TENDRAIN 7100-2 Double-Sided Geocomposite (highload)

The drainage geocomposite is comprised of a tri-axial geonet structure with thermally bonded nonwoven geotextiles on both sides. The product is capable of providing high transmissivity in a soil environment under both low and high loads and will have properties conforming to the values and test methods listed below.

PROPERTY	TEST METHODS	UNITS	VALUE	QUALIFIER	TEST FREQUENCY
Resin					
• Density	ASTM D 1505	g/cm^3	0.94	MAV	lot
• Melt Flow Index	ASTM D 1238	g/10min	1.0	MAX	lot
Geonet Core[1]					
Structure[2]			Tri-axial		
• Geonet Cross-Rib Spacing		inch (mm)	0.43 (11.0)	MAX	50,000 sf
• Geonet Main-Rib Spacing		inch (mm)	0.47 (12.0)	typical	50,000 sf
• Unsupported Aperture Area		inch^2 (mm^2)	0.3 (195)	MAX	50,000 sf
• Tensile Strength – MD	ASTM D 4595	lb/ft (kN/m)	1200 (17.5)	±10 %	50,000 sf
• Creep Reduction Factor[3]	GRI-GC8	-			
@ 25,000 psf, 20 ^{0}C			1.2		
@ 15,000 psf, 40 ^{0}C			1.2		
• Thickness	ASTM D 5199	mil (mm)	300 (7.6)	±10 %	50,000 sf
• Carbon Black	ASTM D 4218	%	2-3	range	50,000 sf
Geotextile[1]					
• U.V. Resistance (500 hrs)	ASTM D 4355	%	70		Per formula
• Serviceability Class	AASHTO M-288		Class 1		
• Grab Tensile	ASTM D 4632	lbs (N)	202 (900)	MARV	100,000 sf
• Tear Strength	ASTM D 4533	lbs (N)	79 (350)	MARV	100,000 sf
• Puncture Resistance	ASTM D 4833	lbs (N)	110 (490)	MARV	100,000 sf
• AOS[4]	ASTM D 4751	US Std. Sieve (mm)	80 (0.18)	MaxARV	500,000 sf
• Permittivity[4]	ASTM D 4491 Falling head	Sec^{-1}	1.0	MARV	500,000 sf
Geocomposite					
• Roll Sizes	12.5 ft x 200 ft (3.8 m x 61 m)				
• Peel Adhesion – MD	ASTM D7005	lb/in (g/in)	1.0 (454)	MAV	100,000 sf
•Transmissivity[5] - MD (m^2/sec) Gradient / Load	ASTM D 4716 GRI - GC8	1,000 psf (48 kPa)	25,000 psf (1200 kPa)	MAV	200,000 sf
0.1		4.0*10^{-3}	1.0*10^{-3}	MAV	200,000 sf
0.02		7.0*10^{-3}	2.5*10^{-3}	MAV	200,000 sf

Qualifiers: MARV=Minimum Average Roll Value (MARV), MAV=Minimum Average Value, MAX=Maximum Value, MaxARV=Maximum average roll value.

NOTES: **1.** Geotextile and geonet properties listed are prior to lamination. **2.** Tri-axial geonet consists of thick main-ribs with diagonally placed top and bottom-ribs. **3.** Creep Reduction Factor is based on 10,000 hour test duration, extrapolated to 30 years, under the corresponding compressive load and temperature. **4.** Hydraulic properties: AOS and permittivity are only applicable to the top filter geotextile. **5.** Geocomposite transmissivity measured by manufacturer per ASTM D4716 with testing boundary conditions as follows: steel plate / Ottawa sand / geocomposite / 60 mil HDPE geomembrane / steel plate, and seating period of 100 hours according to GRI-GC8, with the stronger side of the geocomposite facing the soft boundary condition as indicated with top (soil) /bottom (liner) label on the rolls . Digital indicator of hydraulic gradient is required during the transmissivity measurement at low gradients.

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