

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.
