The Pioneer Of Geosynthetics

S I N C E 1 9 7 2

Product Data Sheet

GSE StudLiner

GSE StudLiner is a high density polyethylene (HDPE) concrete protection product that protects against chemical and mechanical damage to concrete structures. GSE StudLiner is manufactured with approximately 110 studs per square foot to guarantee high pullout strength and provide excellent stress distribution during temperature changes and pressure build-up. GSE StudLiner can be installed over an exposed surface of a new or existing concrete structure, and it will provide a life expectancy that is five times greater than that of an unprotected structure. The product is also available in either a gray or black color, and in a variety of sizes to fit your specific application.

Product Specifications

TESTED PROPERTY	TEST METHOD	FREQUENCY	NOMINAL VALUE			
Thickness, mm (mil)	ASTM D 5199	Every 5th roll	2.00 (80)	3.00 (120)	4.00 (160)	5.00 (200)
Density, g/cm^3	ASTM D 1505	1/100,000 ft^2	0.94	0.94	0.94	0.94
Tensile Properties (each direction) Strength at Yield, lb/in^2 (MPa) Elongation at Break, %	ASTM D 6693, Type IV Dumbell G.L. = 2.0 in (50 mm)	1/100,000 ft^2	2,200 (15.2) 500	2,200 (15.2) 500	2,200 (15.2) 500	2,200 (15.2) 500
Stud Pull-Out Strength[1], lb/ft^2 (kN/m^2)		1/product	>14,000 (669.89)	>14,000 (669.89)	>14,000 (669.89)	>14,000 (669.89)
Carbon Black Content/Pigment Content, % Black (carbon) Gray (pigment)	ASTM D 1603*/4218 ASTM D 5630, Modified	1/100,000 ft^2	2-3 1.5-2.5	2-3 1.5-2.5	2-3 1.5-2.5	2-3 1.5-2.5
Carbon Black Dispersion[2]	ASTM D 5596	1/100,000 ft^2	Note 2	Note 2	Note 2	Note 2
Notched Constant Tensile Load, hours	ASTM D 5397	1/formulation	400	400	400	400
Coefficient of Linear Thermal Expansion, per °C	ASTM D 696	1/product	1.20E-04	1.20E-04	1.20E-04	1.20E-04
Low Temperature Brittleness, °C	ASTM D 746	1/product	-77	-77	-77	-77
Dimensional Stability, % (each direction)	ASTM D 1204	1/product	±1.0	±1.0	±1.0	±1.0
Water Absorption, %	ASTM D 570	1/product	0.1	0.1	0.1	0.1
Water Vapor Transmission, (g/m^2/day)	ASTM E 96	1/product	<0.01	<0.01	<0.01	<0.01
Roll Width, ft (m)			8 (2.44)	8 (2.44)	8 (2.44)	8 (2.44)
Roll Length, ft (m)			246 (74.97)	213 (64.91)	196 (59.73)	196 (59.73)
Roll Area, ft^2 (m^2)			1,968 (182.83)	1,704 (158.30)	1,568 (145.67)	1,568 (145.67)

NOTES:

- [1]Note: Concrete must have compressive strength of at least 5,000 lb/in^2 (34,500 kPa).
- [2]Note: Dispersion only applies to near sherical agglomerates. 9 of 10 views shall be Category 1 or 2. No more than 1 view from category 3.
- *Modified.

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