TECHNICAL DATA SHEET

VILEPOX FK-7
baking resin system for laminates

Temporary data sheet

Field of application: Baking epoxy resin system for production of glass fibre reinforced composites using pultrusion technology.

Benefits:

- good wetting properties for glass and carbon fibres
- excellent thermal resistance,
- high glass transition temperarure, Tg > 137 °C
- excellent heat distortion temperature, F class
- excellent mechanical properties
- excellent water- and chemical resistance
- excellent dielectric properties
- solvent-free system
- on request available in coloured version as well

Specification of the components:

			VALUE		
CHARACTERISTICS	**STANDARD**	**UNIT**	**component „A"**	**component „B"**	**Vilter G-3 accelerator**
Description	-	-	modified epoxy resin	mixture of organic acid anhydrides and additives	special tertiary amine based accelerator
Appearance	HSZ 003	visual	pale yellow, clean, transparent liquid	yellowish, clean, transparent liquid	yellowish-brown, clean, transparent liquid
Density (25 °C)	ISO 1675	g/cm^3	1,12-1,19	1,15-1,26	0,95-1,00
Viscosity (25°C)	ISO 255	mPas	11000 – 14 000	30-70	4500-7500
Flashpoint °C	ASTM D-93	°C	>200	>148	>150
Non-volatile matter content	MSZ EN ISO3251:2003	%	min. 99,8	min. 99,8	min. 99,7
Storage	**-**	-	in a dry place, in tightly sealed original containers at RT		
Storage stability	-	month	12*	12	12
Packaging	-	-	as agreed	as agreed	as agreed
Inflammability	-	-	Class III	Class III	Class III

***during longer storage, crystals could appear in the resin. In this case, before mixing heat the resin up to 45-60 °C. After heating the crystals disappear without any negative affect on the product.**

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Specification of the mixture:

Mixing ratio:

VILEPOX FK-7 comp. „A”	**100 parts of mass (kg)**
VILEPOX FK-7 comp. „B”	**95 parts of mass (kg)**
VILTER G-3 accelerator	**1 part of mass (kg)***

***Attention:** The **Vilter G-3** must be added only after the mixing of „A” and „B” components.
Quantity of **VILTER G-3** may be changed between **0,5-2** parts of mass (kg).

Properties of the mixture:

	STANDARD	UNIT	VALUE
Gel time, (120°C, 100 g)	HSZ 001	min	18-36
Gel time, (100°C, 100 g)	HSZ 001	min	39-60
Gel time, (80°C, 100 g)	HSZ 001	min	99-120
Density, (25 °C)	ISO 1675	g/cm^3	1,16-1,20
Initial viscosity, (25 °C)	ISO 2555	mPas	350- 650
Pot life **Time of doubling of viscosity (25°C)** **Time of tripling of viscosity (25°C)**	ISO 2555	hour	 appr. 7 appr. 26

Properties of the hardened material:

Suggested curing conditions **: 90°C 2,5 hours plus 150°C 4,5 hours

	STANDARD	UNIT	VALUE
SHORE D hardness (15s)	ISO 868	-	86-88
Bending strength	ISO/ R178	N/mm^2	min. 80
Glass transition temperature, Tg	ISO 11357-2	°C	min.137
Tensile strength	ISO/ R527	N/mm^2	min.75
Breakdown strenght (25 °C)	IEC 243	Kv/mm	min. 12
Water absorbtion (25°C)	ISO 62	%	max. 0,2
Specific surface resistivity	IEC 93	Ω (Ohm)	min. 10^{15}
Specific volume resistivity	IEC 93	Ω x cm	min. 10^{14}

** Curing conditions may vary, but in this case technical properties may change.

Information on application:

- During mixing the temperature of the components should be between 15-25 °C.
- Prescribed mixing ratio has to be respected at every mixing.
- Mixing of components: first mix components „A” and „B”, and afterwards add Vilter G-3 and mix the whole mixture accurately till receiving absolute homogeneity.

Such a mixture should be used for making composites.
-Mixture should be used within potlife.

- For cleaning tools and brushes Vilepox H-3 should be used. Hardened material can be removed only mechanically.

Labour safety information:

During work: Closed working-clothes, safety glasses 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: Material has to be absorbed with a dry clothes or paper and skin has to be washed with soapy warm water and dried. Afterwards a protective cream has to be used. Contaminated paper or clothes used for absorbtion 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 shoud 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 of 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.

January, 2015.
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 FK-7 ENG 3.