

Product information

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.

TYPICAL PROPERTIES

Property	Value	Unit	Method
Appearance	Light Yellow		
Colour	8 max	Gardner	
Viscosity @ 77°F / 25°C	80–150	cPs	Brookfield LV Spindle #21
Specific Gravity @ 77°F / 25°C	1.02		
Equivalent Wt{H}	44		
Recommended Use Level	24	phr	EEW=180

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 h at 140°F, then 3 h at 250°F
2 h at 60°C, then 3 h at 125°C
Post cure can be done at 150°C (300°F) for 2 h to achieve higher thermal and mechanical properties.

TYPICAL HANDLING PROPERTIES *

Property	Value	Unit	Method
Mixed Viscosity @ 104°F/ 40°C	700–1150	cPs	RV Spindle #27
Gel Time (150g mix @ 77°F/ 25°C)	160–220	min	
Time to 10,000 cPs @ 104°F/ 40°C	100	min	RV Spindle #27

THERMAL PERFORMANCE *

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

MECHANICAL PERFORMANCE - CAST PANEL *

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

MECHANICAL PERFORMANCE - COMPOSITE PANEL *

Property			
ILSS 0° Longitude / 90° Transverse	71 MPa	10,400 psi	ASTM D2344
Flexural Strength - 0° Longitude	1,120 MPa	1,740 ksi	ASTM D790
Flexural Modulus - 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 h @ 60°C + 2 h @ 150°C

* Ancamine 2904 curing agent formulated with standard Bisphenol-A based (DGEBA, EEW=180) epoxy resin

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