Manufacturer:
Epoxy Technology

Product Name:
EPO-TEK® 383ND High Temperature Epoxy, Heat Cure - Pre-Mixed and Frozen (3cc Syringe)

Manufacturer Part Number:
ET383ND-3CC

EPO-TEK® 383ND

Technical Data Sheet
For Reference Only
High Temperature Epoxy

Date:	February 2022		
Rev:	X		
No. of Components:	Two		
Mix Ratio by Weight:	10 : 1		
Specific Gravity:	Part A: 1.20	Part B: 0.99	
Pot Life:	8 Hours		
Shelf Life- Bulk:	One year at room temperature		
Shelf Life- Syringe:	One year at -40°C		

Recommended Cure: 150°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
90°C / 30 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.

Product Description: EPO-TEK® 383ND is a two component, high temperature, electrically and thermally insulating epoxy. Designed as a longer pot life version of EPO-TEK® 353ND.

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: Clear	Part B: Slightly yellow	
* Consistency:	Pourable liquid		
* Viscosity (23°C) @ 50 rpm:	3,500 - 6,000	cPs	
Thixotropic Index:	N/A		
* Glass Transition Temp:	≥ 100	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):			
Below Tg:	34	x 10^{-6} in/in°C	
Above Tg:	129	x 10^{-6} in/in°C	
Shore D Hardness:	88		
Lap Shear @ 23°C:	> 2,000	psi	
Die Shear @ 23°C:	≥ 20	Kg	7,112 psi
Degradation Temp:	415	°C	
Weight Loss:			
@ 200°C:	0.28	%	
@ 250°C:	0.42	%	
@ 300°C:	0.86	%	
Suggested Operating Temperature:	< 350	°C (Intermittent)	
Storage Modulus:	369,039	psi	
* Particle Size:	≤ 20	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	N/A	
Volume Resistivity @ 23°C:	≥ 3 x 10^{13}	Ohm-cm
Dielectric Constant (1KHz):	2.59	
Dissipation Factor (1KHz):	0.008	

OPTICAL PROPERTIES @ 23°C:		
Spectral Transmission:	≥ 90% @ 520-1660	nm
Refractive Index:	1.5715 @ 589	nm

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EPO-TEK® 383ND Advantages & Suggested Application Notes:

- Built in color change from clear to dark amber when cured properly.
- Long 8 hour pot life allows for use over an entire shift.
- Capable of high performance in fiber optic applications; designed to meet Telecordia 1221.
- Strong transmission in the near IR; optimal for sealing fiber to ferrules, transmitting light in the optical pathways from 800-1,500 nm.
- Commonly used for fiber component packaging such as alignment of optics, environmental sealing of opto-electronic packages and V-groove arrays.
- Used for pot fiber optic bundles into ferrules for light guides and endoscopes.
- Used as dielectric layer in fabrication of capacitors and laminating PZT piezoelectrics such as those found in ink-jetting devices.
- Structural grade epoxy found in hard disk drives. Applications include anti-disk and voice coil sealing.
- Low viscosity allows for wicking and capillary dispensing.