

CONDUCTIVE VETRONITE[®]

432.10
432.10-01

General

Conductive Vetronite[®] is a glass fabric laminate manufactured according to the Nema G-11 standards. The material has been rendered electrically conductive by the addition of special pigments. Qualities 432.10 and 432.10-01 differ only in the tolerances of the surface and the volume resistance.

Application

Conductive Vetronite[®] is used as a slot packing material and as a mechanical support between the coils and the slot wall where the coils are furnished with a conductive layer (protection against corona discharges). Thus, an electrical connection is established between the conductive coil surface and the slot wall without short-circuiting the core laminations.

Main Characteristics

Conductive Vetronite[®] is a mechanically strong conductive laminate, very flexible in the thin grades becoming progressively more rigid with increasing thickness.

The mechanical and electrical properties of conductive Vetronite[®] remain very stable, even at a continuously maintained temperature of 155°C. The material can therefore be used in machines of temperature class F.

Processing

Conductive Vetronite[®] can be machined with diamond tipped tools. Sheets up to 2mm thick can be cut with a guillotine or punched.

Construction and Properties :

| | | | | |
|--|-----------------------------|---------|---------------------|----------------------------|
| Electrical Properties | Specific surface resistance | kΩcm/cm | 432.10 432.10-01 | 1.0 to 50.0 1.5 to 20.0 |
| | Specific volume resistance | kΩcm | 432.10 432.10-01 | 0.5 to 35.0 2.0 to 20.0 |
| The electrical characteristics were established according to the in-house test standards SIB. 12.13 and SIB 12.14 | | | | |

Mechanical Properties

| | | | | |
|------------------------------------|-----------------------|-------------------|---------|---------|
| Tensile strength | | N/mm ² | ≥ 400 | ISO 527 |
| Flexural strength (lengthwise) | for thickness = 0.8mm | N/mm ² | ≥ 550 | ISO 178 |
| - Reduction after 1h at 155°C | measured at 155°C | % | ≤ 50 | |
| - After 30 days at 180°C, M 23°C | for thickness = 1.0mm | N/mm ² | ≥ 450 | ISO 178 |
| Deflection | for thickness = 1.0mm | mm.mm | ≤ 7.5 | |
| - After 1h at 155°C. M 23°C | | % | ≤ 175 | |
| Modulus of elasticity (lengthwise) | | N/mm ² | ≥ 25000 | |

Physical Properties

| | | | | |
|--|--------------|-------------------|-----------------------|-----------|
| Density | | g/cm ³ | 1.8 - 2.0 | ISO 1183 |
| Glass content | 1.0 / 4.0 mm | % | ≥ 60 | ISO 1172 |
| Water absorption | 1.0 / 4.0 mm | | ≤ 0.1 | ISO 62 |
| Distortion under load accord. to Martens | | °C | ≥ 240 | DIN 53458 |
| Mean coefficient of linear expansion | | 1/°C | 10 x 10 ⁻⁶ | DIN 7735 |
| Testing of finished sheets : The surface resistance of each sheet is measured. A sheet is rejected if it does not comply with the tolerance stated. The volume resistance is measured at one location and is specified in accordance with sheet thickness. | | | | |

Similar Products

Conductive Vetronite® is one of a range of products for controlling the electrical stress in high voltage rotating machines. Other products used in conjunction with Conductive Vetronite® are:

Conductive tapes 215.51, and 215.55 series.

Conductive varnishes 8001/2/3 and conductive mastic 8004.

Conductive Fleece Liner 215.63 is a slightly compressible alternative to the thinnest grade of Conductive Vetronite®.

Shelf Life and Storage

Conductive Vetronite® should be stored flat, in clean, dry conditions in the original packing.

Conductive Vetronite® can be stored indefinitely.

Mode of Supply

Conductive Vetronite® is supplied in sheets 1000mm x 2450mm and 1000mm x 1500mm. Tolerances +0,-30mm.

Sheets are available in the following thicknesses.

| Range | Thickness Increment | Tolerance |
|----------------|---------------------|-----------|
| 0.1 mm - 1.0mm | 0.1mm | ± 15% |
| 1.0mm - 3.0mm | 0.5mm | ± 10% |
| >3.0mm | 1.0m | ± 7% |

Packing:

Up to 0.5mm the sheets are packed rolled in a cardboard tube for transport only.

From 0.6mm and above the sheets are packed flat in corrugated cardboard carton or wooden cases.

Health and Safety

Conductive Vetronite® is based upon fully cured epoxy resin and presents no health risk.

Dust extraction should be provided for the removal of air borne particles caused during machining operations.
