

Laminate



VETRONITE FR-5 HF CTI 600M

- High pressure laminate for high mechanical and electrical requirements at elevated temperature
- Low smoke emission and toxicity in case of fire acc. to EN 45545-2: 2020-02, R22/R23
- Defined burning rate acc. to UL94, class V-0. UL file: E47629
- Special tracking resistance CTI 600M
- Temperature class H

Description

Vetronite FR5 HF CTI 600M is special laminate made of fine weave glass fabric bonded with halogen free and temperature resistant epoxy resin. The product provides a unique combination of excellent properties and approvals.

Specifications

IEC/DIN EN 60893	EP GC 204/311
DIN 7735	HGW 2372.2 (*)
BS 3953	EP-6 (*)
NFC 26-151	Vt-EM 2-e (*)
NEMA LI-1	FR-5

(*) no longer valid

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.

Applications

Railway and traffic engineering
Transformers
Low smoke parts in trains, ships and aircraft

Color

Dark red

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.

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Vetronite FR-5 HF CTI 600M

	Unit	Value	Test norm
Mechanical properties			
Flexural strength	MPa	450	ISO 178
E-modulus	MPa	24000	ISO 178
Flexural strength at 150°C / 1h	MPa	300	ISO 178
Notched impact strength (Charpy) //	kJ/m²	60	ISO 179
Compressive strength // at 23°C	MPa	300	ISO 604
Compressive strength ⊥ at 23°C	MPa	550	ISO 604
Tensile strength	MPa	330	ISO 527
Electrical properties			
Insulation resistance after immersion in water	Ohm	1.00E+11	IEC 62631-3-3
Breakdown voltage // 90°C in oil	kV	75	IEC 60243-1
Electric strength ⊥ 90°C in oil	kV/mm	15	IEC 60243-1
Relative permittivity at 1 MHz		5.5	IEC 62631-2-1
Dissipation factor at 1 MHz		0.02	IEC 62631-2-1
Comparative tracking index CTI		600M	IEC 60112
Thermal properties			
Temperature index (TI)	°C	180	IEC 60216
Physical properties			
Density	g/cm³	1.99	ISO 1183
Flammability		V-0 > 3 mm	UL 94
Water absorption	mg/%	10/0.05	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 0,2 to 100 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.