



TECHNICAL DATA

NP1025

HIGH THERMAL CONDUCTIVITY EPOXY RESIN SYSTEM

Product Description

NP1025 is a two-part thermally conductive epoxy resin system with a low mix viscosity. The mixed system has a long pot life and can be cured at ambient or elevated temperatures. The flexibility of the resin and the very high filler loading make this system ideal for applications where temperature cycling and thermal stresses are encountered.

The LED Range of Resins

The NP1025 epoxy system provides state of the art thermal conductivity of over 1.3 W/mK from a liquid resin with a mix viscosity of 20 poise. The long (90 minutes) pot life allows users to further reduce this initial viscosity (to 1-2 poise) prior to use, by warming the resin. The penetration and wetting of substrates with this high thermally conductivity mix has allowed component manufacturers worldwide to push on the performance boundaries of their designs. The NP1025 epoxy resin system further provides outstanding electrical properties (e.g. 15 kV electric strength), very high flame retardancy, low cure shrinkage and thermal expansion coefficient (0.3% and 30 ppm/°C respectively).

Features

- * Very High Thermal Conductivity
- * Ambient or Elevated Temperature Dispensing and Curing
- * Contains No Halogens and is Non-Toxic
- * Low Stress on Components

Applications

- * Assemblies
- * Power Supplies
- * Modules
- * Drivers

Typical Uncured Physical Properties

Property	Base	Hardener	Mixed System
Viscosity (mPas)	15000-30000	100	2000-4000
Colour	Grey	Clear	Grey
Specific Gravity	2.24-2.28	0.92-0.94	2.09-2.12
Mix Ratio	18 7.2	1 1	By Weight By Volume



Pot Life	90 Minutes	150 g @ 23°C
Gel Time	6 Hours	150 g @ 23°C
Peak Exotherm	+10°C	150 g @ 23°C
Complete Cure	24 Hours	150 g @ 23°C

Typical Cured Properties

Property	Result	Units
Operating Temperature	-40 to +180	°C Continuous (Application & Geometry Dependent)
Shore D Hardness	76	
Electric Strength	15	kV/mm
Thermal Conductivity	1.3	W/mK
Volume Resistivity	10 ¹⁴	Ohm.cm
Cure Shrinkage	0.3	% (volume)
Flammability	To UL 94 V-0 Level	Not Certified
Deflection Temperature	70	°C
Coefficient of Expansion	30	ppm/°C
Tensile Strength	28	MPa
% Elongation	4.6	%

Note: The above technical information and data should be considered representative or typical only and should not be used for specification purposes.



Supply	Details
Twinpacks	Ideal for mixing without the entrapment of air.
Kits	The resin base and hardener are supplied in two separate containers, pre-weighed to facilitate accurate mixing for larger applications.
Bulk	The NP1025 system is formulated to prevent sedimentation on storage. However, storage at higher ambient temperatures (above 25°C for instance) or for long times, can cause some settlement. It is important that any sediment is redispersed into the bulk resin prior to using the resin. This can be done by stirring with a long spatula.
Shelf Life	The materials should be stored in the original unopened containers under cool dry conditions at temperatures between 10 and 25°C. The shelf life is one year. Opened containers should be resealed.



Precautionary Information

Refer to Product Label and Material Safety Data Sheet for health and safety information before using this product. All Products should be used in accordance with your own COSHH Assessments. For additional health and safety information, call 01373 858234.

Technical Information

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