

Laminate



VETRONITE G11

- High pressure laminate with excellent mechanical properties even at high temperatures
- Very good electrical properties
- High comparative tracking index
- G-12 type, temperature class H
- Certified acc. to EN 45545-2:2020-02, R22/R23

Description

Vetronite G11 is an insulating laminate made of fine weave glass fabric bonded with special 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 (*)
NEMA IM 60000 G-12
(*) no longer valid since March 2003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.

Color

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

Applications

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

	Unit	Value	Test norm
Mechanical properties			
Flexural strength	MPa	80	ISO 178
E-modulus	MPa	3500	ISO 178
Flexural strength at 150°C / 1h	MPa	51	ISO 178
Notched impact strength (Charpy), //	kJ/m ²	75	ISO 179
Compressive strength // at 23°C	MPa	51	ISO 604
Compressive strength ⊥ at 23°C	MPa	90	ISO 604
Tensile strength	MPa	54	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		0.015	IEC 62631-2-1
Comparative tracking index CTI	V	500	IEC 60112
Thermal properties			
Temperature index (TI)		Class H	IEC 60216
Thermal conductivity	BTU in / ft ² hr °F	1.73	ISO 8301
Linear expansion coefficient //	1.0E-6/°F	8	ISO 11359-2
Physical properties			
Density	lb/in ³	0.067	ISO 1183
Water absorption	%	0.04	ISO 62

Form of delivery

Sheet formats:
46" x 42"
81.5" x 42" (up to 1.6" thick)
169" x 51" (untrimmed)
Size tolerance 0 / - 1.2"

Thickness range 0.008" to 6"
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.