

Smooth Geomembrane

Geosynthetic Product Specification

Product overview

Polyethylene smooth geomembrane. Specifications are listed by nominal thickness, with mechanical properties, reference properties and test-method references stated in the product data.

TECHNICAL SPECIFICATIONS

Specifications by nominal thickness / 0.2, 0.3, 0.5, 0.75 / Thickness (mm)

Property	Unit	0.2	0.3	0.5	0.75	Test Method
Tensile yield strength	kN/m	3	5	7	11	ASTMD 6693 Type IV
Tensile break strength	kN/m	5	8	13	20	ASTMD 6693 Type IV
Tear Resistance	N	25	38	62	93	ASTM D 1004
Puncture Resistance	N	64	96	160	240	ASTM D 4833

Specifications by nominal thickness / 1, 1.25, 1.5 / Thickness (mm)

Property	Unit	1	1.25	1.5	Test Method
Tensile yield strength	kN/m	15	18	22	ASTMD 6693 Type IV
Tensile break strength	kN/m	27	33	40	ASTMD 6693 Type IV
Tear Resistance	N	125	156	187	ASTM D 1004
Puncture Resistance	N	320	400	480	ASTM D 4833

Specifications by nominal thickness / 2, 2.5, 3 / Thickness (mm)

Property	Unit	2	2.5	3	Test Method
Tensile yield strength	kN/m	29	37	44	ASTMD 6693 Type IV
Tensile break strength	kN/m	53	67	80	ASTMD 6693 Type IV
Tear Resistance	N	249	311	374	ASTM D 1004
Puncture Resistance	N	640	800	960	ASTM D 4833

Specifications by nominal thickness / shared values for all listed grades

Property	Unit	Specification / Value	Test Method
Density	g/cc	0.94	ASTMD1505/ D792
Tensile yield elongation	%	12	ASTMD 6693 Type IV
Tensile break elongation	%	700	ASTMD 6693 Type IV
Stress Crack Resistance	hr.	500 hr.	ASTM D 5397
Carbon Black Content	%	2.0-3.0%	ASTM D 4218
Carbon Black Dispersion		For 10 different views: 9 in Categories 1 or 2 and 1 in Category 3	ASTM D 5596
Standard OIT	min	100 min.	ASTM D 3895
High Pressure OIT	min	500 min.	ASTM D 5885
Oven Aging at 85°C / Standard OIT retained after 90 days	%	55%	ASTM D 5721; ASTM D 3895
Oven Aging at 85°C / High Pressure OIT retained after 90 days	%	80%	ASTM D 5721; ASTM D 5885
UV Resistance / High Pressure OIT retained	%	50	ASTM D 5885
Melt Index / 190°C / 2.16kg		0.20g/10min	ASTM D1238

Testing frequency stated in product data

Property	Test Frequency
Thickness	Per roll
Density	90,000 kg
Tensile Properties · yield strength · break strength · yield elongation · break elongation	9,000 kg
Tear Resistance	20,000 kg
Puncture Resistance	20,000 kg
Stress Crack Resistance	per GRI GM-10
Carbon Black Content	9,000 kg
Carbon Black Dispersion	20,000 kg
Oxidative Induction Time(a) Standard OIT (b) High Pressure OIT	90,000 kg
Oven Aging at 85°C retained after 90 days (a) Standard OIT - % (b) High Pressure OIT - %	per each formulation
UV Resistance High Pressure OIT - % retained	per each formulatio

Test-method references are reproduced from the available product data.

Technical disclaimer

Specifications shown in this document are based on the available product data for the listed grade or series. Final specifications, dimensions and documentation should be confirmed according to the selected product and project requirements.