Firestone GeoSmart EPDM

1. Description

The Firestone GeoSmart EPDM membrane is a 100% cured lining membrane made of synthetic rubber Ethylene-Propylene-Diene Terpolymer. It is available in a variety of standard panel sizes or can be tailor-made to the size of the project in order to have a seamless installation. The GeoSmart is specially designed for water containment applications such as agricultural ponds and pits and silage covers.

2. Preparation

The substrate needs to be compacted, clean, smooth and free of sharp edges, stones, small cavities, loose or foreign materials, vegetation, roots, oil, grease and other materials that may damage the membrane. Organic and compressive grounds will be removed. Erosive and dissolvable grounds will be avoided.

The installation of a water and a gas drainage networks are recommended. A protective geotextile will systematically be installed between the substrate and the membrane.

3. Application

Allow the membrane to relax for minimum 30 minutes after unrolling and unfolding before making details. Refer to the Firestone guidelines for specific installation instructions.

4. Coverage

The dimensions of the membrane are calculated to cover the base of the reservoir, slopes and anchor trenches.

5. Characteristics

Physical
• Elastomeric membrane with a good combination of high elasticity and tensile strength.
• Excellent resistance to UV and ozone.
• Retains its elasticity and flexibility even at temperatures as low as -45°C.
• Resistant to temperature shocks up to 130°C.
• Excellent resistance to acid rains.
• Contact with some kind of oils, petroleum based products, grease and chlorine must be avoided.

Technical	
• Base	Synthetic rubber
• Color	Black
• Solvents	None
• Solids	100 %
• State	Cured

Technical Information Sheet

6. Technical Specifications

Physical properties	Test method	0,8 mm	1,0 mm	1,2 mm	Tolerance	Unit
Tensile strength (MD/CD)	EN 12311-2	8	9	9	−1	MPa
Elongation without yield point (MD/CD)	EN 12311-2	≥ 300	≥ 300	≥ 300		%
Dimensional stability	EN 1107-2	≤ 0,5	≤ 0,5	≤ 0,5		%
Flexibility at low temperature	EN 495-5	≤ -45	≤ -45	≤ -45		°C
Resistance to static puncture	EN ISO 12236	0,4	0,6	0,8	−0,1	kN
Free-falling dart test (method A & B)	EN ISO 7765-1	> 2,8	> 2,8	> 2,8		kg
Water permeability (liquid tightness)	EN 14150	< 1,10^{-6}			± 10^{-6}	m³/m².d
Methane permeability (gas tightness)	ASTM D1434	≤ 2,25 10^{-3}				m³/m².d
Durability - weathering (25y)	EN 12224	Pass				
Durability - oxidation	EN 14575	Pass				
Friction angle	EN 12957-2	≥ 27,5				°

Note: As European standards continue to develop, please contact Firestone's Technical Department or visit www.firestonebpe.com for the latest updates on physical properties.

7. Packaging / Storage / Shelf life

Thickness (mm)*	Width (m)**	Length (m)	Weight (kg/m²), incl. Packaging
Standard rolls			
0,8	3 / 4,5 / 6 / 7,5 / 9 / 10,5 / 12 / 15	30 / 45 / 60	0,77
0,8	10,5	10 / 12 / 14 / 16 / 18 / 20	0,77
1,0	3 / 4,5 / 6 / 7,5 / 9 / 10,5 / 12 / 15 / 18 / 24 / 30 / 36	30 / 45 / 60	1,00
1,2			1,23
Tailor made single sheets*			
0,8 – 1,0 – 1,2	Multiples of 1.5 m	Up to 60 m	0,77 – 1,00 – 1,23

* Other thicknesses are available upon request.

** Not all panel widths exist in combination with all lengths. Maximum weight permitted is 2.000 kgs

*** Maximum weight for Tailor-made Single Sheets is 2,000 kg.

Storage: Store away from sources of punctures and physical damage. Store away from ignition sources and open flame.

Shelf life: Unlimited.

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