
Voltatex® 2100 Impregnating varnish

Varnish composed of polyester imide / phenolic resin.

Attributes

Voltatex® 2100 is a transparent, ready-to-use and heat-curing impregnating varnish composed of polyester imide/phenolic resin combination.

Particular features:

- fast curing
- hard-elastic bonding
- compatible with all common magnet wires

The cured varnish is resistant to:

- solvent vapours
- transformer oils
- climate-related stress
- mould infestation
- acids, alkalines and ammonia

Application

Voltatex® 2100 is applicable for:

- insulation systems up to thermal class H, acc. IEC 60085
- in general suitable up to thermal class E-H, depending on curing time and -temperature.
- electric motors
- rotors with thermal and mechanical high stress

Standards

- Thermal class acc. IEC 216: TI 155-165
- Type acc. E DIN IEC 60646-3-2: type 155
- UL-temperature class: 200

Delivery forms

Voltatex® 2100 is delivered in 25 kg one-way compounds.

Base

Polyester imide / phenolic resin

Color

Transparent

Storage

The resin can be stored for up to 12 months at max. 25 °C if sealed correctly in original containers.

Hardening

- Thermal class E: 4-6 h at 120 °C
- Thermal class B: 4-6 h at 130 °C
- Thermal class F-H: 6 h at 150 °C

Protection

Cured Voltatex® 2100 is biologically inactive and not dangerous to health. When processing the liquid resin, please refer to the Material Safety Data Sheet (MSDS) for Voltatex® 2100.

Processing

Voltatex® 2100 is delivered ready-to-use. The consistency can be lowered if necessary with Voltatex® T022.

Cleaning

Cured Voltatex® 2100 is almost insoluble. Therefore, application equipment should be regularly cleaned with cleaner Voltatex® T050 or T060. All equipment cleaning and maintenance should be carried out in accordance with the equipment manufacturer's instructions.

| Mechanical | Unit of measure | Value | Test method |
|---|-----------------|----------|---|
| Bond strength of twisted coils room temperature | N | 250 ± 30 | IEC 60455-2, test method A acc. IEC 61033 |
| Bond strength of twisted coils 130 °C | N | 46 ± 4 | IEC 60455-2, test method A acc. IEC 61033 |
| Bond strength of twisted coils 155 °C | N | 34 ± 2 | IEC 60455-2, test method A acc. IEC 61033 |
| Bond strength of twisted coils 180 °C | N | 25 ± 2 | IEC 60455-2, test method A acc. IEC 61033 |

| Thermal | Unit of measure | Condition | Value | Test method |
|-------------------|-----------------|------------------------------|---------|---------------------|
| Thermal class | | Helical Coil | 200 | UL 1446, ASTM D2519 |
| Thermal class | | Twisted Pair | 200 | UL 1446, ASTM D2307 |
| Temperature class | °C | based on dielectric strength | 160-170 | IEC 60216 |
| Temperature index | °C | based on weight loss | 155-165 | IEC 60216 |

The information on this data sheet is based on the information provided by our supplier. It does not represent any specification or agreements regarding conditions or properties. The indicated values are standard values. Deviations from those values due to production and application cannot be excluded. The information on this data sheet is addressed to experts who use it at their own discretion and at their own risk. We do not guarantee results, or accept liability for the indicated specifications or for results obtained based on the specifications. Please contact us for more detailed information. Non-toxic and toxic substances are listed on the safety data sheet.

Updated 04/24

Voltatex® is a registered trademark of Axalta Coating Systems LLC., Philadelphia PA 19103, USA.



| Chemical | Condition | Value | Test method |
|---------------------------|---|--|--------------------------------|
| Resistance | mould, test method I (28 days without add. nutrient solution) | range 0 - resistant | DIN IEC 68 part 2-10 |
| Resistance | temperature changes: -55 °C/+130 °C | resistant | Test Na acc. DIN IEC 68 part 2 |
| Resistance | dry heat: +150 °C | resistant | Test Bb DIN IEC 68 part 2 |
| Resistance | Coldness: -55 °C | resistant | Test Ab acc. DIN IEC 68 part 2 |
| Impact on enamelled wires | | compatible with all common enamelled wires | |

| Electrical | Unit of measure | Value | Test method |
|---|-----------------|---------------------------|--|
| Specific volume resistance at 23 °C | Ω*cm | $\geq 10^{15}$ | acc. IEC 60455-2, test method acc. IEC 60093 |
| Specific volume resistance after 96 h water immersion | Ω*cm | $\geq 10^{15}$ | acc. IEC 60455-2, test method acc. IEC 60093 |
| Dielectric strength at 23 °C and 50 % r.h. | kV/mm | ≥ 100 | acc. IEC 60455-2, test method acc. IEC 60243-1 |
| Dielectric loss factor at (AC, 23 °C, 50 Hz) | | $\leq 20 \times 10^{-3}$ | acc. IEC 60455-2, test method acc. IEC 60250 |
| Dielectric loss factor at 155 °C and 50 Hz | | $\leq 100 \times 10^{-3}$ | acc. IEC 60455-2, test method acc. IEC 60250 |
| Dielectric constant at 23 °C between 50 Hz and 1 MHz | | 3.0 ± 0.5 | nach IEC 60455-2, Prüfverfahren nach IEC 60250 |

The information on this data sheet is based on the information provided by our supplier. It does not represent any specification or agreements regarding conditions or properties. The indicated values are standard values. Deviations from those values due to production and application cannot be excluded. The information on this data sheet is addressed to experts who use it at their own discretion and at their own risk. We do not guarantee results, or accept liability for the indicated specifications or for results obtained based on the specifications. Please contact us for more detailed information. Non-toxic and toxic substances are listed on the safety data sheet.

Updated 04/24

Voltatex® is a registered trademark of Axalta Coating Systems LLC., Philadelphia PA 19103, USA.



| Electrical | Unit of measure | Value | Test method |
|---|-----------------|---------|---|
| Dielectric constant at 155 °C and 50 Hz | | 5.0±0.5 | acc. IEC 60455-2, test method acc. IEC 60250 |
| Loss factor cross section 0.2=200x10 ⁻³ | °C | ≥170 | acc. IEC 60455-12, test method acc. IEC 60250 |

| Liquid phase | Unit of measure | Condition | Value | Test method |
|----------------|-----------------|-----------|---------|-------------|
| Binder content | % | | 48-52 | |
| Viscosity | mPas | at 25 °C | 295-365 | DIN 53019 |
| Flow time | s | at 23 °C | 65-95 | DIN 53211 |

The information on this data sheet is based on the information provided by our supplier. It does not represent any specification or agreements regarding conditions or properties. The indicated values are standard values. Deviations from those values due to production and application cannot be excluded. The information on this data sheet is addressed to experts who use it at their own discretion and at their own risk. We do not guarantee results, or accept liability for the indicated specifications or for results obtained based on the specifications. Please contact us for more detailed information. Non-toxic and toxic substances are listed on the safety data sheet.

Updated 04/24

Voltatex® is a registered trademark of Axalta Coating Systems LLC., Philadelphia PA 19103, USA.

