



High Performance Epoxy Adhesive

Product Description

JC801-12 is two component, medium viscosity, toughened epoxy. This resin exhibits toughness and fatigue resistance. This product is suitable for different substrates, including plastics, woods, metals, glass, carbon fibers and ceramics. The durability of this resin is very high levels and this resin can pass many environmental test experiments. For its characteristic and reliability, this product is used widely in various areas, as a high performance adhesive.

Features

1. The retained strength of this resin after environmental test experiments is excellent.
2. This resin offers outstanding shear strength.
3. Cured product exhibits has excellent resistance for chemical and solvent.
4. Cured product exhibits good toughness and fatigue resistance.
5. This product complies to the 2011/65/EU RoHS regulations.

Typical Uncured Properties

| | JC801-12A | JC801-12B |
|-----------------------------|---------------|---------------|
| Appearance | Liquid | Liquid |
| Color | White | Yellow |
| Viscosity 25 °C, cps | 35,000~55,000 | 15,000~35,000 |
| | S14 5rpm | S14 5rpm |
| Mixing Viscosity 25 °C, cps | 25,000~45,000 | |
| | S14 5rpm | |
| Specific Gravity | 1.16 | 1.17 |

Typical Curing Properties*

| | |
|-------------------------------|-------|
| Mix Rate (A : B) By Weight | 2 : 1 |
| Mix Rate (A : B) By Volume | 2 : 1 |
| Pot Life, 25 °C, min | 10~20 |
| Surface Cure Time, 25°C, hr | 4 |
| Through Cure Time, 25°C, days | 5~7 |
| Through Cure Time, 80°C, hr | 1 |

* A : B=2g : 1g

Direction of Use

1. It should be applied to a clean surface. Recommended to use with solvent which is free of dirt, grease or mold release to impact of the products expected utility.
2. Mix thoroughly by weight 2 : 1. Mix approximately 15 seconds after uniform color is obtained.
3. For optimum properties mixed, this product should be used before its pot life. Do not mixing large two component at the same time to avoid that heat release to damage materials.
4. For maximum bonding strength apply adhesive evenly to both surfaces to be jointed.
5. Contact pressure is recommended during this resin cure.

Typical Cured Properties*

| | |
|---|----------------------|
| Glass Transition Temp., (MDSC), °C | 69 |
| Glass Transition Temp. (TMA), °C | 76 |
| CTE *1 (<Tg), μm/m/°C | 65 |
| CTE *1 (>Tg), μm/m/°C | 252 |
| Specific Heat 0°C, J/g°C | 1.68 |
| Specific Heat 25°C, J/g°C | 1.85 |
| Specific Heat 50°C, J/g°C | 1.99 |
| Specific Heat 75°C, J/g°C | 2.75 |
| Specific Heat 100°C, J/g°C | 2.82 |
| Durometer Hardness, Shore D | 82 |
| Specific Gravity | 1.14 |
| Water Absorption Ratio (25°C/24hr), % | 0.26 |
| Water Absorption Ratio (80°C/24hr), % | 2.35 |
| Water Absorption Ratio (97°C/1.5hr), % | 1.24 |
| Shear Strength*1Al vs. Al, kgf | 450 |
| Shear Strength*2Al vs. Al, kgf | 780 |
| Tensile strength*3 Al vs. Al, kgf | 218 |
| Tensile strength*4 Al vs. Al, kgf | 269 |
| Shear Strength*5Al coated epoxy vs. Nickel steel, kgf | 421 |
| Degradation Temp., (TGA 10°C /min) °C | 308 |
| Weight Loss Ratio@100°C, % | 0.00 |
| Weight Loss Ratio@150°C, % | 0.47 |
| Weight Loss Ratio@200°C, % | 0.83 |
| Weight Loss Ratio@250°C, % | 1.66 |
| Weight Loss Ratio@300°C, % | 4.27 |
| Weight Loss Ratio@350°C, % | 8.93 |
| Thermal Conductivity, W/mK | 0.4 |
| Thermal Resistance, m ² K/W | 0.001 |
| Volume Resistance ohm-cm | 4.7*10 ¹⁵ |
| Surface Resistance ohm | 4.5*10 ¹⁴ |
| Dielectric Constant 100Hz | 4.0 |
| Dielectric Strength, KV/mm | 23 |
| Recommand resistance Temp, °C | -40~120 |

* Specimen Cure Condition:80°C / 1hr

*1 CTE: Coefficient of Thermal Expansion

*2 Specimen Cure Condition: 25°C / 24hr, specimen size: 25mm X 25.4mm.

*3 Specimen Cure Condition: 55°C / 1hr, specimen size: 25mm X 25.4mm.

*4 Specimen Cure Condition: 55°C / 60min, specimen size: 13mm X 13mm.

*5 Specimen Cure Condition: 55°C / 90min, specimen size: 13mm X 13mm.

*6 Specimen Cure Condition: 55°C / 60min, specimen size: 12mm X 25.4mm.

Storage and Shelf Life

The container should be stored in cool and dark place. The resin and hardener will become yellow under the sunlight. This product has amine content; replace the lid immediately after use. Keep without any possibility of wet when not using. Shelf life of this product is one year when stored below 14~34°C in original, 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 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 more information, refer to 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 or 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.