

ANCAMINE® 2719 Curing Agent

DESCRIPTION

Ancamine 2719 curing agent is a nonyl- and p-tert-butyl phenol free aliphatic polyamine Mannich base curing agent designed for use with liquid epoxy resin. It is of low viscosity and highly reactive at low temperatures ~5°C. Ancamine 2719 will react with liquid epoxy resins at low temperature to produce a highly chemical resistant surface coating.

ADVANTAGES

- Fast cure
- Low temperature cure
- Excellent chemical resistance
- Nonyl phenol free

APPLICATIONS

- Protective coatings
- Industrial applications
- Potable water coatings

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 2719 curing agent.

TYPICAL PROPERTIES

Appearance	Brown liquid
Colour¹ (Gardner)	14
Viscosity² @ 25°C, [mPa.s]	300-500
Amine Value³ (mg KOH/g)	340-380
Specific Gravity @ 21°C	1.03
Equivalent Wt/{H}	75
Recommended use Level⁴ [PHR]	40

TYPICAL HANDLING PROPERTIES⁴

Mix Viscosity 25°C [mPa.s]	2400
Gel Time⁵ (150g mix at 25°C), [min]	20
Thin Film Set Time⁶ 23°C, [h]	2.5
Hardness Shore D⁷ at 25°C (24h)	80
Hardness Shore D⁷ at 10°C (24h)	72
Typical cure schedule 2- 7 days	

TYPICAL PERFORMANCE PROPERTIES⁴

Tensile Strength⁸ [MPa]	52
Tensile Modulus⁸ [MPa]	6320
Tensile Elongation at Break [%]	4.9
Flexural Strength⁹ [MPa]	106
Flexural Modulus⁹ [MPa]	2830
Compressive Strength¹⁰ [MPa]	108
Compressive Modulus¹⁰ [MPa]	1865

Footnotes:

- (1) ASTM D 1544-80
- (2) Brookfield RVTD, Spindle 4
- (3) Perchloric Acid Titration
- (4) With Bisphenol A diglycidyl ether (EEW=190)
- (5) Techne GT-3 Gelation Timer
- (6) BK Drying Recorder Phase III
- (7) DIN 53505
- (8) ISO 527
- (9) ISO 178
- (10) ASTM C579-96

SUPPLEMENTARY DATA

Ancamine 2719 is a Mannich base curing agent that exhibits low viscosity, fast drying and rapid property development under adverse conditions. Ancamine 2719 can be used as a sole curative or as an accelerator in combination with other curing agents to produce solvent free and high solids coatings systems for a variety of applications. As a sole curative it is highly effective in applications which require a fast return to service, such as repair compounds.

The raw materials used in Ancamine 2719 are listed in the French and German KTW Regulations (Part I), which is a requirement for potable water applications.

When compared to Ancamine 2609, Ancamine 2719 exhibits very similar properties and performance but it is nonyl- and p-tert-butyl phenol free and about 50% of the carbon atoms in Ancamine 2719 are coming from renewable sources.

TYPICAL PROPERTIES

		Ancamine® 2609	Ancamine® 2719
Colour	Gardner	3	14
Amine value	mg KOH/g	400	360
AHEW		75	75
Use level (PHR)	with EEW=190	40	40

HARDNESS DEVELOPMENT

With BADGE, EEW=190		Ancamine® 2609	Ancamine® 2719
Shore D	24 h, 25°C	80	80
	24 h, 10°C	72	72
Persoz Hardness	7d, 25°C	380	320
	7d, 10°C	350	250

MIXED VISCOSITY

Ancamine 2719 exhibits a steep viscosity reduction profile when mixed with liquid epoxy resin. Even though its neat viscosity is very similar to the one of Ancamine 2609 the mixed viscosity of Ancamine 2719 with an epoxy resin is much lower.

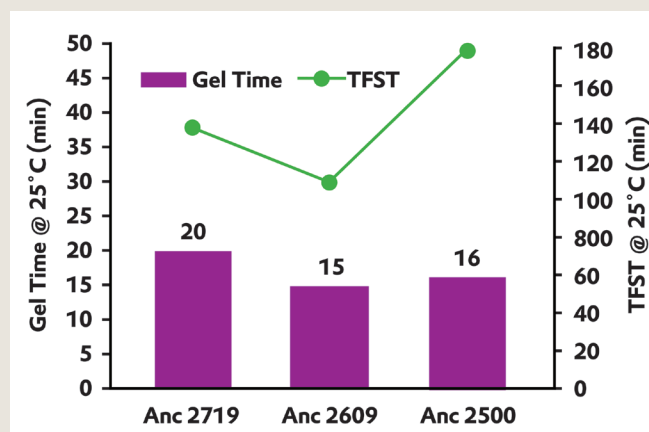
		Ancamine® 2609	Ancamine® 2719
Viscosity (curing agent) at 25°C	mPa.s	400	350
Mix Viscosity* at 25°C	mPa.s	3100	2400

* With BADGE, EEW=190, 40phr

CURE SPEED AND POT LIFE

Ancamine 2719 demonstrates an excellent balance of cure speed and pot life; with a gel time of 20 minutes and a thin film set time of 2.5 hours at 25°C this gives a very good workable pot-life with an excellent dry time.

FIGURE 1: GEL TIME AND THIN FILM SET TIME AT 25°C FOR SELECTED SYSTEMS



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