

ANCAMINE® 2390 Curing Agent**DESCRIPTION**

Ancamine 2390 curing agent is a low viscosity modified amine designed to be used with liquid epoxy resin. It is designed to give 1:1 mix ratios when used with standard liquid epoxy resins. It yields formulations with high elongation, strength, and hardness.

ADVANTAGES

- One-to-one mix ratios in dilute formulations
- Rapid thin film set
- High tear resistance, tensile strength, and elongation
- Good chemical and moisture resistance

APPLICATIONS

Ancamine 2390 curing agent is especially suited for civil engineering applications such as joint sealants, crack bridging, and secondary containment membranes. It is also suitable for other applications requiring toughness such as potting compounds.

SHELF LIFE

At least 24 months from the date of manufacture in sealed containers at ambient temperatures. Store away from excessive heat and humidity in tightly closed containers.

STORAGE AND HANDLING

Refer to the Safety Data Sheet on Ancamine 2390 curing agent.

TYPICAL CURE SCHEDULE

2-7 days at ambient temperatures.

TYPICAL PROPERTIES

Appearance	Clear Liquid
Color¹ (Gardner)	_2
Viscosity² @ 77°F (cP)	1,170
Amine Value³ (mg KOH/g)	213
Equivalent Wt/{H}	204

RECOMMENDED FORMULATIONS

Formulation* (Parts by Weight)	A	B
Resin Side		
Bisphenol A-based Epoxy Resin (190 EEW)	80.00	100.00
Epodil 748	20.00	—
Hardener Side		
Ancamine 2390	100.00	107.37
Handling Properties		
Formulation Mix Viscosity ² , cP	1,080	1,908
Gel Time ⁴ , min. (150 g mass)	30	19
Thin Film Set Time ⁵ , hr, 75°F/50% RH	7.0	4.0
Physical Properties @ 77°F		
Shore D Hardness ⁶	55	70
Tensile ⁷		
Strength, psi	1,530	3,236
Modulus, psi	33,800	120,563
Elongation, %	55	54
Tear Strength ⁸ , lb/in.	82	
Tg ⁹ , °F, DMA	-31/127	
Cured Appearance	Clear	Opaque
Low Temperature Properties⁷		
Strength, psi @ 14°F	3,240	
Modulus, psi @ 14°F	87,840	
Elongation, % @ 14°F	22	

*Note: Samples cured for 7 days at 77°F before testing

ANCAMINE® 2390 Curing Agent

Low viscosity in formulation A is achieved by using Epodil 748 epoxy diluent. Formulation B shows that without diluent, Ancamine 2390 gives a strength and modulus increase of two to three times while maintaining an elongation of greater than 50%. Formulation B shows an opaque appearance on cure.

Some of the proposed applications for Ancamine 2390 formulations may be exposed to extremely low temperatures where embrittlement is a concern. Formulation A was tested at 14°F to determine the impact on physical properties of this type of exposure. Tensile testing shows that formulation A retains a significant amount of its room temperature flexibility even at 14°F.

For applications requiring other than 55% elongation, refer to "Flexibilizing Epoxy Formulations". This bulletin describes materials available from Air Products that give a wide range of flexibilized performance to meet a variety of application requirements.

Footnotes:

- (1) ASTM D1544-80
- (2) ASTM D 445-83, Brookfield, RVTD, Spindle #4
- (3) Perchloric Acid Titration
- (4) Techne GT-4 Gelation Timer
- (5) BK Drying Recorder
- (6) ASTM D 2240-86
- (7) ASTM D 638-86
- (8) ASTM D 1938
- (9) Glass Transition Temperature, Tan * maxima of Dynamic Mechanical Analysis, DMA

EVONIK CORPORATION

7201 Hamilton Blvd.
Allentown, PA 18195
1 800 345-3148
Outside U.S. and Canada 1 610 481-6799

For Technical Information and Support:

Americas: picus@evonik.com
EMEA: apcse@evonik.com

Disclaimer

The information contained herein is offered without charge for use by technically qualified personnel at their discretion and risk. All statements, technical information and recommendations contained herein are based on tests and data which we believe to be reliable, but the accuracy or completeness thereof is not guaranteed and no warranty of any kind is made with respect thereto.

