

Laminate



VETRONITE EGS 103

- **High pressure laminate suitable for demanding mechanical requirements at elevated temperatures**
- **Excellent electrical properties**
- **G-11 type**
- **Temperature class F**

Description

Vetronite EGS 103 is an insulating laminate made of fine weave glass fabric bonded with special epoxy resin. It has a temperature index of 155°C.

Specifications

| | |
|---------------------|------------|
| IEC/DIN EN 60893 | EP GC 203 |
| DIN 7735 HGW | 2372.4 (*) |
| NEMA LI-1 | G-11 |
| (*) no longer valid | |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.

Color

Green beige

Applications

Electrical insulation
High temperature resistant machine parts
Slides and vanes for oil lubricated compressors and vacuum pumps

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.

| | Unit | Value | Test norm |
|--|-------------------|----------|---------------|
| Mechanical properties | | | |
| Flexural strength | MPa | 400 | ISO 178 |
| E-modulus | MPa | 24000 | ISO 178 |
| Flexural strength after 150°C / 1h | MPa | 200 | ISO 178 |
| Notched impact strength (Charpy), // | kJ/m ² | 65 | ISO 179 |
| Compressive strength //, at 23°C | MPa | 250 | ISO 604 |
| Compressive strength L at 23°C | MPa | 500 | ISO 604 |
| Tensile strength | MPa | 300 | 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 L, 90°C in oil | kV/mm | 20 | IEC 60243-1 |
| Relative permittivity at 1 MHz | | 5.0 | IEC 62631-2-1 |
| Dissipation factor at 1 MHz | | 0.02 | IEC 62631-2-1 |
| Comparative tracking index CTI | | 180 | IEC 60112 |
| Thermal properties | | | |
| Temperature index (TI) | TI | 155 | 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/cm ³ | 1.85 | ISO 1183 |
| Water absorption | mg/% | 12/0.06 | 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 1.5 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.

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.