



TECHNICAL DATA SHEET

VILEPOX[®] HK-1 casting resin system

Field of application: An epoxy resin system of low reactivity hardening at room-temperature. Good for casting of different assembled parts of large size used in electrical and telecommunication industry. Thanks to its low viscosity and favourable potlife it gives convenient application properties. The system has good fluidity even in case of high filler content.

Benefits:

- clear, glassy appearance
- favourable application properties
- excellent dielectric properties
- excellent mechanical properties, hardness and shock resistance
- excellent chemical resistance
- excellent electrical insulation
- solvent-free system
- excellent adhesion to most of the structures, but does not adhere to polyethylene, polypropylene, silicone and non-stick surfaces
- hardened material is physiologically harmless

Technical properties of the components:

	Vilepox [®] HK-1 „A”	Vilepox [®] HK-1 „B”
Characteristics	Modified epoxy resin free of solvents.	A low viscosity, polyamid based hardener, free of solvents, hardening at room temperature
Appearance	Clear, transparent, thick liquid	slightly yellowish, clear, transparent liquid
Density at 25 °C, g/cm³	1,13 - 1,19	0,94-0,98
Viscosity at 25°C, mPas	11 000-14 500	
Flashpoint, °C	> 160	200
Non-volatile matter content, %	99,8	99,8
Total chlorine-content, %	max. 0,4	
Time of outflow at 25 °C, (Mp2), sec		40-80
Colour no. by Gardner		max. 3
Shelf-life	min. 12 months*	min. 12 months
Storage	in tightly closed, original containers at 5-20°C, in a dry place far from heaters	
Inflammability	III. grade	III. grade

*In case of long storage the resin may crystallize. In such cases the resin should be kept at 50 °C till full melting and then stirred up for few times. Material can be used again after cooling down to room temperature. Properties of the material do not change after this process.



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Technical properties of the system

Mixing ratio:

VILEPOX® HK-1 component „A”	100 parts by mass (kg)
VILEPOX® HK-1 component „B”	33 parts by mass (kg)

	Properties of the mixture
Initial viscosity at 25 °C, mPas	90-130
Potlife at 25°C, hours	appr. 5
Gel time at 25°C, 100 g, hours	appr. 9
Hardening time at 24°C, hours	appr. 24

	Properties of the hardened material*
Density at 24 °C, g/cm ³ :	1,05-1,13
Bending strength, N/mm ² :	min. 60
Tensile strength, N/mm ² :	min. 60
Martens value**, °C:	min. 65
Specific surface resistivity Ohm:	min. 10 ¹³
Specific volume resistivity Ohmxcem:	min. 10 ¹⁴

*Tests should be made after a min. 7-day conditioning at room-temperature.

** Above that Martens value the material softens gradually, but after cooling down the material hardens again.

Labour safety information

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

Skinprotection: 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 clothes or paper and the skin has to be washed with soapy warm water and dried. Afterward it has a protective cream has to be used. The dirty paper or clothes used for absorption should be disposed to a plastic container or sack.

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 into the eyes, they should be rinsed thoroughly with water for 15 minutes and the worker 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.

The hardened material is physiologically not harmful. Labour safety and environmental information is detailed in the „Safety data sheets” of the product.



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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, while warming during bonding decreases.
- The relative humidity of the air cannot be higher than 70%.
- 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.
- Casting process should be begun by preparing the workpieces in a quantity, that can be casted with resin obtained by one mixing within potlife (at room temp.).
- 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.

Vilepox HK-1 natural ENG 2.

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