

**ANCAMINE<sup>®</sup> 2903****Curing Agent****DESCRIPTION**

Ancamine 2903 curing agent is a cycloaliphatic amine curing agent modified with diethyltoluenediamine. The product is free of methylenedianiline (MDA) and designed to cure liquid epoxy resin at elevated temperatures. Ancamine 2903 curing agent exhibits improved pot-life versus conventional cycloaliphatic amines. Ancamine 2903 curing agent provides excellent chemical resistance, high mechanical strength, and good properties at high temperatures.

**TYPICAL PROPERTIES**

Property	Value	Unit	Method
Appearance	Light yellow liquid		
Colour	≤ 9	Gardner	ASTM D 1544-80
Viscosity @ 25°C	80-150	mPa.s	Brookfield LV, Spindle 21 or RV, Spindle 27 (mix)
Amine Value	535-610	mg KOH/g	Perchloric Acid Titration
Specific Gravity @ 21°C	1.02		
Equivalent	44	Wt/{H}	
Recommended use Level	24	PHR	With bisphenol-A based epoxy resin (EEW=180)

**ADVANTAGES**

- Low exotherm temperature
- Long pot-life
- Excellent mechanical properties
- Excellent hydrolysis resistance

**APPLICATIONS**

- Laminates and composites
- Filament winding
- Resin transfer moulding
- Fiber impregnation

## SHELF LIFE

At least 24 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.

## PACKAGING AND HANDLING

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

## TYPICAL HANDLING PROPERTIES\*

Property	Value	Unit	Method
Mixed Viscosity @ 40°C	700-1500	mPa.s	Brookfield LV, Spindle 21 or RV, Spindle 27 (mix)
Gel Time @ 25°C	160-220	mins	Techne GT-3 Gelation Timer, 150 g mix
Time to 10,000 mPa.s @ 40°C	45-60	mins	Rheometer with CP 50-1 @ 16 rpm

## TYPICAL PERFORMANCE PROPERTIES\*

Property	Value	Unit	Method
Glass Transition Temperature	157	°C	DSC @ 10°C/min second heating scan
Flexural Strength	134	MPa	ASTM D 790
Flexural Modulus	2.3	GPa	ASTM D 790
Tensile Strength	65	MPa	ASTM D 638
Tensile Modulus	2.1	GPa	ASTM D 638
Tensile Elongation @ Break	5.5	%	ASTM D 638
Compressive Strength	112	MPa	ASTM D 695
Compressive Modulus	2.2	GPa	ASTM D 695

## COMPOSITE PANEL \* \*1

Merkmal	Wert (ca.)	Einheit	Methode
Interlaminar Shear Strength	71	MPa	ASTM D 2344 (composite 0° longitude)
Flexural Strength	1120	MPa	ASTM D 790 (composite 0° longitude)
Flexural Modulus	47	GPa	ASTM D 790 (composite 0° longitude)

## TYPICAL CURE SCHEDULE

- 2 h @ 60°C followed by 3 h @ 120°C
- Optional post-cure for 2 h @ 150 °C for higher thermal and mechanical properties

\*With bisphenol-A based epoxy resin (EEW=180)

\*<sup>1</sup>Composite panel fabrication method: VARTM Fiber type: E-glass (275 g/m<sup>2</sup>) unidirectional; Fiber volume: 60 ± 3 %

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