LAYFIELD GEOSYNTHETICS

TECHNICAL SPECIFICATIONS

HYDRANET® TRIPLANAR 330 GEONET & GEOCOMPOSITE

Layfield's HydraNet® is a cost-effective and environmentally conscious alternative to aggregate drains for various applications. HydraNet® can effectively transmit fluids and gasses while taking up much less space compared to a sand, stone, or gravel layer.

HydraNet® Triplanar 330 has a three layer configuration prevents geotextile protrusion into the drainage core supporting a long-term drainage design solution. geocomposites have a geotextile bonded to one or both sides of a geonet.

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HydraNet® Triplanar 330 GeoNet			
Style[1]	**Test Method**	**Frequency**	**HydraNet® 330**
Density	ASTM D792	Per lot	≥0.94 g/cc
Melt Flow Index, (max)	ASTM D1238	50,000 ft^2	1.0 g/10 min
Thickness, (min)	ASTM D5199	50,000 ft^2	8.4 mm
Carbon Black	ASTM 4218	50,000 ft^2	2-3%
Tensile Strength	ASTM 7179	50,000 ft^2	15 N/mm
Thickness Retained, 10,000 hrs once per formulation2	GRI-GC8 modified	Per formulation	87%
Creep Reduction Factor, 10,000 hrs, tested at 720, once per formulation2	GRI-GC8 modified	Per formulation	1.2

HydraNet® Triplanar Geocomposite				
Ply Adhesion	ASTM D7005	50,000 ft^2	89 g/cm	
Transmissivity (1) DS	ASTM D4716	200,000 ft^2	2.0x10^{-3} m^2/sec	
HydraNet® Geotextile				
Mass per unit area	ASTM D5261	90,000 ft^2	200 g/m^2 (6 oz/yd^2)	270 g/m^2 (8 oz/yd^2)
Grab Tensile Strength	ASTM D4632	90,000 ft^2	711 N (160 lb)	1001N (225 lbs)
Grab Elongation	ASTM D4632	90,000 ft^2	50%	50%
CBR Puncture	ASTM D6241	90,000 ft^2	2002 N (450 lb)	2670 N (600 lb)
A.O.S (max)	ASTM D4533	500,000 ft^2	0.212 mm (70 US Sieve)	0.18 mm (80 US Sieve)
Permittivity	ASTM D4751	500,000 ft^2	1.63 sec^{-1}	1.26 sec^{-1}
Water Flow Rate	ASTM D4491	500,000 ft^2	5093 l/min/m^2 (125 gpm/ft^2)	4074 l/min/m^2(100 gpm/ft^2)
UV Resistance- % tensile strength retained (500 hrs)	ASTM D4533	Per formulation	70%	70%

HydraNet® Triplanar Roll Dimensions				
	Width			4.4 m/ 14.5 ft
	Length			61 m/200 ft

Notes:
(1) Transmissivity measured using water at 21 ± 2 ° C (70 ± 4) ° C with a gradient of 0.1 and a confining pressure of 10,000 psf between steel plates after 15 minutes. Values may vary with individual labs. DS - Double Sided, SS -Single Sided
(2) Condition 190/2.16
(3) Minimum average value.
(4) MARV is statistically defined as mean minus two standard deviations and it is the value which is exceeded by 97.5% of all the test data.
(5) At the time of manufacturing. Handling may change these properties.

INSTALLATION

HydraNet® geonet and geocomposite drainage materials are delivered in rolls to cover large areas and it is important to understand the field deployment and connections along the sides and ends of each roll to ensure a continuous drainage layer. HydraNet® rolled drainage products are easy to install compared to aggregate drains, especially on steep slopes where the placement of aggregate drainage materials would be challenging and expensive due to soil stability issues and equipment limitations. Each roll is deployed in place and overlapped a minimum of 100 mm (4 inches). This overlap is often secured in place with plastic ties at a rate of one tie every 1.5 m (5ft). The plastic ties hold the product in place while backfilling and are not intended to provide any seam strength between the panels. It is preferred that the ties should be a contrasting color to the black geonet (white nylon ties are most common). HydraNet® Geocomposite comes with a 6 inch edge of unbonded geotextile to assist with overlapping and joining the geonet panels. The ends of the HydraNet® geonet and geocomposites must eventually terminate by attachment to drainage pipes, sumps or swales.