

Epoxy Infusion System

Resin Infusion System for high performance composite parts

Key Properties

- Excellent Fracture Toughness
- Very good flow
- Gel time at 60°C is 110 minutes
- Temperature resistant up to 209°C

Applications

- Resin Infusion for high performance composite parts

Processing Properties

			EI-2510 Resin	EH-2990 Hardener
Mix ratio		pbw	100	57
		pbv	100	72.8
Density	ASTM D-792	g/cm ³	ca. 1.2	ca. 0.94
Viscosity at 77°F (25°C)	ASTM D-2393	cP	1600-1800	200-250

			EI-2510 Resin / EH-2990 Hardener
Mix viscosity at 77°F (25°C)	ASTM D-2393	cP	550-650
Pot life at 104°F (40°C)	150 ml	min	90-120
Demold time at 77°F (25°C)		hours	TBD by customer depending on shape

Cured / Mechanical Properties

Cure: 30°C to 120°C hold 1 hour + 3 hours at 180°C

			EI-2510 Resin / EH-2990 Hardener
Aspect	visual		Cream
Density	ASTM D-792	g/cm ³	ca. 1.15
Shore hardness D	ASTM D-2240		85
Glass Transition Temperature, Tg	DSC	°F (°C)	408(209)
Tensile strength	ASTM D-638-14	psi (MPa)	63 – 77
Elongation at Break	ASTM D-638-14	%	2.5 – 3.5
Fracture Toughness	ASTM D-5045-14	MPa.m ^{1/2}	1.04

Processing

The processing and material temperature should be between 104°F (40°C).

For best results, de-air the material prior to casting. Mix the two components thoroughly in the ratio indicated. The mechanical properties and temperature resistance are only obtained through the post cure according to the recommended cure schedule.

Recommended cure schedule

Curing at 30°C to 120°C by ramping the temperature by 1°C per minute; and hold for 1 hour depending on the size and thickness of the parts, then post cure for 180 °C for 3 hours then cooled down gradually by 2°C per minute. The curing time, heating, and cooling rate depend on the size and thickness of the parts.

Packaging

RAKU®-TOOL EI-2510 Resin	15 kg
RAKU®-TOOL EH-2990 Hardener	3 kg

Storage

Original containers should be kept tightly sealed and stored at ambient temperatures 59-86°F (15°C to 30°C). If properly stored the products have the shelf-life indicated on the product label. Partly used containers should always be sealed appropriately and used up as soon as possible.

Handling Precautions

Good workplace ventilation is to be ensured during processing. At the same time, the employer's liability insurance association's industrial hygiene safety regulations regarding the handling of reaction resins and their hardeners are to be observed. Please take heed of the appropriate safety data sheets.
