

**97240 EPO-TEK 301-2**  
**Optically Transparent Epoxy**

**Typical Properties**

Number of Components 2  
Shelf life at 23°C 1 year (stored at room temperature)

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 90 min  
Room temperature 2 - 3 days

**Optical Properties (0.0015")**

Color clear  
Index of Refraction (589,3 nm) 1,564 (Na-D-Line)  
> 97% Transmission at 300 nm - 2.5 µ

**Thermal Properties**

Operating Temperature Range -45°C to 200°C  
Degradation Temperature 357°C  
Glass Transition Temperature Tg > 65°C  
cured @ 80°C/3 hours typically 90°C  
Coefficient of Thermal Expansion (CTE)  
Below Tg 62\*10<sup>-6</sup> K<sup>-1</sup>  
Above Tg 127\*10<sup>-6</sup> K<sup>-1</sup>

**Mechanic Properties**

Specific Gravity, Part "A" 1.02 g/cm<sup>3</sup>  
Part "B" 0.94 g/cm<sup>3</sup>  
Hardness 82 Shore D  
Water Absorption  
(30 days, 94 % RH, RT) 0.01 %  
Weight Loss at 200°C/300 h 0.07 %  
Lap Shear Strength (@25°C, Al to Al) 2000 psi  
Storage Modulus 248.000 psi  
Linear Shrinkage ND  
Temperature Cycling/Shock MIL-STD750, Test 1051.1  
(epoxy on ceramic) Passed

**Electrical Properties:**

|                                     |  |
|-------------------------------------|--|
| Dielectric Strength                 | 500 V/mil                                    |
| Dielectric Constant, 25°C; 100 kHz  | 3.1  |
| 115°C; 100 kHz                      | 3.67   |
| Dissipation factor (100 kHz)        | 0.038  |
| Volume Resistivity                  | $> 3,5 \cdot 10^{14} \Omega \cdot \text{cm}$ |
| Consistency:                        | Low viscosity liquid                         |
| Viscosity (mixed) (@50 U/min/23°C): | 300 - 600 Pa*s                               |
| Pot life:                           | 8 hours                                      |

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 - EPO-TEK 301-2 complies with USP Class VI Biocompatibility Standards.

**Storage:**

Shelf life:

One year when stored at room temperature. Keep containers closed when not in use.

REFRIGERATION NOT REQUIRED.