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Kaneka Composite Resin GR6864

Epoxy Infusion Resin

Description:

- Kaneka Composite Resin GR6864 is a low viscosity, two-phase toughened epoxy resin system
- Tailored pot-life and viscosity to allow for infusion at 25°C
- Works well in structural and ballistic applications that require good damage resistance

Recommended Processing :

- Caution should be used when mixing large mass mixes as exothermic reaction causing hazardous fumes may be generated
- Mix smaller and separate batches (e.g. 450g and less) to keep exotherm potential low and extend working life
- Mix resin and hardener components with correct ratio by weight
- Uniform mix of resin matrix is critical to ensure final composite properties

Recommended Cure Profile:

- Post mixing, process mixture at 23°C-28°C
- Heat entire assembly at 1.0°C/min to 93°C, hold at 93°C for 4 hours, cool at 1.0°C/min
- Allow excess resin to cure at room temperature in thickness of less than 25 mm to prevent excess exotherm
- Additional cure cycles may be available. Please contact your Kaneka representative for more detailed information

Storage Conditions:

- Kaneka recommends that Composite Resin GR6864 is used within 1 year from date of manufacturing
- Resin and Hardener should be stored in a sealed container away from direct sunlight at 15°C to 35°C

Handling Precautions:

- Safety Data Sheets (SDS) are available upon request and should be reviewed for additional information concerning personal protective measures, safety, health and environmental information

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Resin Viscosity @ 25°C*

Test	Unit	Value
Working Life*	minutes	120
Resin, A	mPa*s	580
Hardener, B		45
Mixed		245

*Working Life is the time it takes for the initial viscosity to double

Resin Properties @ 25°C

Test	Unit	Value
Resin Density	g/cc	1.13
Hardener Density	g/cc	0.96
Pot Life, 100g	minutes	300
Mix Ratio, A:B	by weight	100:30

Cured Resin Properties, tested at room temperature*

Test	Conditioning	Unit	Value
Shore D Hardness	Dry	Shore D	86
Tg		°C	92
Flexure Strength		MPa	112
Flexure Modulus		GPa	2.6
K_{1c}		$MPa*m^{1/2}$	1.9

*data generated using Recommended Cure Profile

Composite Properties, tested at room temperature*

Woven Carbon Fiber Fabric, HTS40-3K, PW 193 GSM

Test	Conditioning	Unit	Value
Compression Strength	Dry	MPa	594
Flexure Strength		MPa	838
Interlaminar Shear Stress		MPa	52
Interlaminar G_{1c}		J/m^2	869

*data generated using Recommended Cure Profile

All system properties were measured using ASTM or equivalent test methods