EPO-TEK® 383ND
Technical Data Sheet
For Reference Only
High Temperature Epoxy

Date: Oct 2014       Rev: V       Recommended Cure: 150°C / 1 Hour

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

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) may vary from those stated below when syringe packaging and/or post-processing is required.
- 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   *denotes test on lot acceptance basis   *Data below is not guaranteed to be used as a guide only, not as a specification. Different batches, conditions & applications yield differing results.

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       6,800 psi

Degradation Temp: 415 °C

Weight Loss: @ 200°C 0.28 %
@ 250°C 0.42 %
@ 300°C 0.86 %

Operating Temp:
- Continuous: -55°C to 250 °C
- Intermittent: -55°C to 350 °C

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% @ 520-1,660 nm

Index of Refraction: 1.5715 @ 589 nm

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Page 1 of 2
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.