

# Polytec UV 2249 DC

## Properties

Polytec UV 2249 DC is a single component, low viscosity, thixotropic, UV-/Visible light and heat curable adhesive. It is recommended for applications where good impact strength, thermal shock resistance and vibration resistance is desirable.

Polytec UV 2249 DC has a good adhesion to glass, metals and most plastics (e.g.: PBT, PA, PC, PPS) and starts to cure at low intensity. The low viscosity of the product allows a good wetting action. Shadowed areas can be cured without light by heat.

Polytec UV 2249 DC is an adhesive, sealant and encapsulation for sensitive parts and as protection against harsh environment. The product is fluorescent under black light which is ideal for automatically optical inspection.



## Processing

- Polytec UV adhesives are single-component products which cure rapidly under exposure to UV or visible light. They should not be exposed to light before application.
- Polytec UV adhesives come ready to use and can be applied directly from the respective packaging.
- Been refrigerated products should be brought to room temperature prior to processing.
- The curing time depends on a number of factors such as type and intensity of the light source, working distance for UV lamp, adhesive layer thickness and UV transmittance of the substrate.
- Air oxygen may inhibit the curing of the material at the surface. Surfaces associated with air during the hardening should be cured with higher intensity or by using an inert gas (e.g. nitrogen ) to obtain a dry surface. Please take notice of respective minimum curing temperature and time.
- Substrates should be free of dirt, grease, oil or any flux residues.
- For Safety information please refer to the respective Material Safety Data Sheet.

# Polytec UV 2249 DC

## UV light curing adhesive

### Technical Data

# Polytec UV 2249 DC

Properties in uncured state	Method	Unit	Technical Data
Chemical basis	-	-	Epoxy
No. of components	-	-	1
Mixing ratio (weight)	-	-	-
Mixing ratio (volume)	-	-	-
Pot life at 23°C	TM 702	h	-
Storage Stability at 7- 23°C	TM 701	months	6
Consistency	TM 101	-	Liquid / gelatinous
Density Mix	TM 201.2	g/cm <sup>3</sup>	1.05
Density A-Part	TM 201	g/cm <sup>3</sup>	-
Density B-Part	TM 201	g/cm <sup>3</sup>	-
Viscosity Mix 400 s <sup>-1</sup> at 23°C	TM 202	mPa·s	1 500
Viscosity A-Part 84 s <sup>-1</sup> at 23°C	TM 202	mPa·s	-
Viscosity B-Part 84 s <sup>-1</sup> at 23°C	TM 202	mPa·s	-

Properties in cured* state	Method	Unit	Technical Data
Color	TM 101	-	Yellowish
Hardness (Shore D after UV- / thermal curing)	DIN EN ISO 868	-	81
Temperature resistance continuous	TM 302	°C	-40 / +150
Temperature resistance short term	TM 302	°C	-
Degradation Temperature	TM 302	°C	-
Glass Transition Temperature (T <sub>g</sub> )	TM 501	°C	-
Coefficient of thermal expansion (<T <sub>g</sub> )	ISO 11359-2	ppm	-
Coefficient of thermal expansion (>T <sub>g</sub> )	ISO 11359-2	ppm	-
Elasticity modulus	DIN 53455	N/mm <sup>2</sup>	-
Tensile Strength	DIN 53455	N/mm <sup>2</sup>	-
Lap shear strength	DIN 53283	N/mm <sup>2</sup>	-
Elongation at break	DIN 53455	%	-
Water absorption (wt% @85°C, 24h)	-	%	0.7
Weight loss outgassing (@150°C, 24h)	-	%	0.2

\*The above data has been determined with samples cured by UV-light. Please notice, by varying the curing temperature these properties can be influenced to some extent.

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Curing*	Method	Unit	Technical Data
Emission spectrum		nm	320 – 500
Maximum		nm	380 - 420
Curing time at 0.05 mm thickness	depends on thickness	s	12
Curing time at >120°C	depends on thickness	min	15

\*Curing temperatures refer to the UV-light intensity in the respective bond line. When choosing the respective curing conditions, the thickness and the substrates permeability towards UV-light has to be considered.

## Standard pack sizes:

30cc\* / 30g, 32oz\*\*\*/950g

## Customized Packaging

\*: EFD Cartridges \*\*: Bottles \*\*\*: Semco Cartridges

### Please note:

The above listed information are typical data based on tests and are believed to be accurate. Polytec PT makes no warranties (expressed or implied) as to their accuracy. The above listed data do not constitute specifications. The processing (in particular the cure 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. In particular the cure conditions do have a major effect on the properties of the cured material. Therefore it is highly recommended to keep the cure 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.

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