

Laminates

VETRONIT G11

- ▶ High Pressure Laminate with excellent retention of mechanical strength even at elevated temperatures
- ▶ Very good electrical properties
- ▶ High comparative tracking index
- ▶ Meets temperature class H
- ▶ Certified acc. to EN 45545-2:2013, step R23

General description

Vetronit G11 is an insulating laminate made of glass fabric bonded with epoxy resin. It has a temperature index of 180°C.

Specifications

IEC/DIN EN 60893 EP GC 203/306/308
 DIN 7735 HGW 2372.4 (*)
 BS 3953 EP 5 (*)
 NFC 26-151 Vt-EM 2 (*)
 NEMA LI-1 G-11
 (*) no longer valid

RoHS Directive

Hazardous products listed in the EU-directive 2011/65/EU(RoHS-directive), annex II, are not used as ingredients in this material.

Colour

Yellow brown, gets greenish touch under influence of UV-light

Application

Electrical insulation
 High temperature resistant machine parts
 Aeronautics and aerospace
 Chemical engineering
 Slot wedges

Former denominations

Epoxy Vetronite 64.120
 Vetronit G11 432.86

Form of delivery

Sheet formats 1170 x 1070 mm and 2070 x 1070 mm (up to 40 mm thickness).
 Tolerance of formats 0 / - 30 mm
 Thickness in range of 0,2 to 150 mm
 Thickness tolerances acc. to DIN EN 60893-3-2

Material also available as cut to size panels and machined parts.

		Value	Test norm
Mechanical properties			
Flexural strength	MPa	550	ISO 178
Modulus of elasticity	MPa	24000	ISO 178
Flexural strength at 150°C / 1h	MPa	350	ISO 178
Shear strength //	MPa	30	IEC 60893
Edgewise notched impact strength Charpy	kJ/m ²	75	ISO 179
Tensile strength	MPa	375	ISO 527
Compressive strength //, at 23°C	MPa	350	ISO 604
Flatwise compressive strength	MPa	620	ISO 604
Electrical properties			
Insulation resistance after the immersion in water	Ω	1.00E+12	IEC 60167
Breakdown voltage //, 90°C in oil	kV	80	IEC 60243-1
Flatwise electric strength, 90°C in oil	kV/mm	20	IEC 60243-1
Comparative tracking index CTI	V	500	IEC 60112
Relative permittivity at 1 MHz		4.9	IEC 60250
Dissipation factor at 1 MHz		0.019	IEC 60250
Thermal properties			
Temperature index (TI)	°C	180	IEC 60216
Coefficient of linear expansion //	1.0E-6 / K	15	DIN 53752
Thermal conductivity	W/m.K	0.25	DIN 52612
Physical properties			
Water absorption (24h 23°C)	mg / %	10 / 0.04	ISO 62
Density	g/cm ³	1.85	ISO 1183

Other dimensions and thicknesses on request.

Processing

Machining with carbide or diamond tools.

For water jet cutting we recommend to add silica sand to the water and drill through-holes prior to machine.

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