



SANHO CHEMICAL CO., LTD.

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FUJICURE 5003

FUJICURE 5003 is an epoxy-curing agent of modified cycloaliphatic polyamine. This curing agent has good compatibility with epoxy resins and coal tar. The curing of FUJICURE 5003 is excellent under high humid conditions or on the surface of the damp. It has good chemical and blush resistance. The application of FUJICURE 5003 is mainly for coatings and linings under cool, damp conditions.

1. SPECIFICATIONS

| | |
|------------------------------|---------------------------------------|
| Appearance | : Light yellow color, viscous liquid. |
| Viscosity (mPa · s/ 25°C) | : 3,500 ~ 7,500 |
| Amine Value (JIS) | : 395 ± 15 |
| Color (Gardner) | : 2 Max |
| Specific Gravity (25 / 25°C) | : 1.08 |
| Flash Point | : 175°C |
| A.H.E.W. | : 95 |

2. RECOMMENDED MIXING RATIO

45~55parts by weight to 100 parts of bisphenol-A liquid whose epoxy equivalent weight is about 190.

3. CURING CHARACTERISTICS

3-1 Exothermic Reaction.

| | |
|------------------|---|
| Epoxy resin | : bisphenol-A type liquid whose epoxy equivalent weight is about 190. |
| Total mass | : 100g |
| Room temperature | : 23°C |

| Epoxy resin / FUJICURE 5003 | 100 / 43 | 100 / 53 | 100 / 66 |
|------------------------------|----------|----------|----------|
| Peak exothermic time. (min.) | 64 | 57 | 52 |
| Peak exothermic temp. (°C) | 157 | 175 | 166 |
| Gel time (min.) | 54 | 49 | 46 |



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3-2 Drying Characteristics

Epoxy resin : bisphenol-A type liquid whose epoxy equivalent weight is about 190.

By RCI Drying Recorder : At 23°C and 5°C

| Epoxy resin / FUJICURE 5003 | | 100 / 43 | 100 / 53 | 100 / 66 |
|-----------------------------|----------------------|----------|----------|----------|
| 23°C | Set to touch (hours) | 2.3 | 22 | 2.0 |
| | Tack free (hours) | 4.4 | 4.1 | 3.8 |
| | Dry through (hours) | 6.5 | 6.0 | 5.3 |
| 5°C | Set to touch (hours) | 3.3 | 2.3 | 2.4 |
| | Tack free (hours) | 12.2 | 11.4 | 11.7 |
| | Dry through (hours) | 24.0 | 21.3 | 20.1 |

◎Film thickness about 150um

4. MECHANICAL PROPERTIES

Epoxy resin : bisphenol-A type liquid whose epoxy equivalent weight is about 190.

Precured at 23°C for one day After this cured at 80°C for 2 hours.

| Epoxy resin / FUJICURE 5003 | | 100 / 43 | 100 / 53 | 100 / 66 |
|-----------------------------|------------------------|---------------------|---------------------|---------------------|
| Tensile Strength | (kgf/mm ²) | 7.0 | 7.0 | 7.4 |
| Bending Strength | (kgf/mm ²) | 11.0 | 11.5 | 11.4 |
| Flexural Modulus | (kgf/mm ²) | 4.1×10 ² | 4.1×10 ² | 4.0×10 ² |
| Compressive strength | (kgf/mm ²) | 10.9 | 10.7 | 10.4 |
| Izod Impact Strength | (kgf/cm-cm) | 1.8 | 1.9 | 2.1 |
| Rockwell Hardness | (m-scale) | 72 | 70 | 70 |
| . Heat Distortion | (°C) | 50 | 52 | 52 |
| Shore D | | 83 | 83 | 83 |

5. CHEMICAL RESISTANCE

Epoxy resin : bisphenol-A type liquid whose epoxy equivalent weight is about 190

Precured at 23°C for one day After this cured at 80°C for 2 hours

Measured the weight change of the cured products after immersing them into following chemical substrates



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Unit : %

| Epoxy Resin / 5003 | 100 / 43 | | | 100 / 53 | | | 100 / 66 | | |
|-------------------------------|----------|-----|-----|----------|-----|-----|----------|-----|-----|
| | 1 | 7 | 30 | 1 | 7 | 30 | 1 | 7 | 30 |
| Tap water | 0.1 | 0.4 | 0.9 | 0.1 | 0.4 | 1.0 | 0.2 | 0.5 | 1.1 |
| 5% salt water solution | 0.1 | 0.3 | 0.9 | 0.1 | 0.3 | 1.0 | 0.1 | 0.4 | 1.1 |
| 10% caustic soda solution | 0.1 | 0.2 | 0.7 | 0.1 | 0.3 | 0.9 | 0.1 | 0.3 | 0.9 |
| 10% ammonia solution | 0.1 | 0.3 | 1.0 | 0.1 | 0.4 | 1.1 | 0.2 | 0.5 | 1.1 |
| 5% sulfuric acid solution | 0.2 | 0.5 | 1.3 | 0.5 | 1.2 | 2.8 | 1.4 | 3.8 | 8.3 |
| 5% hydrochloric acid solution | 0.1 | 0.5 | 1.2 | 0.3 | 0.8 | 2.0 | 0.8 | 2.3 | 5.0 |
| Kerosene | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Isopropanol | 0.2 | 0.6 | 1.3 | 0.2 | 0.4 | 0.9 | 0.4 | 1.0 | 2.4 |
| Methyl isobutyl ketone | 8.9 | 18 | 32 | 5.1 | 8.3 | 13 | 3.6 | 9.5 | 18 |

6. HANDLING (SAFETY) PRECAUTIONS

Since FUJICURE 5003 is a modified-amine curing agent, it should be handled with normal care.

Avoid direct contact with any parts of human body. In the case of eye or skin contamination with FUJICURE 5003, the affected part must be first washed thoroughly with plenty of water and soap.

In the case of eye contact, consult a physician afterwards. Keep the container tightly sealed and store in a cool and dry place away from open flames.

7. IMPORTANT NOTICE

All statement technical information, data and recommendations contained in the catalogue are based on tests we believe to be reliable but those are not to be taken as any form of our guar-antes for specific properties of our product, nor for any particular applications.

Further study of individual user is requested in the actual usage. User shall determine the suitability of the product for his intended use before using.