

TH 670

Thermal Conductive Epoxy

Description

TH 670 is a one-part high performance thermal conductive adhesive based on epoxy resins. It cures fast at elevated temperatures and has excellent adhesion to most pc boards and electronic components. It may be cured at 100°C or faster at 120°C. It has a stable pot life and long shelf life even at room temperature of 25°C. It shows good mechanical properties.

Applications

Heat dissipation from electronic components.

Guidelines for Use

1. Thaw the epoxy to room temperature (25°C) before use.
2. Dispense the epoxy by using a syringe.
3. Wipe off any excess uncured adhesive with a piece of dry cloth or tissue. Further cleaning may be achieved with tissue dabbed with isopropanol.
4. Cure the epoxy by heating in a convection oven at 120°C for 60 minutes. Curing at lower temperature will require a longer time.

Recommended Cure

Alternative cures	Temp., C	Time, min.
A	100	60
B	120	30

Properties

Property	Test Method	Unit	Typical Value
Chemical type	-	-	Epoxy
Appearance	Pen 10	-	Beige paste
Mix ratio, w/w			One component
Shelf life, -20°C	Pen 26	Month	6
Pot life, 25°C	Pen 26	Week	1
Viscosity, Brookfield RVT, 25°C	Pen 11	cP	37,000
Thixotropic index	Pen 37		2.7
Hardness, cured 120°C/1hr	Pen 29	Shore D	90
Shear strength, cured 120°C/1hr	Pen 36	Kg/cm	182
Tensile strength, 120°C/1hr	-	psi	10,000
Elongation at break	-	%	2.2
Tg, DSC, cured 150°C/1hr	Pen 19	°C	152
CTE, alpha-1	-	m/m/°C	4.0-8.0 x 10 ⁻⁶
alpha-2	-	m/m/°C	1.4-2.5 x 10 ⁻⁵
Thermal conductivity	ISO/DIS22007	W/mK	> 1.4
Electrical resistivity	-	^cm	> 1.0 x 10 ¹⁶
Operating temp. range, cured 120°C/1hr	-	-	-40°C to 170°C (adhesive stuck well)

Storage

Tightly close original container of unused product. Store below -20°C. Storing at lower temperatures down to -40°C may prolong shelf life beyond 6 months. However it may take longer time to thaw the product.

Packaging & Dimension

- 5 ml syringe
- 10 ml syringe
- 30 ml syringe
- 500 g plastic jar

Environment, Health & Safety

This product is RoHS compliant. It does not contain any known carcinogenic, mutagenic or teratogenic components.

Contact Information

Penchem Technologies Sdn Bhd
(767120-A), 1015, Jalan Perindustrian Bukit Minyak 7, 14100 Penang, Malaysia
T: +604-501 5976, 77, 78, 79
E: enquiry@penchem.com
W: www.penchem.com

Revision 4: 11-Jul-18.NN