

## CONDUCTIVE VETRONITE<sup>®</sup>

432.10  
432.10-01

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### General

Conductive Vetronite<sup>®</sup> 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.

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### Application

Conductive Vetronite<sup>®</sup> 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.

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### Main Characteristics

Conductive Vetronite<sup>®</sup> 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<sup>®</sup> remain very stable, even at a continuously maintained temperature of 155°C. The material can therefore be used in machines of temperature class F.

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### Processing

Conductive Vetronite<sup>®</sup> can be machined with diamond tipped tools. Sheets up to 2mm thick can be cut with a guillotine or punched.

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**Construction and Properties :**

<b>Electrical Properties</b>	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 <sup>2</sup>	≥ 400	ISO 527
Flexural strength (lengthwise)	for thickness = 0.8mm	N/mm <sup>2</sup>	≥ 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 <sup>2</sup>	≥ 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 <sup>2</sup>	≥ 25000	

**Physical Properties**

Density		g/cm <sup>3</sup>	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 <sup>-6</sup>	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.				

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**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®.

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**Shelf Life and Storage**

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

Conductive Vetronite® can be stored indefinitely.

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**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.

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**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.

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