Polytec PT
Polymere Technologien

Data Sheet Version 4/2012

Polytec TC 430

Polytec TC 430 is a two component, Boron Nitride filled, thermally conductive epoxy

Typical Properties

Number of components	2
Mixing ratio by weight	
Part ‘A‘ (resin)	100
Part ‘B‘ (hardener)	4
Pot Life at room temperature	2 Days
Shelf life at room temperature	12 Months
Viscosity (84 rpm @ 23°C)	13000 mPa s
Consistency	Soft thixotropic paste
Specific Gravity Part ‘A‘ (resin)	1,38 g/cm^3
Specific Gravity Part ‘B‘ (hardener)	1,05 g/cm^3
Specific Gravity (mixture)	1,35 g/cm^3
Filler	Boron Nitride
Max. Particle size	<20 µm
Color (before / after curing)	White / yellow
Minimum Bond Line Cure Schedule	
100 °C	60 Minutes
150°C	15 Minutes
Thermal Properties	
Glass Transition Temperature (Tg)	98°C
Continuous Operating Temperature	-55°C / 250°C
Intermittent Operating Temperature	-55°C / 350°C
Degradation Temperature	400°C
Weight Loss at 316°C (air)	0,94%
Weight Loss at 340°C (air)	1,94%
Coefficient of Thermal Expansion	
Below Tg / Above Tg	26 / 135 [x10^{-6}/K]
Thermal Conductivity	1,7 W/m°K
Electrical Properties	
Volume Resistivity	>1·10^{13} Ω-cm
Dielectric Constant at 1KHz	3,76
Dissipation Factor at 1KHz	0,0039
Mechanical Properties	
Shore- Hardness	D85
Die Shear Strength	65 N/mm^2

Polytec TC 430 is a two component, thermally conductive, electrically insulating epoxy.
It is suggested for applications where heat dissipation and insulating properties are required.
Typical applications:

- Attaching heat sinks
- Die attach
- Die bonding power devices
- Thermally conductive underfill

It has an excellent adhesion to ceramic, glass, semiconductor materials, ferrous and non-ferrous metals and most plastics.

Features:

- Non abrasive, fine Boron Nitride Filler
- Very good thermal conductivity
- High Glass Transition Temperature
- Excellent thermal stability
- Highly electrically insulating
- Long pot life

Processing:

- Dispensing
- Screen Printing and Stencil Printing
- Manual application

Available Pack Sizes:

- See price list / Customized Packaging
- Also available as single component, pre-mixed frozen version **Polytec TC 430-frozen**

For more information, see:

- MSDS of Polytec TC 430
- Application notes
- Catalogue

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.

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