EPOLAM 2090 RESIN
EPOLAM 2026 HARDENER
Technical Data Sheet
HIGH TEMP EPOXY LAMINATING / INFUSION SYSTEM
396°F (202°C) Tg (TMA) – 700 cps. mixed viscosity

DESCRIPTION
Production of composite tooling and structures by the usual impregnation methods (infusion, wet-lay-up).

APPLICATIONS
- *High performance, high temperature composite tools or parts for aerospace and other industries*
- *Suitable for infusion processing along with wet-layup and vacuum bagging processes*

PROPERTIES
- *Very High Tg*
- *Low mixed viscosity*
- *Very Long pot life*
- *R.T. set up 16 hrs (brittle state)*
- *Self-supporting with only 16 hr/130°F cure*
- *Excellent ultimate properties after final post-cure*

PHYSICAL PROPERTIES				
Composition	Units	2090 Resin	2026 Hardener	Mixed
Mix ratio – by weight Mix ratio – by volume		100 100	53 65	100/53 100/65
Aspect		Liquid	Liquid	Liquid
Color	Visual	Lt. Amber	Colorless	Clear-Lt. Amber
Viscosity (25°C)	Cps	1,710	100	700
Specific Gravity (25°C)	lbs./gal (g/cc)	9.78 (1.18)	7.92 (.95)	
Gel Time (150 g) at 77°F (25°C)	minutes			1,500

PROCESSING CONDITIONS
After mixing according to the indicated ratio, carry out impregnation of the reinforcements.
To ensure an optimal use and a good impregnation, please use packaging stored at a temperature above 15 ° C.
Do not leave large masses of material (more than 1" thickness in mixing cup) to cure at room temperature or above to prevent an exotherm and possible smoke generation of the material.

CURE CONDITIONS
In order to avoid any risk of distortion or tooling shrinkage a precise curing cycle must be observed.
Demolding takes place only after a 16 hour pre-curing at 50°C-60°C. Then the following thermal treatment (Post-cure) can be carried out : 2 hours at 120°C, 3 hours at 180°C (3 hours at 150°C optional – see property tables) with an increase and a decrease in temperature of 20°C per hour between stages.

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Neat Cured Properties Tested at 74°F (23°C)			
	Test Method	**Unit(s)**	**Test Results**
Glass Transition Temperature (Tg) *Cure #1 **Cure #2	ASTM E1545	°F (°C)	347 (175) 396 (202)
Hardness *Cure #1 **Cure #2	ASTM D-2240	Shore D	93 91
Flexural Strength *Cure #1 **Cure #2	ASTM D790	psi (MPa)	11,823 (82) 12,442 (86)
Flexural Modulus *Cure #1 **Cure #2	ASTM D790	psi (MPa)	414,085 (2,857) 489,574 (3,378)
Tensile Strength *Cure #1 **Cure #2	ASTM D638	psi (MPa)	6,210 (43) 5,084 (35)
Tensile Modulus *Cure #1 **Cure #2	ASTM D638	psi (MPa)	243,690 (1,681) 292,640 (2,019)
Tensile Elongation *Cure #1 **Cure #2	ASTM-D638	%	3.1 1.9

*1hr/60°C + 1hr/80°C + 2hr/120°C + 4hr/150°C cure
**1hr/60°C + 1hr/80°C + 2hr/120°C + 4hr/180°C cure

Composite Cured Properties Tested at 74°F (23°C)			
	Test Method	**Unit(s)**	**Test Results**
Flexural Strength *Cure #1 **Cure #2	ASTM D790	psi (MPa)	59,788 (413) 56,255 (388)
Flexural Modulus *Cure #1 **Cure #2	ASTM D790	psi (MPa)	5.04 M (34,776) 4.96 M (34,224)
Tensile Strength *Cure #1 **Cure #2	ASTM D638	psi (MPa)	55,183 (381) 59,111 (408)
Tensile Modulus *Cure #1 **Cure #2	ASTM D638	psi (MPa)	1.76 M (12,144) 1.95 M (13,455)
Tensile Elongation *Cure #1 **Cure #2	ASTM D638	%	4.1 4.2

Infused laminate - Carbon fiber, 3K plain weave, 8 layer, 0-90° rotation, 37% resin content
*1hr/60°C + 1hr/80°C + 2hr/120°C + 4hr/150°C cure **1hr/60°C + 1hr/80°C + 2hr/120°C + 4hr/180°C cure

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STORAGE CONDITIONS

This product has a shelf life of 6 months for the resin as indicated by the expiration date on the container when stored in original unopened containers between 47°F – 77°F (8°C – 25°C), 9 months if stored below 47°F (8°C) and 12 months if stored below 0°F (-18°C). The product shelf life for the hardener is 24 months between 60°F (15°C) and 77°F (25°C). Any opened can must be tightly closed. It is recommeded that opened containers be stored under an inert and/or dry gas cover (ex : dry air, Nitrogen).

HANDLING PRECAUTIONS

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

- *Ensure good ventilation*
- *Wear gloves, and safety glasses*

For additional information, please consult the Safety Data Sheet (SDS).

DISCLAIMER

The information contained in this technical data sheet results from research and tests conducted in our laboratories under precise conditions. Seller cannot anticipate all conditions under which seller's products, or the products of other manufacturers in combination with seller's products, may be used. It is the responsibility of the user to determine the suitability of the SikaAxson's products, under their own conditions, before commencing with the proposed application. In no event shall SikaAxson US be liable for any direct, indirect, punitive, incidental, special, and/or consequential damages, to property or life, whatsoever arising out of or connected with the use or misuse of our products.

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