BUILDING TRUST

TECHNICAL DATA SHEET

SC 180 NA

EPOXY MODELING PASTE
MASTER MODELS – PLUGS – DIRECT TO MOLD

DESCRIPTION

Extrudable epoxy paste for models, tools, and plug production by extrusion process.

APPLICATIONS

- *Models*
- *Tools*
- *Plugs*

PROPERTIES

- *Very good surface aspect.*
- *Good behavior on vertical support up to 1.18 in. (30 mm)*
- *Separate resin and hardener colors aid in good mix indication*
- *Application of 1.148 in. (30 mm) in one pass*
- *Maximum of 1.57 (40 mm) applied per pass under optimum condition*
- *Lower exotherm than other traditional systems*

PHYSICAL PROPERTIES

	Test Method	**Test Result**	**Test Result**	**Test Result**
Composition		**Resin**	**Hardener**	**Mixed**
Mix ratio by weight Mix ratio by volume at 77° (25°C)		100 1	100 1	100/100 1/1
Aspect		Viscous paste	Viscous paste	Viscous paste
Color		Grey	Orange	Drak Orange
Viscosity at 77°F (25°C) (Cps) (.09 Hz) (9.0 Hz)	IN-7.5-057	 800 - 1200 170 - 230	 700 - 1100 150 - 220	
Density 77°F (25°C) (Lbs/gal)	ASTM D792	6.17 - 6.59	6.25 - 6.67	6.5 – 6.6
Specific Gravity at 77°F (25°C) (g/cm^3)	ASTM D792	.74 - .79	.75 - .80	.78 - .79

MECHANICAL and THERMAL PROPERTIES at 74°F (23°C) (1)				
Property	**Test Method**	**Units**	**Test Result**	**Test Result**
Cure used			7 days at 74°F (23°C)	24 hr at 74°F (23°C) + 16 hr at 140°F (60°C)
Hardness	ASTM D2240	Shore D	59	62
Glass transition temperature Tg (TMA)	ASTM E1545	°F (°C)	149 (65)	180 (82)
Coefficient of Thermal Expansion (CTE)	ASTM E1545	ppm/°F (°C)	41 (74)	43 (78)
Tensile strength	ASTM D638	psi (MPa)		1,449 (10)
Tensile modulus	ASTM D638	psi (MPa)		188,370 (1,300)
Elongation	ASTM D638	%		1.3
Flexural strength	ASTM D790	psi (MPa)	2,100 (15)	2,000 (14)
Flexural modulus	ASTM D790	psi (MPa)	136,000 (939)	130,000 (897)
Compressive strength	ASTM D695	psi (MPa)	3,600 (25)	3,500 (24)
Compressive modulus	ASTM D695	psi (MPa)	45,000 (310)	61,500 (424)

PROCESSING

During extrusion, the dispensing nozzle must be maintained perpendicular to the surface on which the product is applied. Ensure overlap of ribbon.

CAUTION: Exotherm mostly depends on the type of machine and on the working parameters such as:
- Room temperature.
- Insulating property of frame.
- The mixture temperature (depending on the type of mixer: static or dynamic) and the speed of mixing and output.
- Applied thickness.

EXOTHERMIC PEAK AND HARDENING TIME *				
Thickness In. (mm)	Product temperature °F (°C)	Exothermic peak (hours)	Exothermic peak °F (°C)	Workability (hours)
1.57 (40)	72 (22)	2.9	145 (63)	16-18

**Room temperature: 72 – 77°F (22 – 25°C); polystyrene support.*

PROCESSING CONDITIONS

On vertical support, it is recommended to apply a thin coat of product with a spatula; this will help to reinforce the bonding on the support.

For ceiling application, we recommend a maximum thickness of 1.18 in. (30 mm).

An elevated temperature cure of 16 hours at 140°F (60°C) after initial room temperature cure is highly recommended to allow the paste to develop its full properties for demanding applications.

HANDLING PRECAUTIONS

Normal health and safety precautions should be observed when handling these products:

- Ensure good ventilation.
- Wear gloves, glasses and protective clothes.

For further information, please consult the Safety Data Sheets.

STORAGE CONDITIONS

Shelf life is 12 months of the manufacturing date. Expiration date indicated on the packaging.

PACKAGING

Packaging information on request, please contact your local sales representative or find your local contact on www.sikaadvancedresins.us

LEGAL NOTICE

CONTACT

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