EVERWIDE
Everwide Chemical Co.
http://www.everwide.com.tw/
No. 36, Dougong 6th Rd., Douliu City,
Yunlin County 64069, Taiwan
Tel:(886)5-557-4717
Email: service@everwide.com.tw

Technical Data Sheet

JD 322

One Component Epoxy Adhesive

Product Description

JD322 is a one component epoxy adhesive for electronic devices bonding. This product exhibits good adhesion strength. This resin can be fast cured at low temperature and is suited for different kinds of materials bonding, it is especially good for plasitcs bonding. The durability level of this product is very high and this resin can pass many environmental test experiments. This product is well suited for heat sensitive components bonding, such as memory cards and C-MOS assembling.

Features

1. This product is solvent-free and non-volatile system.
2. The hardening surface will not exhibit a surface oiliness. Cured product has poor gloss.
3. This resin offers excellent retention of electrical insulation properties under high humidity conditions.
4. This resin offers excellent chemical resistance and solvent resistance.
5. It is highly vibrate-resist at ordinary temperature.
6. This resin has excellent dimensional stability over a wide temperature range.
7. This product complies to the 2011/ 65/EU RoHS regulations.
8. This product complies to chlorine < 900ppm, bromine < 900ppm, chlorine + bromine < 1500ppm.

Typical Uncured Properties

	JD322
Appearance	Liquid
Color	Black
Viscosity 25°C, S14 5rpm, cps	128,000~192,000
Thixotropic Index	4~6
Filler grain size, um	2~5 (Max<10)
Filler ratio, %	23
Chloride (Cl), ppm	< 50
Potassium (K), ppm	< 10
Sodium (Na), ppm	< 30

Typical Curing Properties

Pot Life 25°C, day	2
Recommended Cure Time 80°C, min	60
Recommended Cure Time 90°C, min	50
Recommended Cure Time 100°C, min	40
Recommended Cure Time 120°C, min	30
Recommended Cure Time 150°C, min	20

Direction of Use

1. The package of this resin which is refrigated in -20°C ~ -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 fators 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.,(DSC), °C	132
Glass Transition Temp.,(TMA), °C	152
CTE*8 (<Tg), μm/m/ °C	48
CTE*8 (>Tg), μm/m/ °C	162
Specific Heat 0°C, J/g°C	0.92
Specific Heat 25°C, J/g°C	1.01
Specific Heat 50°C, J/g°C	1.10
Specific Heat 75°C, J/g°C	1.18
Specific Heat 100°C, J/g°C	1.26
Durometer Hardness, Shore D	90
Specific Gravity	1.33
Water Absorption Ratio (25°C /24hr), %	0.36
Water Absorption Ratio (80°C /24hr), %	1.54
Water Absorption Ratio (97°C /1.5hr), %	0.86
Shear Strength*1, LCP vs. PCB-FR4, kg/cm^2	102
Shear Strength*2, LCP vs. PCB-FR4, kg/cm^2	135
Shear Strength*3, LCP vs. PCB-FR4, kg/cm^2	156
Shear Strength*4, LCP vs. PCB-FR4, kg/cm^2	197
Shear Strength*5, LCP vs. PCB-FR4, kg/cm^2	173
Shear Strength*6, LCP vs. PCB-FR4, kg/cm^2	218
Thrust force PC vs. PCB-FR4, kg	12.6
Thrust force PC vs. IR Glass, kg	13.8
Thrust force PA vs. PCB-FR4, kg	10.4
Thrust force PA vs. IR Glass, kg	12.4
Thrust force LCP vs. PCB-FR4, kg	11.4
Thrust force LCP vs. IR Glass, kg	12.2
Thrust force LCP lid vs. Epoxy, kg	13.5
Thrust force SBS vs. Epoxy, kg	2.1
Thrust force FR4 vs. Stainless Steel, kg	12.9
Thrust force LCP vs. Stainless Steel, kg	9.6
Thrust force Wafer Die vs. PCB, kg	8.5
Breaking Strength, Epoxy sheet, kg/cm^2	285
Elongation, %	7.2
Degradation Temp., (TGA 10°C /min), °C	413
Weight Loss Ratio@100°C, %	< 0.5
Weight Loss Ratio@150°C, %	< 0.5
Weight Loss Ratio@200°C, %	< 0.5
Weight Loss Ratio@250°C, %	< 0.5
Weight Loss Ratio@300°C, %	< 0.5
Weight Loss Ratio@350°C, %	1.15
Flexural Module, GPa	11
Young's modulus, GPa	8
Volume Shrinkage, %	2.9
Thermal Conductivity, W/mK	0.5
Thermal Resistance, m²K/W	0.006
Volume Resistivity, ohm-cm	$4.5*10^{15}$
Surface Resistivity, ohm	$4.5*10^{14}$
Dielectric Constant 100HZ	5.6
Dielectric Constant 10KHZ	5.4
Dielectric Constant 1MHZ	5.2
Dielectric Strength, KV/mm	16

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.

Temperature Resistance Range, oC -40~150

*1 Specimen Cure Condition：80°C / 60min
*2 Specimen Cure Condition：90°C / 50min
*3 Specimen Cure Condition：100°C / 40min
*4 Specimen Cure Condition：120°C / 60min
*5 Specimen Cure Condition：150°C / 20min
*6 Specimen Cure Condition：150°C / 60min
*7 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 -20°C ~ -5°C before opening the containers. The shelf lif of this product is six months. Before using, this product should be stored 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 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.