EPOXY TECHNOLOGY

DATA SHEET

EPO-TEK

301-2

Optically Transparent Epoxy

Rev. V
5/01

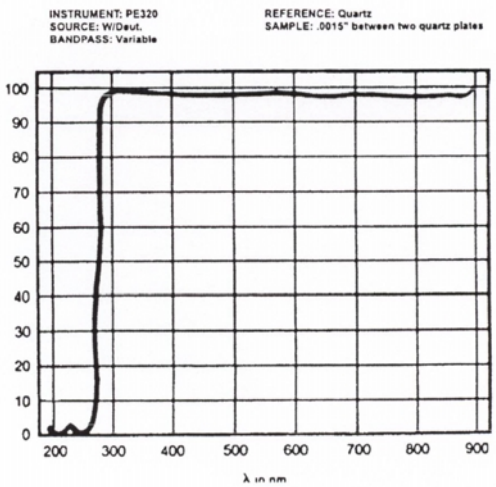
TYPICAL PROPERTIES

(To be used as a guideline only)

NUMBER OF COMPONENTS	Two
MIXING RATIO	PARTS BY WEIGHT
Part "A"	100 gms.
Part "B" (hardener)	35 gms.
NOTE: If Part "A" crystallizes in storage, merely place in a warm oven (without cap) until crystallization disappears and mix. Allow to cool to room temperature before mixing with the Part "B" hardener.	
CURE SCHEDULE (minimum)	
80°C	1 1/2 hours
Room Temperature	2 - 3 days
PHYSICAL PROPERTIES	
Color	Clear
Consistency	Low viscosity liquid
Specific Gravity	
Part "A"	1.02
Part "B"	0.94
Viscosity (mixed) @ 100 rpm/23°C	300 - 600 cPs
Glass Transition Temp. (Tg)	>65°C
cured @ 80°C/3 hours	typically 90°C
Coefficient of Thermal Expansion (CTE)	
Below Tg	62 x 10^{-6} in/in/°C
Above Tg	177 x 10^{-6} in/in/°C
Shore D Hardness	82
Lap Shear Strength (Al to Al)	2,000 psi
Degradation Temperature	357°C
Storage Modulus	248,000 psi
Operating Temperature Range	-45°C to 200°C
Water Absorption (30 days; 94% RH: RT)	0.01%
Weight Loss; 200°C/300 hours	0.07%
Linear Shrinkage	ND
Temperature Cycling (epoxy on ceramic) MIL-STD 750; Test 1051.1	Passed
Thermal Shock (epoxy on ceramic) MIL-STD 750; Test 1051.1	Passed
OPTICAL PROPERTIES (0.0015")	
Index of Refraction	1.564
> 97% Transmission at 300 nm - 2.5µ	
ELECTRICAL PROPERTIES	
Dielectric Strength	500 V/mil
Dielectric Constant 25°C; 100 KHz	3.1
115°C; 100 KHz	3.67
Volume Resistivity	> 3.5 x 10^{14} ohm-cm
Dissipation Factor	0.038
POT LIFE	8 hours
SHELF LIFE	
One year when stored at room temperature. Keep containers closed when not in use.	

REFRIGERATION NOT REQUIRED.

