

Date: June 2025
Rev: III
No. of Components: Two
Mix Ratio by Weight: 10 : 1
Specific Gravity: Bulk – Part A: 1.20, Part B: 1.02
 Syringe: 1.18
Pot Life: Bulk: ≤3 Hours, Syringe: ≤2 Hours
Shelf Life- Bulk: One year at room temperature

Shelf Life- Syringe: Six months at -40°C
Recommended Cure: 120°C / 1 Hour
Alternative Cure(s): May not achieve performance properties below 150°C / 1 Hour
 120°C / 5 Minutes
 100°C / 10 Minutes
 80°C / 30 Minutes

Product Description:

EPO-TEK® 353NDP is a two component, high temperature and high for optical, telecom, datacom, product may vary from those stated on the data sheet when Also available in single component frozen syringe. kind is

Notes:

- Container(s) should be kept closed when not in use. humidity resistance epoxy designed for the HI-REL microelectronics, semiconductor and hybrid applications. bi-pak/syringe packaging or post-processing of any

Typical Properties:

Cure condition: 120°C / 1 Hour

Different batches, conditions, and applications yield differing results.

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.

Data contained herein is preliminary and subject to change • If product crystallizes in storage, place container in warm oven without notice. To be used as guide only, not as a specification. until crystallization disappears. Please refer to Tech Tip #7 on website.

*denotes test on lot acceptance basis.

• TOTAL MASS MIXED SHOULD NOT EXCEED 25 GRAMS

Physical Properties	Details
* Color (before cure)	Part A: Clear, 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)	75 x 10 ⁻⁶ in/in°C below Tg, 437 in/in°C above Tg
Shore D Hardness	85
Lap Shear @ 23°C	> 2000 psi
Die Shear @ 23°C	38 Kg; 32 Kg (after 7d @ 85°C / 85% RH); 15 Kg (after 2000h @ 85°C / 85% RH)
Degradation Temp	410°C
Weight Loss:	@ 200°C: 0.09%, @ 250°C: 0.28%, @ 300°C: 0.72%
Suggested Operating Temperature	< 350°C (Intermittent)
Storage Modulus:	2213 MPa @ 23°C

Ion Content	Pending
*Particle Size	N/A

SELLER MAKES NO OTHER WARRANTY OR GUARANTEE OF ANY KIND REGARDING FITNESS OF THE PRODUCT FOR A PARTICULAR PURPOSE.
BUYER ASSUMES FULL RESPONSIBILITY FOR QUALITY CONTROL, TESTING AND DETERMINATION OF SUITABILITY OF PRODUCT FOR ITS INTENDED APPLICATION OR USE.

EPO-TEK® 353NDP Advantages & Suggested Application Notes

- Reasonable pot-life that allows for low temperature curing to be realized. It has an amber color change upon cure.
- Semiconductor suggested applications: wafer-wafer bonding of CSP; fabrication of MEMs devices; flip chip underfill.
- Hybrid suggested applications: providing near hermetic seals and UHV seals in sensor devices, resisting high temperature packaging. o Down-Hole petrochemical fiber optic sensors, resisting >200°C field conditions.
- o HI-REL microelectronics assembly for automotive electronics, autonomous, aviation, and defense
- Optical, telecom, and datacom suggested applications:
 - o Sealing fiber into ferrules, transmitting light in the optical pathway from 800- 1550 nm range. o High speed data transceiver
 - device adhesive for active alignment of optics, environmental sealing of opto-package, V-groove arrays.
- Electronics Assembly suggested applications:
 - o Used as dielectric layer in the fabrication of capacitors; laminating PZT ferroelectrics found in ultrasound or ink-jetting devices.
 - o Impregnating and insulating copper coil windings in motors and inductor coils. Bonding ferrite cores and magnets. o Structural bonding of stainless steel, metals, Kapton®, and magnets.



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EPO-TEK® 353NDP

High Temperature Humidity Resistant Epoxy

Preliminary Product Information Sheet

Electrical & Thermal Properties	Details
Thermal Conductivity	N/A
Volume Resistivity @ 23°C	$\geq 1.8 \times 10^{13}$ Ohm-cm
Dielectric Constant (1KHz)	3.17
Dissipation Factor (1KHz)	0.005

Optical Properties @23°C	Details
Spectral Transmission:	$\geq 50\%$ @ 550 nm $\geq 95\%$ @ 1100-1600 nm $\geq 98\%$ @ 800-1000 nm
Refractive Index:	1.569 @589 nm

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