



GSE STANDARD PRODUCTS

Product Data Sheet

GSE PermaNet® HL and UL Geonets

GSE PermaNet Geonets are drainage products manufactured with a unique structure from prime quality high density polyethylene. The creep resistant structure ensures continuous flow performance over a broad range of conditions and long durations. These products are durable under rigorous demands and ideal for extremely high compressive stress applications.

GSE PermaNet is available in the HL (High Load) and UL (Ultra Load) version as described in the product specification chart below. For more information on the performance transmissivity under site-specific conditions, please contact a GSE representative.

GSE Advantage Products

GSE GundSeal • GSE Conductive • GSE White • GSE PermaNet • GSE BioDrain System

Product Specifications

TESTED PROPERTY ^(a)	TEST METHOD	FREQUENCY	AVERAGE VALUE	
			PermaNet HL	PermaNet UL
Product Code			XR6000N004	XR8000N004
Transmissivity ^(b) , gal/min/ft (m ² /sec)	ASTM D 4716	1/540,000 ft ²	19 (4 x 10 ⁻³) ^(c)	24 (5 x 10 ⁻³) ^(d)
Compression Strength, lb/ft ² (kPa)	ASTM D 1621	1/540,000 ft ²	40,000 (1,913)	40,000 (1,913)
Creep Reduction Factor		once per formulation	1.2 @ 15,000 psf	1.3 @ 25,000 psf
Mass, lb/ft ² (g/m ²)	ASTM D 5261	1/50,000 ft ²	0.35 (1,710)	0.43 (2,100)
Density, g/cm ³	ASTM D 1505	1/50,000 ft ²	0.94	0.94
Tensile Strength (MD), lb/in (N/mm)	ASTM D 5035	1/50,000 ft ²	100 (17)	100 (17)
Carbon Black Content, %	ASTM D 1603*/4218	1/50,000 ft ²	2.0	2.0
Roll Width ^(e) , ft (m)			15 (4.6)	15 (4.6)
Roll Length ^(e) , ft (m)			200 (60)	200 (60)
Roll Area, ft ² (m ²)			3,000 (278)	3,000 (278)

NOTES:

- ^(a)All values are typical (average).
- ^(b)This is an index transmissivity value used for quality control under test conditions listed under notes (c) and (d). Contact GSE for a performance transmissivity value for use in design.
- ^(c)Stress = 15,000 psf; gradient = 0.1; time = 15 minutes; and boundary conditions = plate/geonet/plate.
- ^(d)Stress = 25,000 psf; gradient = 0.1; time = 15 minutes; boundary conditions = plate/geonet/plate.
- ^(e)Roll widths and lengths have a tolerance of ±1%.
- *Modified.

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