

Epoxy Laminating System

Temperature resistant, unfilled epoxy system with slow or fast reactivity

Key Properties

- Low viscosity
- Excellent wetting properties
- Good cure at room temperature
- Temperature resistant up to 120°C

Applications

- Laminated molds
- RTM or RIM tools
- For glass or carbon fiber laminates
- Resin Infusion

Processing Properties

			EL-2203	EH-2952-1	EH-2953-1
Color	visual		Clear	Clear	Clear
Mix ratio		parts by weight	100	30	
			100		30
Density	ASTM D-792	lb/ft ³ (g/cm ³)	ca. 72.4 (ca.1.16)	ca. 59.9 (ca.0.96)	ca. 59.3 (ca.0.95)
Viscosity at 77°F (25°C)	ASTM D-2393	cP	1000-1500	20-50	30-60

			EL-2203 / EH-2952-1	EL-2203 / EH-2953-1
Mix viscosity at 77°F (25°C)	ASTM D-2393	cP	500-700	400-600
Pot life at 77°F (25°C)	500 ml	min	50-60	70-80
Max. layer thickness		in / (mm)	0.3 (8)	0.3 (8)
Demold time		h	16	18

Cured / Mechanical Properties

Cure: 16h at RT + 14h at 248°F (120°C)			EL-2203 / EH-2952-1	EL-2203 / EH-2953-1
Appearance	visual		Clear	Clear
Density	ASTM D-792	lb/ft ³ (g/cm ³)	ca. 73.0 (ca.1.17)	ca. 68.7 (ca.1.1)
Deflection temperature, HDT	ASTM D-648	°F (°C)	239-248 (115-120)	239-248 (115-120)
Glass Transition Temperature, Tg	DSC	°F (°C)	239-248 (115-120)	239-248 (115-120)
Flexural strength	ASTM D-790	psi	16,000-17,400	16,700-18,100
Flexural modulus	ASTM D-790	psi	406,000-479,000	406,000-479,000

Processing

The processing and material temperature should be between 68-77°F (20-25°C).

Mix the two components thoroughly in the ratio indicated. Degassing is recommended.

Impregnate each layer of cloths to construct the laminate layer by layer.

The mechanical properties and temperature resistance are only obtained through the post cure according to the recommended cure schedule.

Recommended cure schedule

After initial curing at room temperature for 12-24 hours depending on the size and thickness of the parts, the parts must be heated up to 248°F (120°C) in steps and post cured for 14 hours at 248°F (120°C), then cooled down gradually. The curing time at room temperature, heating and cooling rate depend on the size and thickness of the parts.

Packaging

RAKU® TOOL EL-2203	11 lbs / 44 lbs (5 kg / 20 kg)
RAKU® TOOL EH-2952-1	6.6 lbs (3 kg)
RAKU® TOOL EH-2953-1	6.6 lbs (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.