

Date: August 2024
Rev: XIII
No. of Components: Two
Mix Ratio by Weight: 10 : 1
Specific Gravity: Part A: 1.22 Part B: 1.02
Pot Life: < 2 Hours
Shelf Life- Bulk: One year at room temperature
Shelf Life- Syringe: Six months at -40°C

Recommended Cure: 150°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
150°C / 1 Minute
120°C / 5 Minutes
100°C / 10 Minutes

NOTES:

- Container(s) should be kept closed when not in use.
- Filled systems should be stirred thoroughly before mixing and prior to use.
- Performance properties (rheology, conductivity, others) of the product may vary from those stated on the data sheet when bi-pak/syringe packaging or post-processing of any kind is performed. Epoxy's warranties shall not apply to any products that have been reprocessed or repackaged from Epoxy's delivered status/container into any other containers of any kind, including but not limited to syringes, bi-paks, cartridges, pouches, tubes, capsules, films or other packages.
- Syringe packaging will impact initial viscosity and effective pot life, potentially beyond stated parameters.
- **TOTAL MASS SHOULD NOT EXCEED 25 GRAMS**
- Black color is cosmetic only, and not intended to be photonic, spectral, or lampblack. All users need to confirm its opacity versus wavelength.

Product Description: EPO-TEK® 353ND Black is a two component, high temperature epoxy designed for semiconductor, hybrid, and fiber optic applications.

Typical Properties: Cure condition: 150°C / 1 Hour Different batches, conditions & applications yield differing results.

Data below is not guaranteed. To be used as a guide only, not as a specification. * denotes test on lot acceptance basis

PHYSICAL PROPERTIES:				
* Color (before cure):	Part A: Black	Part B: Amber		
* Consistency:	Pourable liquid			
* Viscosity (23°C) @ 50 rpm:	3,000 - 5,000	cPs		
Thixotropic Index:	N/A			
* Glass Transition Temp:	≥ 90	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)		
Coefficient of Thermal Expansion (CTE):				
Below Tg:	54	x 10 ⁻⁶ in/in°C		
Above Tg:	206	x 10 ⁻⁶ in/in°C		
Shore D Hardness:	85			
Lap Shear @ 23°C:	> 2,000	psi		
Die Shear @ 23°C:	≥ 15	Kg	5,334	psi
Degradation Temp:	420	°C		
Weight Loss:				
@ 200°C:	0.92	%		
@ 250°C:	1.24	%		
@ 300°C:	1.83	%		
Suggested Operating Temperature:	< 325	°C (Intermittent)		
Storage Modulus:	516,912	psi		
Ion Content:	Cl ⁻ : 595 ppm	Na ⁺ : 52 ppm		
	NH ₄ ⁺ : 1149 ppm	K ⁺ : 16 ppm		
Particle Size:	N/A			

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	N/A	
Volume Resistivity @ 23°C:	≥ 1.6 x 10 ¹³	Ohm-cm
Dielectric Constant (1KHz):	3.09	
Dissipation Factor (1KHz):	0.005	

OPTICAL PROPERTIES @ 23°C:		
Spectral Transmission:	< 3 % @ 1500	nm
Refractive Index:	N/A	

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This information is based on data and tests believed to be accurate. Epoxy Technology, Inc. makes no warranties (expressed or implied) as to its accuracy and assumes no liability in connection with any use of this product.

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