

SOMAKOTE IR-200 Heat Curable Adhesive for SMT

1. Product Description

SOMAKOTE IR-200 is a very fast heat curing, one-component and thixotropic adhesive for bonding surface mounted devices. The product can be applied by screen printing.

2. Product Features

- 1) Stable one part product, no measuring nor mixing.
- 2) Fast curing at the relatively low temperature.
- 3) Excellent adhesion to all common boards and chip components.
- 4) Good heat resistance to the wave soldering conditions.
- 5) Excellent insulation properties.

3. Product Properties (Typical Values)

3-1. Uncured Properties

| | |
|--------------------------------|--------------------------------|
| Composition | Epoxy resin based |
| Appearance | Smooth thixotropic red paste |
| Viscosity ¹⁾ (25°C) | 0.5 rpm 330 Pa·s |
| | 5.0 rpm 60 Pa·s |
| Thixo ratio (0.5rpm/5.0rpm) | 5.5 |
| Specific gravity (25°C) | 1.2 |
| Shelf life | 5 to 10°C 6 months |
| | 25°C 3 months |

1) Viscometer : EHD type (cone-plate type). Tokimeck Co.Ltd.
3°, 28mmφ cone-plate

3-2.Cured Properties

| | |
|---|---|
| Tensile shear strength (Al/Al) | >882 N/cm ² (>90 kgf/cm ²) |
| Device shear strength ²⁾ | |
| Ceramic-resistor (2012) | 46 N (4.7 kgf) |
| Ceramic-capacitor (2012) | 43 N (4.4 kgf) |
| Mini-mold Tr | 38 N (3.9 kgf) |
| Melf-chip (resistor, 3.4×1.4φ) | 34 N (3.5 kgf) |
| Melf-chip (capacitor, 3.4×1.4φ) | 31 N (3.2 kgf) |
| Wave Solder Resistance (260°C×10sec.) | passed |
| Corrosion test Effect on copper plate | passed |
| Surface Insulation Resistivity (Type JIS II · JIS Z 3197) | |
| initial | 2.0×10 ¹⁴ Ω |
| after humidified(85°C×85%RH×500hrs, DC 5V) | 3.2×10 ¹² Ω |
| Dielectric constant (at 1MHz, JIS K 6911) | 3.5 |
| Dielectric loss tangent (at 1MHz, JIS K 6911) | 0.018 |

2) Cured at condition described in figure 1 attached (150°C×60sec.)

4. Curing Conditions (Recommended)

The standard of curing conditions : The shear strength to ceramic-resistor(2012) becomes 29N(3kgf) or more.

| Surface temperature of substrate | The shortest heating time |
|----------------------------------|---------------------------|
| 150°C or higher | 40sec. or more |
| 140°C or higher | 60sec. or more |
| 130°C or higher | 90sec. or more |

- 1) The UV exposure is not necessary to cure the product.
- 2) The surface temperature of a substrate may greatly vary depending on the material & thickness of the substrate and the material & density of the components; therefore, the temperature profile shall be measured and controlled before use the product.
- 3) Open the container after confirming that the temperature of SOMAKOTE IR-200 adhesive reaches at the room temperature

5. Packaging

| Package | Contents |
|-------------|----------|
| Plastic can | 1L |

6. Precautionary Information

1) Handling Information

- Use with an appropriate local exhaust ventilation for work areas and heat curing areas.
- Be cautious not to spill the product during the handling.
- Wash hands and gargle with large amount of water after the handling.

2) Storage Information

- Store the product in a cool and dry place at 5 to 10°C.
- Keep away from direct sunlight, heat sources and ignition sources.

3) Disposal Information

- Do not dispose the product in any type of effluent.
- Incinerate the waste product or dispose the waste product in a sanitary landfill. Consult regulations or authorities before disposal.

4) First Aid Information

- Skin Contact : Wash with soap and water. Get a medical advice if irritation persists.
- Eye Contact : Flush immediately with large amount of water.
Get a medical advice if irritation
- Ingestion : Do not induce vomiting. Get a medical advice immediately.

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Figure 1 : Curing Condition (150°Cx60sec.)

