

Date: May 2021
Rev: VI
No. of Components: Single
Mix Ratio by Weight: N/A
Specific Gravity: 1.20
Pot Life: 28 Days
Shelf Life- Bulk: One year at -40°C
Shelf Life- Syringe: One year at -40°C

Recommended Cure: 125°C / 1 Hour

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.

Product Description: EPO-TEK® TD1001 is a single component, thermally conductive, electrically insulating epoxy designed for low stress semiconductor and electronics packaging.

Typical Properties: Cure condition: varies as required 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):	White		
* Consistency:	Smooth paste		
* Viscosity (23°C) @ 5 rpm:	10,000-22,000	cPs	
Thixotropic Index:	4.1		
* Glass Transition Temp:	≥ 40	°C	(Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)
Coefficient of Thermal Expansion (CTE):			
Below Tg:	57	x 10 ⁻⁶ in/in°C	
Above Tg:	213	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:	436	°C	
Weight Loss:			
@ 200°C:	< 0.05	%	
@ 250°C:	0.14	%	
@ 300°C:	0.44	%	
Suggested Operating Temperature:	< 325	°C	(Intermittent)
Storage Modulus:	286,739	psi	
* Particle Size:	≤ 20	microns	

ELECTRICAL AND THERMAL PROPERTIES:

Thermal Conductivity:	0.8	W/mK
Volume Resistivity @ 23°C:	≥ 2 x 10 ¹³	Ohm-cm
Dielectric Constant (1KHz):	3.12	
Dissipation Factor (1KHz):	0.010	

Epoxyes and Adhesives for Demanding Applications™

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.

EPOXY TECHNOLOGY, INC.

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www.epotek.com

EPO-TEK® TD1001 Advantages & Suggested Application Notes:

- Low Tg, several weeks of pot-life, and low modulus are a few of its traits.
- It is particularly suitable for bonding ferrite cores in power device plastic packaging.
- Excellent adhesion to PCBs, ceramics, most metals and lead frames
- Suggested Applications:
 - Semiconductor:
 - IC packaging on lead frame or FR4 PCB, accepting Epoxy Molding Compound plastic SMD encapsulation.
 - Low stress on large die attach > 500 mil x 500 mil
 - Electronics:
 - Bonding Cu and Al heat sinks.
 - Staking SMDs to PCBs and other substrates
 - Optics:
 - LED die attach.
 - White color after cure is attractive for LED, x-ray scintillator, and opto-coupler circuits.
 - Heat sinking laser diode packages.
 - Fiber optic component packaging and assembly.
- Its smooth and creamy viscosity enables high speed dispensing processes; however, its thixotropic nature allows for screen printing techniques as well.

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