TECHNICAL DATA SHEET

SK2TM175-1

High temperature two-component resin system for vacuum infusion

► DESCRIPTION

SK2TM175-1 is a high temperature resistant two components epoxy laminating resin designed for multipurpose applications: vacuum forming, prepreg tools, hot gluing tools, blow moulds, polyester injection moulds, polyester press tools, vacuum infusion.

SK2TM175-1 has a very high heat resistance, precuring at room temperature and depending on post curing can be used till 175 °C.

Since SK2TM175-1 laminating resin system contains no fillers, it has got good wetting properties and makes a high glass fabric content possible. This leads to a low coefficient of thermal expansion and high strength.

Together with aluminium granules, SK2TM175-1 is suitable for back filling of heat resistant moulds and moulding tools. At room temperature the curing takes 7 days and the material can only be used for applications till 60°C.

This product is used in various manufacturing processes of parts made of composite materials.

► TECHNICAL DATA

PROCESSING DATA			
Composition	**Mixing**	**Resin Part A**	**Hardener Part B**
Colour	brown transparent	brown transparent	brown transparent
Mixing ratio	-	100 p. b. w.	40 p. b. w.
Viscosity at 25°C (mPa.s)	750 mPas	800 mPas	375 mPas
Density at 20°C	1,10 g/cm^3	1,15 g/cm^3	0,97 g/cm^3
Pot life 200g / 20°C	240-360 min	-	-
Curing time at RT	24-48 hrs	-	-
Post curing	4 / 40 h/°C 4 / 60 h/°C 4 / 100 h/°C 4 / 135 h/°C 4 / 160 h/°C	-	-

PHYSICAL PROPERTIES			
Flexural strength	EN ISO 178	MPa	95
Flexural elongation at break	EN ISO 178	%	4
Flexural modulus	EN ISO 178	MPa	2800
Impact resistance (Charpy)	EN ISO 179	kJ/m^2	16
Compressive strength	EN ISO 604	MPa	85
Heat resistance (HDT)	DIN 53458	°C	175
Glass transition temperature TG	method DSC	°C	182
Shore hardness	DIN ISO 7619-1	Shore D	85

► SIZE

Packing	Part A	Part B
Kit	20 kg	8 kg

► PROCESSING INSTRUCTIONS

The temperature of material and processing should be between 18 and 25° C. The mixing of resin and hardener should be made intensively and if possible without any bubbles at room temperature.

We recommend a post curing with a temperature rise of about 10°C/hour. Difficult geometries should be supported during the curing cycle. Afterwards the part should be cooled down at about 20°C/hour.

Through step-by-step curing a high heat resistance will be reached. Cool down slowly to room temperature.

Glass transition temperature (TG) 95°C: After postcuring 4 hrs. at 40°C + 4-10 hrs. at 60°C

Glass transition temperature (TG) 139°C:	After postcuring 4 hrs. at 40°C + 4-10 hrs. at 60°C + 4 hrs. at 100 °C
Glass transition temperature (TG) 156°C:	After postcuring 4 hrs. at 40°C + 4-10 hrs. at 100°C + 4 hrs. at 135°C
Glass transition temperature (TG) 175°C:	After postcuring 4 hrs. at 40°C + 4-10 hrs. at 60°C + 4 hrs. at 100°C + 4 hrs. at 135°
Heat resistance (HDT) ISO 75 B - 158 °C:	After post curing 4 h at 40 °C + 4-10 h at 60°C + 4 h at 100 °C + 4 h at 135 °C
Heat resistance (HDT) ISO 75 B - 175 °C:	After post curing 4 h at 40 °C + 4-10 h at 60°C + 4 h at 100 °C + 4 h at 135 °C + 4 h at 160°C
Glass transition temperature (TG) 182°C:	After postcuring 4 hrs. at 40°C + 4-10 hrs. at 60°C + 4 hrs. at 100°C + 4 hrs. at 135°C + 4 hrs. at 160°C

We recommend to perform the complete postcuring on the master model, at least the first one should be made this way.

► STORAGE

At appropriate storage 18-25°C.

Occuring crystallization due to unfavorable storage conditions can be eliminated by warming up the material at approx. 60° C for some hours. Opened containers should be closed immediately after use and be protected against moisture. This material should be used up as soon as possible.

Shelf life is indicated on the labels.

► SAFETY MEASURE

Please follow the precaution instructions of the Government Safety Organisation of the chemical industry when working with this material. Please follow safety advices.

► WASTE DISPOSAL

According to arrangement with local authorities cured material can be disposed as domestic or commercial waste. Non-cured products are waste which is subject to inspection and has to be disposed accordingly.

In case of further questions please do not hesitate to contact our Product Safety Data Sheet.

► GUARANTEE

The information of our technical data sheet is based on our present knowledge and the result of tests conducted under precise conditions. It is the responsibility of the user to determine the suitability of the products, under their own conditions before commencing with the proposed application. We refuse any guarantee about the compatibility of a product with any particular application. We disclaim all responsibility for damage from any incident, which results from the use of these products. The guarantee conditions are regulated by our general sale conditions.