

## TECHNICAL DATA SHEET

[info@deffner-johann.de](mailto:info@deffner-johann.de) | +49 9723 9350-0

Die in diesem Produktdatenblatt genannten Spezifikationen dienen nur zur Produktbeschreibung und beziehen sich auf den Zeitpunkt unmittelbar nach der Produktion bzw. Import des Produktes. Sie entsprechen den Angaben des Herstellers. Eine rechtsverbindliche Zusicherung bestimmter Eigenschaften oder der Eignung für einen bestimmten Einsatzzweck kann hieraus nicht abgeleitet werden. Durch unsachgemäßen Transport und / oder unsachgemäße Lagerung können sich Änderungen ergeben. Die Angaben in diesem Produktdatenblatt entbinden den Verarbeiter nicht von eigener Prüfung der Eigenschaften des Produktes und dessen Eignung für die vorgesehene Verwendung.

**Date:** February 2021  
**Rev:** XVIII  
**No. of Components:** Two  
**Mix Ratio by Weight:** 100 : 35  
**Specific Gravity:** Part A: 1.15 Part B: 0.95  
**Pot Life:** 8 Hours  
**Shelf Life- Bulk:** One year at room temperature  
**Shelf Life- Syringe:** Six months at -40°C

**Recommended Cure: 80°C / 3 Hours**

Minimum Alternative Cure(s):  
*May not achieve performance properties listed below*  
 23°C / 48 Hours

**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.
- If product crystallizes in storage, place container in warm oven until crystallization disappears. Please refer to Tech Tip #7 on website.

**Product Description:** EPO-TEK® 301-2 is a two component optical and semiconductor grade epoxy resin with low viscosity, long pot-life and good handling characteristics.

**Typical Properties:** Cure condition: 80°C / 3 Hours 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/Colorless	Part B: Clear/Colorless	
* Consistency:	Pourable liquid		
* Viscosity (23°C) @ 100 rpm:	225 - 425	cPs	
Thixotropic Index:	N/A		
* Glass Transition Temp:	≥ 80	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):			
Below Tg:	61	x 10 <sup>-6</sup> in/in°C	
Above Tg:	180	x 10 <sup>-6</sup> in/in°C	
Shore D Hardness:	80		
Lap Shear @ 23°C:	> 2,000	psi	
Die Shear @ 23°C:	≥ 15	Kg	5,334 psi
Degradation Temp:	360 °C		
Weight Loss:			
@ 200°C:	0.01	%	
@ 250°C:	0.46	%	
@ 300°C:	2.19	%	
Suggested Operating Temperature:	< 300 °C (Intermittent)		
Storage Modulus:	432,279	psi	
Ion Content:	Cl <sup>-</sup> : 61 ppm	Na <sup>+</sup> :	104 ppm
	NH <sub>4</sub> <sup>+</sup> : ND	K <sup>+</sup> :	ND
Particle Size:	N/A		

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	N/A	
Volume Resistivity @ 23°C:	≥ 2 x 10 <sup>12</sup>	Ohm-cm
Dielectric Constant (1KHz):	3.80	
Dissipation Factor (1KHz):	0.012	

OPTICAL PROPERTIES @ 23°C:		
Spectral Transmission:	≥ 94% @ 320	nm
	≥ 99% @ 400-1,200	nm
	≥ 98% @ 1,200-1,600	nm
Refractive Index:	1.5318 @ 589	nm

**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.**  
 14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782  
[www.epotek.com](http://www.epotek.com)

**EPO-TEK® 301-2 Advantages & Suggested Application Notes:**

- Suggested for LCD optical lamination and sealing of glass plates. The product can resist yellowing over 17 days of continuous UV light exposure. Suitable for LED encapsulation.
- Ease of use: potting and casting, encapsulation and adhesive.
- Semiconductor applications: underfill for flip chips, glob top encapsulation over wire bonds, spin coating at wafer level including wafer level packaging.
- Compliant adhesive that will be resistant to impact or vibrations. Low stress adhesive for bonding optics inside OEM / Scientific instruments.
- Fiber optic adhesive: bundling fibers, terminating fiber into ferrule, adhesive for mounting optics inside fiber components, bonding glass cover slip over V-groove; spectral transmission of visible and IR light.
- Adhesion to glass, quartz, metals, wood and most plastics is very good.
- May also be used for impregnating wooden or porous objects for artifact restoration.
- NASA approved, low outgassing epoxy – <http://outgassing.nasa.gov/>

**Epoxy Technology, Inc. Epoxies 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.

14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782

[www.epotek.com](http://www.epotek.com)