

Properties

Polytec EP 642 is a 100% solid, two-component, medium viscosity, high T_g , high temperature resistant epoxy.

It has an excellent chemical and moisture resistance and can withstand operating temperatures up to 350°C (intermittent). Suitable for fiber optic, medical, sensor and electronic assembly applications.

Polytec EP 642 has excellent adhesion to glass, ceramic, ferrous and non-ferrous metals, most plastics and silicon. Compatible with STERRAD® NX sterilization systems and autoclavable.

The material can be applied via dispensing, jet-dispensing and manual application.



Processing

- For two-component products the components A and B should be mixed carefully within the specified mixing ratio.
- For filled products both components should be homogenized carefully prior mixing, in order to prevent a possible settling of the filler.
- Processing should be carried out rapidly after mixing the components; as an indication the pot life can be used.
- Surfaces should be clean, thus free of dirt, grease, oil, dust or process chemicals.
- One-component products can be applied directly and are not subject to a pot life (except pre-mixed/frozen products).
- Please take notice of respective minimum curing temperature and time.
- Part B tends to crystallization under cold environmental conditions. This is a normal behavior. If Part B is crystallized or shows some kind of cloudiness, heating of Part B overnight up to 40 °C will be necessary. This has no influence on the quality of this component.
- For Safety information please refer to the respective Material Safety Data Sheet.

Polytec EP 642

Unfilled Epoxy Adhesive

Technical Data

Polytec EP 642

Properties in uncured state	Method	Unit	Technical Data
Chemical basis	-	-	Epoxy
No. of components	-	-	2
Mixing ratio (weight)	-	-	100:5
Mixing ratio (volume)	-	-	-
Pot life at 23°C	TM 702	h	24 - 36
Storage Stability at 23°C	TM 701	Months	12
Consistency	TM 101	-	Flowable paste
Density Mix	TM 201.2	g/cm ³	1.10
Density A-Part	TM 201.2	g/cm ³	1.20
Density B-Part	TM 201.2	g/cm ³	1.05
Viscosity Mix 84 s ⁻¹ at 23°C	TM 202.1	mPa·s	10 000
Viscosity A-Part 84 s ⁻¹ at 23°C	TM 202.1	mPa·s	-
Viscosity B-Part 84 s ⁻¹ at 23°C	TM 202.1	mPa·s	-

Properties in cured* state	Method	Unit	Technical Data
Color	TM 101	-	Yellow/ amber
Hardness (Shore D)	DIN EN ISO 868	-	85
Temperature resistance continuous	TM 302	°C	-55 / +250
Temperature resistance short term	TM 302	°C	-55 / +350
Degradation Temperature	TM 302	°C	+410
Glass Transition Temperature (T _g)	TM 501	°C	150
Coefficient of thermal expansion (<T _g)	ISO 11359-2	ppm	-
Coefficient of thermal expansion (>T _g)	ISO 11359-2	ppm	-
Thermal conductivity	-	W/m·K	-
Elasticity modulus	TM 605	N/mm ²	1 600
Tensile Strength	TM 605	N/mm ²	51
Lap shear strength (Al/Al)	TM 604	N/mm ²	14
Elongation at break	TM 605	%	4.2
Water absorption 24 h, 23°C	TM 301	%	0.3
Refractive index	-	-	-

*The above data has been determined with samples cured at 150°C. Please notice, by varying the curing temperature these properties can be influenced to some extent.

Polytec EP 642

Curing*	Method	Unit	Technical Data
Minimum curing temperature		°C	-
Curing time at 23°C		h	-
Curing time at 70°C		h	-
Curing time at 150°C		min	-
Curing time at 180°C		min	15

*Curing temperatures refer to the temperature in the respective bond line. When choosing the respective curing conditions, the time needed to heat the substrate has to be considered. Depending on the type of heat source (convection oven, hot stamp, heating plate) the heat input may vary.

Standard pack sizes:

250 g, 500 g

1 kg

Customized packaging

Please note:

The information listed above is typical data based on tests and is believed to be accurate. Polytec PT makes no warranties (expressed or implied) as to their accuracy. The data listed above does not constitute specifications. The processing (particularly the curing conditions) of the material, the process control, and the variety of different applications at various customers are not under Polytec PT's control. Therefore, Polytec PT will not be liable for concrete results in any specific application or in any connection with the use of this product. The curing conditions have a major effect on the properties of the cured material. Therefore, it is highly recommended to keep the curing schedule – once established - under tight control. With the release of this data sheet all former data sheets will be null and void.

Subject to alteration.

Polytec PT GmbH
Polymere Technologien

Ettlinger Straße 30
76307 Karlsbad
Germany
Phone +49 (0)7202 706-3500

info-pt@bostik.com
www.polytec-pt.de

Polytec PT GmbH
Polymere Technologien
plant Maxdorf

Bahnhofstraße 1
67133 Maxdorf
Germany

info-pt@bostik.com
www.polytec-pt.de