EPO-TEK 301-2

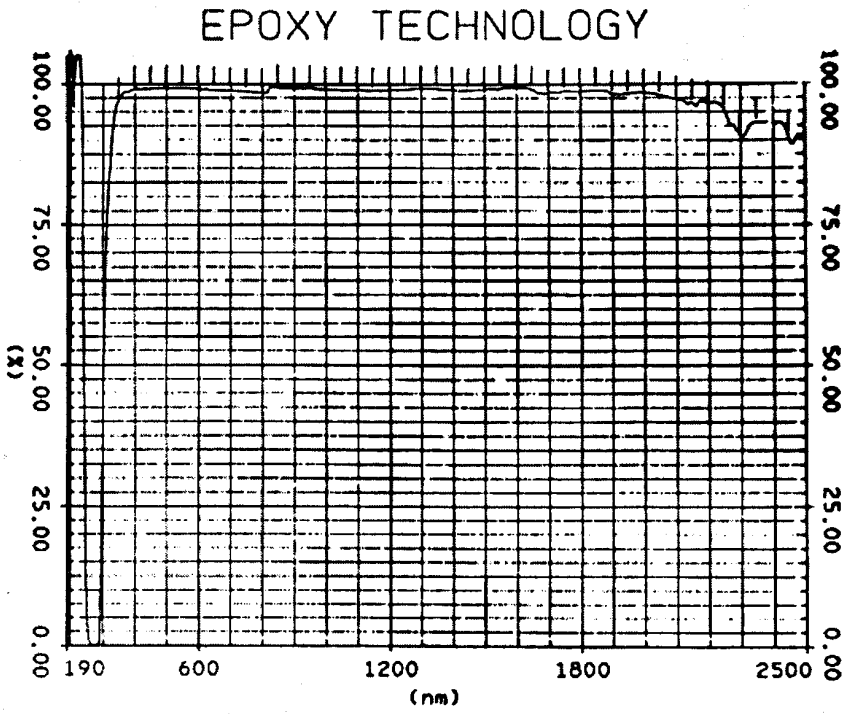


EPO-TEK 301-2 is a two component epoxy that can be cured with or without heat. In addition to its excellent optical properties, the 301-2 is a clear epoxy that has a low viscosity, long pot life (8 hrs.) and good handling characteristics. It was designed for optical applications such as a lens for optoelectronic display devices, bonding fiber optics (glass or plastic) and, for optical filters. EPO-TEK 301-2 can be used for bonding glass, quartz, metals and most plastics. It has great resistance to yellowing and extremely low fluorescence for optical coating applications.It has also been used for impregnating wooden objects in the restoration of artifacts.

The maximum recommended service temperature is 125°C.

NONTOXIC - complies with USP Class VI Biocompatibility Standards.

Polytec GmbH
Polymer Technologien • Polytec-Platz 1-7 • 76337 Waldbronn • Germany
Tel. ++49(0) 7243 604-175 • FAX ++49 (0) 7243 604-382 • Email: pt@polytec.de • http://www.polytec.de



SAMPLE : 301-2
CONC. : N/A
REFERENCE : GLASS
PATHLENGTH :
COMMENT :

[FIXED] WAVELENGTH	(%T) VALUE	[FIXED] WAVELENGTH	(%T) VALUE
1: 2500.0	90.76	2: 2450.0	90.56
3: 2400.0	92.64	4: 2350.0	92.98
5: 2300.0	90.73	6: 2250.0	95.52
7: 2200.0	96.29	8: 2150.0	96.59
9: 2100.0	97.17	10: 2050.0	97.89
11: 2000.0	98.37	12: 1950.0	98.19
13: 1900.0	98.29	14: 1850.0	98.74
15: 1800.0	98.59	16: 1750.0	98.66
17: 1700.0	98.23	18: 1650.0	99.04
19: 1600.0	99.31	20: 1550.0	99.07
21: 1500.0	98.98	22: 1450.0	98.77
23: 1400.0	98.88	24: 1350.0	99.07
25: 1300.0	99.11	26: 1250.0	98.97
27: 1200.0	98.84	28: 1150.0	98.81
29: 1100.0	98.88	30: 1050.0	98.89
31: 1000.0	98.97	32: 950.0	99.10
33: 900.0	98.81	34: 850.0	99.29
35: 800.0	98.46	36: 750.0	98.59
37: 700.0	98.78	38: 650.0	98.87
39: 600.0	99.04	40: 550.0	99.18

SPEED : MID. SLIT : 5.0
DATE : 9-6-88

ANALYST : CTM

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