

INTRODUCTION

GLT 799-39 is one component thermally conductive epoxy. This resin is an inorganic powder filled epoxy for electronic devices and thermal modules. This product exhibits good operating properties and electrical insulation. This resin is suited for automatic syringe dispensers as well as manual hand operations.

TYPICAL UNCURED PROPERTIES

Appearance:	Liquid
Color:	Gray
Viscosity 25°C, S14 3rpm, cps:	380,000~580,000
Viscosity 25°C, S14 0.3rpm, cps:	1,800,000~2,800,000
Thixotropic Index;	> 4

TYPICAL CURING PROPERTIES

Pot Life 25°C, days	3
Through Cure Time, 150°C, hr	1

DIRECTION OF USE

1. The package of this product which is refrigerated in -40~-5°C can be brought to ambient conditions by allowing to stand at room temperature for 1 to 2 hours. Do not loosen container cover before temperature equilibration.
2. Bonding surfaces should be clean, dry and properly prepared.
3. Apply adhesive to one or both substrates to be bonded. The parts must be held in contact until the adhesive is cured.
4. Cure time on the really part will depend upon factors such as part geometry, materials to be bonded, bondline thickness and efficiency of the oven. Cure schedule should be confirmed with actual production parts and equipment.
5. For large scale application, this product is suggested to be precured at lower temperature, full curing at high temperature.
6. Curing profiles should be developed to avoid extremely heat release.
7. After heat curing stage, cool down the part gradually can minimize the thermal stress.

FEATURES

1. This product exhibits high thermal conductivity, insulation, low shrinkage, low water absorption.
2. The cured resin offers good thermal shock resistance and pass environmental test experiment.
3. This product has good adhesion strength to metal substrates.
4. This resin also exhibits good reactivity during curing.
5. For its performance and reliability, this product is used widely in various areas.
6. This product complies to the 2011/65/EU RoHS regulations.

TYPICAL CURED PROPERTIES *1

Glass Transition Temp., (DSC)°C	99
CTE*2 (100~180°C), $\mu\text{m/m}/^\circ\text{C}$	16
CTE*2 (>Tg), $\mu\text{m/m}/^\circ\text{C}$	87
Specific Heat 0°C, J/g°C	0.83
Specific Heat 25°C, J/g°C	0.91
Specific Heat 50°C, J/g°C	0.98
Specific Heat 75°C, J/g°C	1.04
Specific Heat 100°C, J/g°C	1.16
Durometer Hardness, Shore D	90
Specific Gravity	2.34
Water Absorption Ratio (25°C /24hr), %	0.13
Water Absorption Ratio (80°C /24hr), %	1.62
Water Absorption Ratio (97°C /1.5hr), %	0.76
Degradation Temp, (TGA 10°C /min) oC	382
Weight Loss Ratio @100°C, %	0
Weight Loss Ratio @150°C, %	0.03
Weight Loss Ratio @200°C, %	0.11
Weight Loss Ratio @250°C, %	0.25
Weight Loss Ratio @300°C, %	0.71
Weight Loss Ratio @350°C, %	2.08
Thermal Conductivity, W/mK	3
Thermal Resistance, $\text{m}^2\text{K/W}$	9×10^{-4}

*1 Specimen Cure Condition: 170°C / 1hr

*2 CTE: Coefficient of Thermal Expansion

STORAGE AND SHEFLIFE

This resin should be kept without any possibility of moisture and heat exposure. It should be storage at $-40^{\circ}\text{C} \sim -5^{\circ}\text{C}$ before opening the containers. This product has an six months minimum shelf life. Before using, it should place this product at $14\sim 34^{\circ}\text{C}$ for 1 to 2 hours. The properties will be changed when replace this product at room temperature for long time.

CAUTION

Some findings indicate a lack of potential for carcinogenicity with the compositions of this product by long term recurrent application to the skin. However, contact with skin is likely to produce mild transient reddening. It is important to remove adhesive from skin with soap and water thoroughly. DO NOT use solvents for cleaning hands. This prodcut is of moderate acute toxicity by swallowing. If swallowed, call a physician. Avoid contact with eyes. In case of contact, flush with water for at least 15 minutes and get medical attention immediately. For specific information on this product, consult the Material Safety Data Sheet.