



TECHNICAL DATA SHEET

VILEPOX[®] U-461/40 HV Hard, fire-retardant PUR Casting Resin

Application:

System for casting of small and medium-voltage transformers, capacitors, windings etc. Two- component, fire retardant system hardening at room temperature.

Characteristics:

- „B” class, working temperature -25-130 °C
- hard type
- good dielectric properties
- fire retardant V-0 / 4 mm
- UL certified
- good mechanical properties
- very good thermal-shock resistance
- good thermal conductivity
- available in natural and colour versions
- low viscosity, bubble free castings
- good processibility
- free of solvents and halogens
- satisfies the requirements of RoHS

Specification of the components:

			VALUE	
CHARACTERISITCS	STANDARD	UNIT	VILEPOX U-461/40 HV component "A"	VILEPOX U-461/40 HV component "B"
Description	-	-	a special poliol with inorganic fillers*	polyisocyanate hardener
Appearance	HSZ 003	-	light beige liquid **	brown transparent liquid
Density, at 25 °C	HSZ 004 (ISO 1675)	g/cm ³	1,67 - 1,71	1,20 - 1,24
Viscosity, at 25 °C	HSZ 010 (ISO 2555)	mPas	9000 - 13000	40 - 100
Viscosity, at 40 °C	HSZ 010 (ISO 2555)	mPas	3000 - 5000	-
Solid content	ISO3251:2003	%	>99	>99,8
Flash point	ASTM D93	°C	>165	>130
Storage conditions	-	-	in a dry place far away from direct heat, in tightly closed containers at 5-25°C	
Shelf life	-	month	min. 12	min.12
Packaging***	-	kg	20	2,5
Transport	-	-	metal can	metal can
Inflammability	-	class	III. (flammable)	III. (flammable)

* Sedimentation is allowed

** Other colour is available on request

*** Other packaging is available on request



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Specification of the mixture:

Mixing ratio:

VILEPOX U-461/40 HV component „A”
VILEPOX U-461/40 HV component „B”

100 parts of mass (kg)
20 parts of mass (kg)

CHARCTERISITCS	STANDARD	UNIT	VALUE
Gel time, 100g, at 25°C	HSZ 001	minutes	40 - 60
Density, at 25 °C	HSZ 004 (ISO 1675)	g/cm ³	1,57 - 1,61
Initial viscosity, at 25 °C	HSZ 010 (ISO 2555)	mPas	2000 - 3000
Potlife: (25°C, 100 g) Time of doubling of viscosity Time of tripling of viscosity	HSZ 010 (ISO 2555)	minutes	4 - 8 9 - 13
Suggested condition of hardening	room temperature: +5°C-+25°C, humidity: 45-55 % *		

* **Attention!** In case of humidity higher than 55-60 % bubbles may arise in castings.

Properties of the hardened material:

CHARACTERISTICS	STANDARD	UNIT	VALUE
Thermal conductivity	DIN VDE 0304	W/m·K	0,40-0,45
Tensile strength	ISO 527	N/mm ²	> 20
Elongation at break	ISO 527	%	> 10
Bending strength	ISO 178:2010	N/mm ²	> 10
Shore D hardness 15s	ISO 868	-	73 - 75
Water absorption (25 °C, 24 h)	ISO 62	%	< 0,15
Specific volume resistivity	IEC 93	Ω x cm	>10 ¹³
Specific surface resistivity	IEC 93	Ohm	>10 ¹²
Dielectric strength (at 25°C)	IEC 243	kV/mm	>18
Flame retardancy	UL 94	grade	V0/4mm



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Information on application:

1. In case of Automatic (powered) application:

- According to the machine specific instructions

2. In case of manual application:

- During mixing the temperature of the components should be between 20-25 °C.
- Casting process should be begun by preparing the workpieces in a quantity, that is casted with resin obtained by one mixing during pot life (time of tripling of viscosity).
- Component „A” should always be stirred up thoroughly before use to avoid possible sedimentation.
- Prescribed mixing ratio has to be respected at every mixing.
- After pouring together, the two components have to be mixed accurately till receiving absolute homogeneity.

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

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, then creamed with a protective cream afterwards. The dirty paper or clothes used for absorption should be disposed to a plastic container or sack.
- **Ventilation:** Give adequate ventilation to the premises where the product is stored and/or handled 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 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.
- **Labour safety and environmental information is detailed in the „Safety data sheets” of the product.**

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.

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