

TECHSIL EP21480 BLACK

Techsil® EP21480 Black is a two part epoxy resin system that has been given UL 94 V-0 Approval. The system cures at room temperature to a high gloss finish. It is flame retardant and thermally conductive. The resin system is slightly flexible to allow for thermal fluctuations and is suitable for encapsulation of PCB's and general electronics.

The LED Range of Resins:

The electronics and the power supplies behind the LED's require advanced resins for protection and to dissipate generated heat. Techsil® EP21480 Black system offers an internationally recognized solution to many power supply problems. The water uptake is minimal (0.1%/30 days) and the slight flexibility makes Techsil® EP21480 useful in most outdoor applications. The excellent thermal conductivity of 0.9 W/m/OK and low expansion coefficient (40 ppm/°C) provide the necessary performance for LED Power supplies.

Features:

- UL 94 V-0 Approved
- High Gloss Finish
- Ambient or Elevated Temperature Dispensing and Curing
- Contains No Halogens and is Non-Toxic.
- Good Thermal Conductivity to Dissipate Heat

Applications:

- Assemblies
- Power Supplies
- Modules
- Drivers

Typical Properties of Uncured Material

Property	Base	Hardener	Mixed System
Viscosity	30000 – 60000	300	6000 – 10000
Colour	Black	Clear Amber	Black
Mix ratio	10:1 5.3	1 1	By weight By volume
Specific Gravity	1.82	0.96	1.70

Pot life	45 minutes	150gm @ 23°C
Gel Time	180 minutes	150gm @ 23°C
Peak Exotherm	37°C	150gm @ 23°C
Complete Cure	24 hours	150gm @ 23°C

Contact Details

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Typical Cured Data:

Property	Hardener	Mixed System
Operating Temperature	-55 to +130	°C Continuous.
Hardness	80	Shore D
Electric Strength	15	kV/mm
Thermal Conductivity	0.9	W/m.K
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	UL96 V-0	Certified
Tensile Strength	50	MPa
Compressive Strength	120	MPa
Deflection Temperature	60	°C
Coefficient of Expansion	40	Ppm/°C
Water Absorption	0.3	% (3 days @ 20°C)
Elongation at break	1.5	%

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

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 EP21480 Black 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.

Curing Performance:

There are many factors that can influence the rate of cure. These include: the types of substrate used, the condition of the surface to be bonded, the smoothness of the surface, the closeness of the surfaces and the atmospheric conditions.

DISCLAIMER

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy themselves as to the suitability of such information for their particular use.

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