

Ancamine[®] 2903 Curing Agent

DESCRIPTION

Ancamine 2903 curing agent is designed for curing liquid epoxy resins at elevated temperatures to provide high thermal and chemical properties. Ancamine 2903 curative exhibits longer pot life than conventional cycloaliphatic amines and when cured can provide excellent mechanical strength and high temperature tolerance.

ADVANTAGES

- Excellent physical properties
- Low exotherm temperature
- Excellent pot life
- Excellent hydrolysis resistance

RECOMMENDED PROCESSING

- Filament Winding
- Resin Transfer Molding
- Fiber Impregnation in a Controlled Environment

APPLICATIONS

- Laminates and Composites
- Filament Wound Pipe / Liners / Fittings

SHELF LIFE

At least 36 months from the date of manufacture in the original sealed container at ambient temperature. Store away from excessive heat and humidity in tightly closed containers.

STORAGE AND HANDLING

Refer to the Safety Data Sheet for Ancamine 2903 curing agent.

TYPICAL CURE SCHEDULE

- 2 hours at 140°F, then 3 hours at 250°F
- 2 hours at 60°C, then 3 hours at 125°C

Post cure can be done at 150°C (300°F) for 2 hours to achieve higher thermal and mechanical properties.

¹ Ancamine 2903 curing agent formulated with standard Bisphenol-A based (DGEBA, EEW=180) epoxy resin

* Brookfield LV Spindle #21

** RV Spindle #27

TABLE 1: TYPICAL PROPERTIES

| | |
|--------------------------------------|--------------|
| Appearance: | Light Yellow |
| Color (Gardner): | >1 |
| Viscosity @ 77°F / 25°C* | 80–150 cPs |
| Specific Gravity @ 77°F / 25°C | 1.02 |
| Equivalent Wt/{H} | 44 |
| Recommended Use Level (phr, EEW=190) | 24 |

TABLE 2: TYPICAL HANDLING PROPERTIES¹

| | |
|--------------------------------------|--------------|
| Mixed Viscosity** @ 104°F / 40°C | 700–1150 cPs |
| Gel Time (150g mix @ 77°F / 25°C) | 160–220 min |
| Time to 10,000 cPs ** @ 104°F / 40°C | 100 min |

TABLE 3: THERMAL PERFORMANCE¹

| | | |
|--|-------|-------|
| Glass Transition Temperature (DSC second scan) | 157°C | 320°F |
|--|-------|-------|

TABLE 4: MECHANICAL PERFORMANCE - CAST PANEL¹

| | | |
|----------------------------------|---------|------------|
| Flexural Strength (ASTM D790) | 134 MPa | 19,500 psi |
| Flexural Modulus | 2.3 GPa | 337 ksi |
| Tensile Strength (ASTM D638) | 65 MPa | 9,500 psi |
| Tensile Modulus | 2.1 GPa | 310 ksi |
| Tensile Elongation @ Break | 5.5% | |
| Compressive Strength (ASTM D695) | 112 MPa | 16,300 psi |
| Compressive Modulus | 2.2 GPa | 320 ksi |

TABLE 5: MECHANICAL PERFORMANCE - COMPOSITE PANEL¹

| | | |
|--|-----------|------------|
| ILSS 0° Longitude / 90° Transverse (ASTM D2344) | 71 MPa | 10,400 psi |
| Flexural Strength - Composite 0° Longitude (ASTM D790) | 1,120 MPa | 1,740 ksi |
| Flexural Modulus - Composite 0° Longitude | 47 GPa | 6,889 ksi |
| Compressive Strength (tabs) - 0° Longitude | 401 MPa | 58 ksi |
| Compressive Modulus (w/o tabs) - 0° Longitude | 15 GPa | 2.2 Msi |

COMPOSITE PANEL FABRICATION:

Method: Vacuum Assisted Resin Transfer Molding
 Fiber Type: E-glass (275g / m²) Unidirectional
 Fiber Volume: 60± 3%
 Cure Schedule: 2 hrs @ 60°C + 2 hrs @ 150°C

Epoxy Curing Agents and Modifiers

Ancamine[®] 2903 Curing Agent

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