



TECHNICAL DATA SHEET

Vilepox® D-5MTL/NT/Z casting and laminating system

Application: For production of castings, electrical insulators and fiber reinforced composites e.g. "dry" transformers, and glass or carbon fiber reinforced laminates. It gives the advantage of wide range of application, good Martens value and good wetting properties of glass or carbon fibers and fillers. With glass fiber reinforcement it is suitable for production of H- thermal class dry transformers.

Benefits:

- excellent mechanical properties
- excellent wetting properties of glass or carbon fibers and fillers
- very good chemical resistance
- excellent dielectric properties
- good thermal resistance and Martens value
- high filler loading capacity

Specification of the components

	Vilepox® D-5MTL/NT/Z component „A”	Vilepox® D-5MTL/NT/Z component „B”	Vilepox® D-5MTL/NT/Z component „C”
Characteristics	Modified, solventfree epoxy resin of very low viscosity	An acid-anhydride based hardener.	A low viscosity solventless, tertiary-amine based accelerator
Appearance	light-yellow, clear, transparent liquid	colourless or slightly yellowish, transparent liquid	yellowish or brownish liquid
Density at 25 °C, g/cm³	1,13-1,17	1,20-1,25	0,96 – 0,99
Viscosity at 25°C, mPas	640-920	400-500	130-230
Flash point, °C	>110		appr.107
Non-volatile matter content, %	min. 99,8	min. 99,8	
Total chlorine content %	max. 0,3		
Storage	in tightly closed, original containers at 5-20°C, in a dry place far from heaters		
Shelf-life	min. 12 months	min. 12 months	min. 12 months
Packaging	metallic can or drum	metallic can or drum	metallic can
Inflammability	III. grade	III. grade	III. grade



TECHNICAL DATA SHEET

Specification of the mixture

Mixing ratio:

VILEPOX D-5MTL/NT/Z component „A” (colour RAL 3013)	100,0 parts of mass (kg)
VILEPOX D-5MTL/NT/Z component „B”	84,0 parts of mass (kg)
VILEPOX D-5MTL/NT/Z component „C” Accelerator	0,7 parts of mass (kg)

* The amount of **Component „C”** accelerator can be modified between 0,3-1,5 parts of mass (kg).

	Properties of the mixture:
Initial viscosity, mPas at 25 °C	appr.600
Gel time at 80°C, 100g, min	appr.190
Gel time at 100°C, 100g, min	appr.60
Gel time without Vilter Z at 120°C 100g, hours	appr.24

Suggested curing conditions*: at 90°C 2 hours and at 150°C 6 hours

	Properties of the hardened material:
Bending strength, N/mm ²	min. 80
Impact-bending strength, kJ/mm ²	min. 10
Tensile strength, N/mm ²	min. 45
Martens value**, °C	min. 105
Dielectric strength at 25°C, kV/mm	min. 12
Water absorbtion, at 25°C, %:	max. 0,2
Specific surface resistivity, Ohm:	min. 10 ¹⁵
Specific volume resistivity, Ohmxcem	min. 10 ¹⁴
Dissipation factor, tg δ (1 kHz) at 25°C	max. 1,5x 10 ⁻²
Dissipation factor, tg δ (1 kHz) at 120 °C	max. 1,5x 10 ⁻²
Arc resitance, s	min. 100
Combustibility, grade	HB

*Curing conditions may be different, buti n this case the technical properties may change as well.

Labour safety information

During work: Closed working-clothes, safety-goggles and gloves have to be worn.

Skin protection: A skin-protective cream has to be applied on hands before starting work.

Removing the material from the skin: The material has to be absorbed with a dry clothe or paper and the skin has to be washed with soapy warm water and dried, then a protective cream should be applied.



TECHNICAL DATA SHEET

Ventilation: The working place has to be ventilated 3-5 times an hour. Workers should avoid breathing in the vapours.

First-aid: In case the material gets to the eyes, they should be rinsed thoroughly with water for 15 minutes and the injured person should see a doctor as soon as possible. From skin the material should be removed as above. Contaminated clothes should be taken off immediately.

In case somebody feels unwell after breathing in vapours he has to be taken on open air and see a doctor as soon as possible.

Detailed safety and environmental information are given in the „Safety data sheets” of the products.

Information on application

- During mixing the temperature of the components should be between 15-25 °C. At higher temperature both viscosity and gel time decrease, while warming during bonding increases. At lower temperature viscosity and gel time increases, warming during bonding decreases.

- Prescribed mixing ratio has to be respected at every mixing.

-The components have to be mixed accurately till receiving absolute homogeneity and applied as soon as possible.

-Curing should be done in two steps. To avoid overheating the first step is to harden it at lower temperature. After this process the material is already hard, but does not reach its final excellent features. As a second step a post-curing should be done. Suggested curing cycles: 90 °C for 2 hours + 150 °C for 6 hours.

- **The actually needed curing time elongates by the time needed for warming up the workpieces.**

-Mixture should be used within potlife. Material of increased viscosity or with begun gelling must not be used.

- For cleaning tools and brushes Vilepox H-3 should be used.

The information contained in this data sheet has been collected on the basis of our best engineering knowledge, however, it is not intended to provide any legal commitment.

May 2008.

VILEPOX D-5MTL/NT/Z

ENG 2.