

NP1003 GENERAL PURPOSE EPOXY RESIN SYSTEM

UL 94 V-0 APPROVED

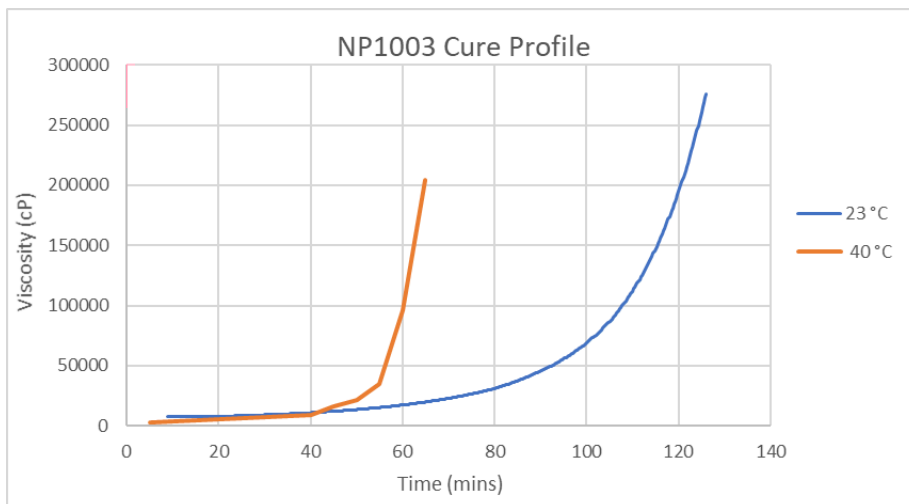
Product Description

NP1003 is a two-part epoxy resin with UL 94 V-0 flame retardant approval. It cures at room temperature to a glossy finish and is flame retardant and thermally conductive (0.9 W/mK). Slight flexibility allows it to handle thermal changes, making it ideal for coating PCBs and general electronics, as well as outdoor use. With minimal water uptake (0.1%/30 days), and low thermal expansion (40 ppm/°C), NP1003 is a reliable solution for power supplies, including LEDs.

Typical Uncured Physical Properties

Property	Base	Hardener	Mixed System
Viscosity (mPas)	25,000	300	6,700
Colour	Black	Clear Amber	Black
Specific Gravity	1.80	0.95	1.70
Mix Ratio	10.1 5.3	1 1	By Weight By Volume

Pot Life	45-60 Minutes	150 g @ 23°C
Gel Time	180 Minutes	150 g @ 23°C
Gel Time	70 Minutes	150 g @ 40 °C
Peak Exotherm	37°C	150 g @ 23°C



Complete Cure	24 Hours	50 g @ 23°C
	48 Hours	50 g @ 10°C
	4 Hours	50 g @ 60°C

FEATURES

- UL 94 V-0 Approved
- High Gloss Finish
- Ambient or Elevated Temperature Dispensing and Curing
- Non Toxic, Halogen free.
- Good Thermal Conductivity to Dissipate Heat

APPLICATIONS

- Assemblies
- Power Supplies
- Modules
- Drivers



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TECHNICAL DATA

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Typical Cured Properties

Property	Result	Units
Operating Temperature	-55 to +130	°C Continuous (Application & Geometry Dependent)
Shore D Hardness	80	
Electric Strength	15	kV/mm
Thermal Conductivity	0.9	W/mK
Volume Resistivity	10 ¹⁴	Ohm.cm
Loss Tangent	0.04	@ 50 Hz
Permittivity	4.00	@ 50 Hz
Comparative Tracking Index	>850	V
Cure Shrinkage	0.3	% (volume)
Flammability	UL 94 V-0	Certified
Deflection Temperature	60	°C
Coefficient of Expansion	40	ppm/°C
Water Absorption	0.13	% (30 days @ 20°C)

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 NP1003 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.