

Laminate



VETRONITE G11 Roving

- High pressure laminate with excellent mechanical strength even at elevated temperatures
- Good electrical properties
- High comparative tracking index
- G-11 type, temperature class H
- Very good impact strength

Description

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

Specifications

IEC/DIN EN 60893 EP GC 205
DIN 7735 HGW 2370.4 (*)
(*) no longer valid since March 2003

RoHS Directive

Hazardous products listed in the EU-directive 2011/65/EU (RoHS-directive), annex II and amendment 2015/863/EU are not used as ingredients in this material.

Colour

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

Applications

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

	Unit	Value	Test norm
Mechanical properties			
Flexural strength	MPa	650	ISO 178
E-modulus	MPa	23000	ISO 178
Flexural strength at 150°C / 1h	MPa	340	ISO 178
Notched impact strength (Charpy), //	kJ/m²	200	ISO 179
Compressive strength // at 23°C	MPa	330	ISO 604
Compressive strength ⊥ at 23°C	MPa	650	ISO 604
Tensile strength	MPa	350	ISO 527
Electrical properties			
Insulation resistance after immersion in water	Ohm	1.00E+12	IEC 62631-3-3
Breakdown voltage // 90°C in oil	kV	80	IEC 60243-1
Electric strength ⊥ 90°C in oil	kV/mm	20	IEC 60243-1
Relative permittivity at 1 MHz		4.9	IEC 62631-2-1
Dissipation factor at 1 MHz		0.019	IEC 62631-2-1
Comparative tracking index CTI		500	IEC 60112
Thermal properties			
Temperature index (TI)	°C	180	IEC 60216
Thermal conductivity	W/m.K	0.3	ISO 8301
Linear expansion coefficient //	1.0E-6/K	15	ISO 11359-2
Physical properties			
Density	g/cm³	1.90	ISO 1183
Water absorption	mg/%	20/0.05	ISO 62

Form of delivery

Sheet formats:
1170 x 1070 mm
2070 x 1070 mm (up to 40 mm thick)
4300 x 1300 mm (untrimmed)
Size tolerance 0 / - 30 mm

Thickness range 2 to 150 mm
Thickness tol. acc. to DIN EN 60893-3-2

Also available as panels or machined parts.
Other dimensions and thicknesses on request.

Machining

Machining with carbide or diamond tools.
For water jet cutting we recommend adding silica sand to the water and drill through-holes prior to machine.

The data supplied are typical values. They are not to be considered specification values. All of the information, suggestions, and recommendations about these properties and uses of the products herein are based on tests and data believed to be accurate; however, the final determination regarding the suitability of any material described herein for the contemplated application, the manner of such use, and whether the use infringes any patents is the sole responsibility of the user. There is no warranty - expressed or implied - including, without limitation, warranties of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.

VRI Composites custom fabricates insulation materials to the exact specifications and drawings specified by our customers. We offer our customers the proper product for their specific application. A variety of dimensions and diameter sizes are available. Product colors vary according to material type.