	≥ 7.0	≥ 9.0
Trapezoidal Tear Strength (MD)	N	D 4533	≥ 150	≥ 150	≥ 200
Permittivity	s^{-1}	D 4491	≥ 0.3	≥ 0.3	≥ 0.3
Permeability Test	cm/s	D 4491	≥ 1.0×10^{-2}	≥ 1.0×10^{-2}	≥ 1.0×10^{-2}
Resistance to liquids (reduction of tensile strength)	%	ISOTR12960	< 10	< 10	< 10
Opening Size 0_{90}	µm	ISO12956	50~90	50~90	50~90
Packaging					
Roll Length	m		≈ 290	≈ 290	≈ 225
Roll O/D	m		≈ 1.1	≈ 1.1	≈ 1.1
Roll core I/D	mm		≈ 150mm	≈ 150mm	≈ 150mm
Roll Weight	kg		≈ 20	≈ 20	≈ 23
Loadability 40ft. container			≈ 150,000	≈ 115,000	≈ 112,000





VD 808 VD-849

TerraWick Ribbed (both faces) Core PVD Drain

INSTALLATION

TerraWick wick drains are typically set out on a grid pattern and installed by driving a hollow steel mandrel, which houses the drain material into the ground with a piling rig, At the required depth the mandrel is removed, leaving the vertical drain behind anchored by a steel anchor shoe that holds the drain securely in place.

A temporary surcharge embankment is usually combined with the installation of the PVD Drains in order to expedite settlement throughout the consolidation period.