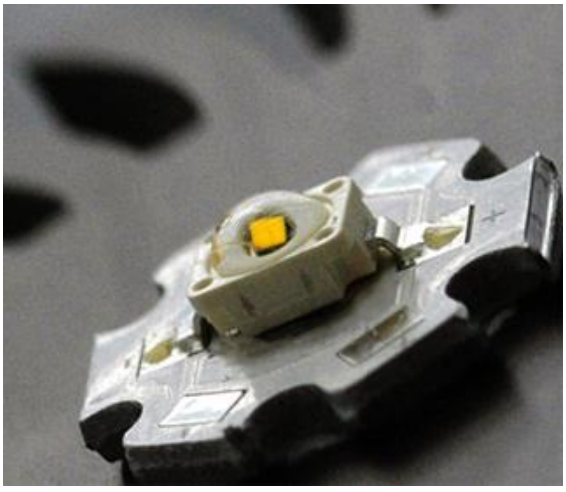
Polytec TC 423-2

Properties

Polytec TC 423-2 is a pasty, two component, highly thermally conductive, electrically insulating epoxy adhesive curing at room temperature.
It has an excellent adhesion to glass, metal, ceramic, FR4 and most plastics.
Polytec TC 423-2 is used in various thermal management applications, especially for potting of large volumes in electrical and power engineering.

The material can be applied via dispensing or manual application.



Processing

- TC 423 Part A must be thoroughly stirred before mixing!
- 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.
- Please take notice of respective minimum curing temperature and time.
- For Safety information please refer to the respective Material Safety Data Sheet.

Polytec TC 423-2
Thermally Conductive Adhesive
Technical Data

Version 1/2021

Polytec TC 423-2

Properties in uncured state	Method	Unit	Technical Data
Chemical basis	-	-	Epoxy
No. of components	-	-	2
Mixing ratio (weight)	-	-	100:1.8
Pot life at 23°C	TM 702	min	30
Storage Stability at 23°C	TM 701	months	12
Consistency	TM 101	-	Tough-flowing paste
Density Mix	TM 201.2	g/cm³	3.1
Density Part A	TM 201.2	g/cm³	3.2
Density Part B	TM 201.2	g/cm³	1.0
Max. particle size	-	µm	<200
Viscosity Mix 10 s^{-1} at 23°C	TM 202.24	mPa·s	87 000
Viscosity Part A 10 s^{-1} at 23°C	TM 202.22	mPa·s	180 000

Properties in cured* state	Method	Unit	Technical Data
Color	TM 101	-	Blue
Hardness (Shore D)	DIN EN ISO 868	-	>90
Temperature resistance continuous	TM 302	°C	-55 / +160
Temperature resistance short term	TM 302	°C	-55 / +260
Degradation Temperature	TM 302	°C	+350
Glass Transition Temperature (T_g)	TM 501	°C	ca. 90
Thermal conductivity	TM 503.3	W/m·K	3.1
Specific volume resistivity at 250V	TM 402.1	Ω·cm	> 10^{12}
Dielectric strength	TM 402.1	kV/mm	≥ 10
Tensile strength	TM 605	N/mm²	50
Lap sheer strength (Al/Al)	TM 604	N/mm²	14
Elongation at break	TM 605	%	0.5

*****The above data has been determined with samples cured at 80°C and 120°C for 1 hour for both temperatures. Please notice, by varying the curing temperature these properties can be influenced to some extend.

Polytec TC 423-2

Curing*	Method	Unit	Technical Data
Minimum curing temperature		°C	15
Curing time at 23°C		h	24
Curing time at 100°C		min	60
Curing time at 120°C		min	30

*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

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
Tel. +49 (0) 7243 604-4000
Fax +49 (0) 7243 604-4200
info@polytec-pt.de
http://www.polytec-pt.de

Polytec France S.A.S.
TECHNOSUD II
Bâtiment A
99, Rue Pierre Semard
92320 Châtillon - France
Phone. +33 (0)1 49 65 69 00
Fax +33 (0)1 57 19 59 60
info@polytec.fr
http://www.polytec-pt.com

Polytec South-East Asia Pte Ltd
Blk 4010 Ang Mo Kio Ave 10
#06-06 Techplace I
Singapore 569626
Tel. +65 6451 0886
Fax +65 6451 0822
info@polytec-sea.com
http://www.polytec-pt.com