

One Component Epoxy Adhesive

Product Description

JC180-3 is one component epoxy adhesive for electronic devices. This product can develop tough, strong, structural bonds. This resin has fast curing, low thermal conductivity and shrinkage. It has excellent heat resistance. This product exhibits good flame-retardant properties and excellent durability. It can pass many different kinds of environmental test experiments. This resin is easy to operate and suited for all kinds of electronic devices casting and encapsulation.

Features

1. This resin is solvent-free, non-volatile, system.
2. This product offers excellent retention of electrical insulation properties under high humidity conditions.
3. This resin is a UL94V-0 approved compound.
4. This product complies to the 2011/65/EU RoHS regulations.
5. This product complies to chlorine < 900ppm, bromine < 900ppm, chlorine + bromine < 1500ppm.

Typical Uncured Properties

Appearance	JC180-3
Color	Viscous liquid
Viscosity 25°C, S14 5rpm, cps	White
Viscosity 25°C, S14 0.5rpm, cps	162,000
Thixotropic Index	410,000
	2.53

Typical Curing Properties

Pot Life 25°C, days	3
Through Cure Time, 70°C, min	60
Through Cure Time, 80°C, min	30

Direction of Use

1. The package of this resin 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. It should be applied to a clean surface which is free of dirt, grease or mold release. In many cases, a simple solvent wipe is sufficient.
3. 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.

Typical Cured Properties*1

Glass Transition Temp., (MDSC), °C	80
CTE*2 (< Tg), µm/m/°C	30
CTE*2 (> Tg), µm/m/°C	150
Specific Heat 25°C, J/g°C	1.59
Specific Heat 50°C, J/g°C	3.85
Specific Heat 75°C, J/g°C	3.90
Specific Heat 100°C, J/g°C	4.07
Durometer Hardness, Shore D	3.97
Specific Gravity (20/20°C)	85
Water Absorption Ratio(25 °C/24hr), %	1.59
Water Absorption Ratio(80 °C/24hr), %	0.03
Water Absorption Ratio(97 °C/1.5hr), %	2.24
Shear Strength Al vs. Al, kgf/cm ²	0.87
Degradation Temp. (TGA 10°C /min), °C	114
Weight Loss Ratio@100°C, %	297
Weight Loss Ratio@150°C, %	0
Weight Loss Ratio@200°C, %	0
Weight Loss Ratio@250°C, %	0.1
Weight Loss Ratio@300°C, %	1.4
Weight Loss Ratio@350°C, %	5.5
Thermal Conductivity, W/mK	6.9
Thermal Resistance, m ² K/W	0.3
Volume Resistivity, ohm-cm	0.01
Surface Resistivity, ohm	4.5*10 ¹⁵
Dielectric Constant, 1KHz	4.5*10 ¹⁴
	3.2

*1 Specimen Cure Condition : 70°C / 60min

*2 CTE: Coefficient of Thermal Expansion

Storage and Shelf Life

This resin should be kept without any possibility of moisture and heat exposure. It should be storage at -40°C ~ -5°C before opening the containers. Shelf life of this product is eight months. Before using, it should place this product at 14~34°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 product is of moderate acute toxicity by swallowing. If swallowed, call a doctor. Avoid contact with eyes. In case of contact, flush with water for at least 15 minutes and get medical attention. For specific information on this product, consult the Material Safety Data Sheet.