

EPO-TEK[®] 353ND-T

Technical Data Sheet

For Reference Only

150°C / 1 Hour

High Temperature Thixotropic Epoxy

Date: Apr 2015 Rev: VI No. of Components: Two

Mix Ratio by Weight: 10:1

Specific Gravity: Part A: 1.12 Part B: 1.02

Pot Life: 3 Hours

Shelf Life- Bulk: One year at room temperature

Minimum Alternative Cure(s):

Recommended Cure:

may not achieve performance properties below

150°C / 1 Minute

120°C / 5 Minutes

100°C / 10 Minutes

80°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) 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.

• TOTAL MASS SHOULD NOT EXCEED 25 GRAMS

<u>Product Description:</u> EPO-TEK® 353ND-T is a two component, highly thixotropic, medical grade epoxy with non-flowing properties and high temperature resistance.

<u>Typical Properties:</u> 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: Tan Part B: Amber * Consistency: Smooth thixotropic paste

* Viscosity (23°C) @ 20 rpm: 9,000 - 15,000 cPs

Thixotropic Index: 3.8

* 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 Tq: $43 \times 10^{-6} \text{ in/in}^{\circ}\text{C}$

Above Tg: 231 x 10⁻⁶ in/in°C

Shore D Hardness: 80

Lap Shear @ 23°C: 1953 psi

Die Shear @ 23°C: ≥ 15 Kg 5,100 psi

Degradation Temp: 409 °C

Weight Loss: @ 200°C 0.53 %

@ **250°C** 1.22 % **2.37** %

Suggested Operating Temperature: < 325 °C (Intermittent)

Storage Modulus: 559,120 psi

Ion Content: CI: 471 ppm NA⁺: 143 ppm

 NH_{4}^{+} : 400 ppm K^{+} : 15 ppm

Particle Size: 99% ≤ 20 microns

ELECTRICAL AND THERMAL PROPERTIES:

Thermal Conductivity: N/A W/mK Volume Resistivity @ 23°C: $\geq 4 \times 10^{12}$ Ohm-cm

Dielectric Constant (1KHz): 3.21 Dissipation Factor (1KHz): 0.003

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EPO-TEK® 353ND-T Advantages & Suggested Application Notes:

- Complies with ISO 10993 biocompatibility testing.
- Suitable for fiber optic, medical grade, circuit assembly applications.
- Recommended for bonding metals, glass, ceramics and many types of plastic.
- High temperature adhesive for hybrids and medical devices; it can resist within the 300°C range for long periods of time.
- Circuit assembly applications; staking SMD's to PCB, bonding ferrite cores together in copper coil windings, inductor coils and power devices; suitable for COB glob top DAM material.
- Alternative product versions available with distinct viscosity ranges contact Technical Services at techserv@epotek.com for best recommendation.
- Can be applied by screen printing, spatula, hand held or automatic dispensing equipment.
- Amber color change when properly cured for easy visual ID and inspection.