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Technical Data Sheet

JD 173-2

Two Component Thermally Conductive Epoxy

Product Description

JD173-2 is two-component thermally conductive epoxy. This product is inorganic powder filled epoxy for electronice devices and thermal modules. This product exhibits excellent operability and electrical insulation.

Features

1. This product exhibits excellent thermal conductivity, insulation, low shrinkage and low water absorption.
2. Cured product exhibits excellent thermal shock resistance and has passed many environmental test experiment.
3. This prodcut demonstrates excellent adhesion strength to metal substrates.
4. This product exhibits excellent reactivity during curing.
5. This product complies to the 2011/65/EU RoHS regulations.

Typical Uncured Properties

	JD173-2A	JD173-2B
Appearance	Liquid	Liquid
Color	Gray	White
Viscosity 25°C, S14 2rpm, cps	170,000~280,000	230,000~400,000
Viscosity 25°C, S14 20rpm, cps	49,000~60,000	----------
Mixed Viscosity 25°C, S14 2rpm, cps	170,000~100,000	
Thixotropic Index	3~4.5	----------
Specific Gravity	2.37	2.33

Typical Curing Properties*

Mix Ratio (A：B) by Weight	2：1
Pot Life, 25°C, hr	1
Through Cure Time, 25°C, day	7
Through Cure Time, 80°C, min	60

*A：B = 10g：5g

Direction of Use

1. Mix thoroughly by weight 2：1. Mix approximately 15 seconds after uniform color is obtained.
2. This product precipitation may occur if this product is left for a long time. It can be used after mixing evenly.
3. Bonding surfaces should be clean, dry and properly prepared.
4. The handling information of this product supplied in dual syringe cartridge can be obtained by requesting a copy of “Introduction for Adhesive Cartridge Dispenser”, F-06122201.
5. Apply adhesive to one or both substrates to be bonded. The parts must be held in contact until the adhesive is cured.
6. Cure time on the real 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.

Typical Cured Properties*1

Glass Transition Temp., (MDSC), °C	44
CTE*2 (<Tg), μm/m/°C	29
CTE*2 (>Tg), μm/m/°C	100
Specific Heat 0°C, J/g°C	0.579
Specific Heat 25°C, J/g°C	0.624
Specific Heat 50°C, J/g°C	0.775
Specific Heat 75°C, J/g°C	0.831
Specific Heat 100°C, J/g°C	0.881
Durometer Hardness, Shore D	88
Specific Gravity	2.42
Shear Strength, Al vs Al, kgf/cm^2	259
Water Absorption Ratio (25°C/ 24hr), %	0.22
Water Absorption Ratio (80°C/ 24hr), %	0.79
Water Absorption Ratio (97°C/ 1.5hr), %	0.53
Degradation Temp., (TGA 10°C/min), °C	314
Weight Loss Ratio @100°C, %	0
Weight Loss Ratio @150°C, %	0.21
Weight Loss Ratio @200°C, %	0.76
Weight Loss Ratio @250°C, %	2.76
Weight Loss Ratio @300°C, %	4.24
Weight Loss Ratio @350°C, %	8.74
Thermal Conductivity, W/mK	2
Thermal Resistance, m^{2}K/W	0.002
Volume Resistivity, ohm-cm	$3.84*10^{13}$
Surface Resistivity, ohm	$5.61*10^{12}$

*1 Specimen Cure Condition: 80°C / 60min
*2 CTE: Coefficient of Thermal Expansion

Storage and Shelf Life

This product should be stored in cool and dark place. The resin and hardener will become yellow under the sunlight. Replace the lid immediately after use. Keep without any possibility of moisture when not use. Shelf life of this product is 6 months when stored at 14~34°C in the original and unopened containers.

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 Safety Data Sheet.