




Polycraft FR4 Potting Epoxy

Fire Retardant Potting / Encapsulation Epoxy Resin System

9.75 : (Resin) 1 : (Hardener)	50-70 Mins	24 Hrs	Black	85D	 25°C	1.7kg by weight equals approx. 1 litre in volume.
Mix Ratio By Weight	Pot Life (20°C)	Demould Time (25°C)	Cured Colour	Hardness	Working Temperature	Density

Technical Overview		
Property	Component	Value
Material	Resin Hardener	Epoxy Polyamine
Colour	Resin Hardener	Black Amber
Viscosity (mPas) @25°C	Resin Hardener Mixed	120000-160000 100-200 25000-35000
Density @ 25°C g/cm ³	Resin Hardener Mixed	1.75 ± 0.05 0.96 ± 0.05 1.58 - 1.68
Mix Ratio	By Weight	9.75: Resin 1: Hardener
Pot Life (200g @25°C)	Mins	50-70 Mins

Property	Unit	Value
Hardness	Shore D	85
Thermal Conductivity	W /m/°c	0.58
Coefficient of thermal expansion	ppm / °c	33
Heat Deflection Temperature	Celsius	60
Maximum Operating Temperature	Celsius	130° (Continuous) 150° (Short Term)
Minimum Operating Temperature	Celsius	-40°
Tensile Strength	mPa	60
Compressive Strength	mPa	80
Water Absorption @ 25°C (over 7 days)	Mass	0.37%
Flammability Testing	-	UL94 V-0
Electric Strength	kV/cm	150
Loss Tangent @25°C	50hz	0.037
Permittivity @25°C	50hz	4.7
Volume Resistivity	ohm-cm	¹⁵ 10
Comparative Tracking Index	Volts	>850
Limiting Oxygen Index (LOI)	%	36

Data based on room temperature cure for 7 days, data should not be used for specifications, and should not be considered minimum or maximum

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Product Overview

Polycraft FR4 potting epoxy has been formulated for good chemical resistance exhibiting excellent electrical characteristics (RoHS Compliant) and high levels of flame retardancy (UL94-V0 Certified). Polycraft FR4 produces a low exotherm during cure meaning it is suitable for small to large volume castings with minimal shrinkage. Ideal as a potting & encapsulation compound.

Bulk castings

250gm mixture of FR4 generated a temperature rise of 2.9°C above ambient room temperature making it ideal for large volume castings / casting at elevated temperatures.

Instructions for Use

Preparation

- Both components should be in the correct temperature range (20-25°C) for best results.
- Item to be potted / encapsulated must be clean and free of contaminants
- Thoroughly mix the resin component separately to ensure no settlement has occurred
- Use clean plastic mixing cups.

Mixing/Pour/Demould

- With care quickly measure and combine quantities using desired ratio with digital scales.
- Mix material together, ensure to thoroughly mix contents until homogeneous
- Once mixed the material can be placed in a vacuum chamber to 25 inHg and allow to degas for approximately 2 minutes before returning to regular atmospheric pressure, if vacuum chamber is not available, gentle agitation
- Carefully pour and set aside to cure.

Curing Times

The FR4 will fully cure over 7 days at 25°C it can also reach a full cure by post curing at 60°C for 2 hours. (FR4 should be gradually brought up to temperature and then when complete allowed to cool slowly to room temperature).

Storage / Shelf-life

Polycraft FR4 should be stored between 18°C and 25°C. Under these conditions, shelf-life in the original, unopened containers is six months.

Health and Safety

Before use please read product labels, technical sheets and safety data Sheets and ensure you have adequate understanding of the safety precautions and directions before using the materials.