

Lamitex® Pep-6 Polyester Epoxy Sheet

Lamitex® PEP-6 is an exceptionally strong and tough polyester fabric/epoxy resin composite. It has low swelling properties in water, low water absorption values and high resistance to chemicals, including sulfur hexafluoride (SF_6) gas. PEP-6 was formulated for use in high voltage switchgear applications with (SF_6) as the insulation medium. EN 60893. EP PC 301. PEP-6 is also manufactured as fabricated custom parts.

Physical Properties	Test Method	Standard	Test Specimen	Conditioning	
	EN 60893-2			IEC 212	Typical Values
Flexural Strength	5.1	ISO 178	≥ 1.6 mm thick	1	18,855 psi
Flexural Strength at Elevated Temperatures	5.1	ISO 178	≥ 1.6 mm thick	--	--
Modulus of Elasticity	5.2	ISO 178	≥ 1.6 mm thick	1	0.65×10^6 psi
Compressive Strength	5.3	ISO 604	≥ 5.0 mm thick	1	50,764 psi
Izod Impact Strength Parallel	5.5.3	ISO 180/2A	≥ 5.0 mm thick	1	28.51 ft.lb-force/in ²
Shearing Strength Parallel	5.6	EN 60893-2	≥ 5.0 mm thick	1	5,076 psi
Tensile Strength	5.7	ISO 527	≥ 1.6 mm thick	1	19,580 psi

Electrical Properties

Electric Strength in oil @ 90°C Perpendicular to Laminations	6.1.2	IEC 243-1	3.0 mm thick	2	508 Vpm
	6.1.3	IEC 243-1	> 3.0 mm thick	2	71 Vpm
Permittivity: 50Hz	6.2	IEC 250	≤ 3.0 mm thick	3	4.0
			≤ 3.0 mm thick		--
Dissipation Factor: 50Hz	6.3	IEC 250	≤ 3.0 mm thick	3	0.01
			≤ 3.0 mm thick		--
Insulation Resistance after Immersion in Water	1MHz	IEC 167	All	4	100,000 MΩ
Comparative Tracking Index (CTI)	6.4	IEC 112	≥ 3.0 mm thick	1	500 V
Electrical Properties					
Temperature (Thermal Endurance) Index @ 20,000 hours	7.1	IEC 216	≥ 3.0 mm thick	-	130°C (266°F)
Flammability		IEC 707	5.0 mm thick	-	--
Density	8.1	IEC 1183-A	All	1	1.35 g/cm ³
Water Absorption	8.2	IEC 62-1	50x50x3 mm	4	0.20 % by wgt.

Conditioning:

- 1: 24h @ 23°C & 50%RH
- 2: 24h @ 23°C & 50%RH + 1hr in oil at 90°C
- 3: 96h @ 105°C + 1hr @ 23°C & 20%RH
- 4: 24h @ 50°C + 24hr in water at 23°C
- 5: 96h @ 105°C + 1hr in oil at 90°C

All information and suggestions pertaining to the properties and uses of the materials described herein are based upon tests and data believed to be accurate; however, the final determination regarding the suitability of any material for such use is the sole responsibility of the user. No warranty is expressed or implied, including, without limitation, warrant of merchantability or fitness for a particular purpose. Under no circumstances shall Lamitex, LLC be liable for incidental or consequential loss or damage.

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