Geomembrane – High Density Polyethylene

Technical Comparison Sheet

Penteco HDPE Smooth Surface

- Containment
- Erosion Control
- Leak Detection
- Water Proofing
- Protection

HDPE geomembranes have a high dense cell structure making them an ideal choice for containment applications. Its low cost, high chemical resistance, and excellent weathering properties, furthermore, ranks it to be the world's most popular geomembrane.

HDPE geomembranes are produced in various thicknesses, textures, and performance standards. Penteco's HDPE series meets or exceeds GRI's GM-13 specifications. With any geomembrane, it is crucial to narrow down the design parameters in order to match it with the best suited product.

HDPE Smooth Geomembrane				Product Series			
Property	Test Method	Frequency	Unit	HD-S30	HD-S40	HD-S60	HD-S80
Thickness (min. average)	- ASTM D-5199	Per Roll	mil (mm)	30 (0.75)	40 (1.0)	60 (1.5)	80 (2.0)
Thickness (minimum)		Per Roll	mil (mm)	27 (0.68)	36 (0.90)	54 (1.35)	72 (1.8)
Density	ASTM D-1505	200,000 lbs (90,000 kg)	g/cc	0.94	0.94	0.94	0.94
Tensile Properties		20,000 lbs (9,000 kg)					
Yield Strength	ASTM D-6693 Type IV		lb/in (KN/m)	63 (11)	84 (15)	126 (22)	168 (29)
Break Strength			lb/in (KN/m)	114 (20)	152 (27)	228 (40)	304 (53)
Yield Elongation			%	12	12	12	12
Beak Elongation			%	700	700	700	700
Tear Resistance	ASTM D-1004	45,000 lbs (20,000 kg)	lb (N)	21 (93)	28 (125)	42 (187)	56 (249)
Puncture Resistance	ASTM D-4833	45,000 lbs (20,000 kg)	lb (N)	54 (240)	72 (320)	108 (480)	144 (640)
Stress Crack Resistance	ASTM D-5397	200,000 lbs (90,000 kg)	hr	500	500	500	500
Carbon Black Content	ASTM D-4218	20,000 lbs (9,000 kg)	%	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0
Carbon Black Dispersion	ASTM D-5596	45,000 lbs (20,000 kg)	category	Only near spherical agglomerates as per GRI-GM13			
Oxidative Induction Time	ASTM D-8117	200,000 lbs (90,000 kg)	min	100	100	100	100
Oven Aging - % retained after 90 days	ASTM D-8117	200,000 lbs (90,000 kg)	%	80	80	80	80
UV Res % retained after 1600 hrs.	ASTM D-5885	200,000 lbs (90,000 kg)	%	50	50	50	50

Notes:

- (1) Roll Widths/ Lengths vary based on manufacturer.
- (2) All roll widths/lengths have a tolerance of ±1 %.
- (3) Custom roll lengths can be ordered. Transportation cost might be affected.
- (4) Penteco is a distributor for this product with manufacturing partners based out of Canada & USA.
- (5) Manufacturer's data sheet provided at time of purchase.
- (6) Product specifications meets or exceeds GRI's GM 13.

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