



## One Component Epoxy

### Product Description

JC711-6 is a one-component epoxy that is designed for chip bonding. This product has medium viscosity, high thixotropic and can fast curing at low temperature. This product can be applied on screen printing and dispensing. This product has good strong curing shapes without stringing and slumping at super high speed dispensing and very small dots. The hardening surface of this product will not exhibit a surface oiliness. The cured product demonstrates excellent adhesive strength, electrical insulation properties, excellent chemical resistance and solvent resistance. Stable adhesive strength can be obtained with a variety of SMT. This product is greatly suited for electronic devices encapsulation and chipbonding.

### Features

1. This product is solvent-free, non-volatile, system.
2. This product offers excellent retention of electrical insulation properties under high humidity conditions.
3. This product has low stress, low shrinkage and low water absorption.
4. This product exhibits medium viscosity and high thixotropy. This product can be also controlled flow and has sag resistance.
5. This product can shorten the working time and can increase the efficiency at the same time.
6. This product complies to the 2011/65/EU RoHS regulations.
7. This product complies to chlorine < 900ppm, bromine < 900ppm, chlorine + bromine < 1500ppm.

### Typical Uncured Properties

	JC711-6
Appearance	Liquid
Color	Red
Viscosity 25°C, S14 3rpm,cps	≥ 550,000
Thixotropic Index	≥ 7.5

### Typical Curing Properties

Pot Life 25°C, day	7
Through Cure Time (by hot plate) 100°C, sec	100

### Direction of Use

1. Before using this product, please stand it at room temperature for 1 to 2 hours. Do not loosen container cover before temperature equilibration.
2. This resin 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 on 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.

4. For large scale application, this product is suggested to be precured at lower temperature, then full curing at high temperature to avoid extremely heat release.
5. After heat curing stage, cool down the part gradually can minimize the thermal stress.

### Typical Cured Properties\*1

Glass Transition Temp. *1,(TMA), °C	125
Glass Transition Temp. *2,(DSC), °C	124
CTE*3 (<Tg), μm/m/°C	64
CTE*3 (>Tg), μm/m/°C	215
Specific Heat 0°C, J/g°C	4.43
Specific Heat 25°C, J/g°C	4.56
Specific Heat 50°C, J/g°C	4.80
Specific Heat 75°C, J/g°C	5.04
Specific Heat 100°C, J/g°C	5.20
Durometer Hardness, Shore D	86
Specific Gravity	1.35
Water Absorption Ratio (25°C /24hr), %	0.23
Water Absorption Ratio (80°C /24hr), %	1.50
Water Absorption Ratio (97°C /1.5hr), %	0.60
Degradation Temp., (TGA 10°C /min), °C	337
Weight Loss Ratio@100°C, %	0.65
Weight Loss Ratio@150°C, %	0.79
Weight Loss Ratio@200°C, %	2.27
Weight Loss Ratio@250°C, %	2.71
Weight Loss Ratio@300°C, %	3.53
Weight Loss Ratio@350°C, %	5.92
Thermal Conductivity W/mK	0.3
Thermal Resistance, m²K/W	0.01
Volume Resistivity, ohm-cm	4.5*10 <sup>15</sup>
Surface Resistivity, ohm	4.5*10 <sup>14</sup>
Dielectric Constant 1KHZ	3.2

\*1 Specimen Cure Condition : 150°C / 10 min

\*2 Specimen Cure Condition : 120°C / 30 min

\*3 CTE: Coefficient of Thermal Expansion

### Storage and Shelf Life

This resin should be kept without any possibility of wet and heat exposure. Shelf life of this product is 8 months when stored below -20°C~-5°C before opening the containers. 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 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.

The data contained in this bulletin is provided only as a guide for evaluation/consideration. These material characteristics are typical properties that are based on a limited number of samples tested in the laboratory. We cannot assume responsibility for results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any product or method. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide.