

Cardolite[®] NC-556X80

Epoxy Curing Agent

Technical Datasheet

DESCRIPTION

Cardolite NC-556X80 is 80% solids, low viscosity, adducted phenalkamine curing agent designed for high solids epoxy coating applications. This curing agent has extremely fast cure, even at very low temperatures, allowing application of 2 coats per day at temperatures down to 5°C, while still maintaining a workable pot life. Coatings based on NC-556X80 develop hardness rapidly for applications requiring quick dry to handle or early sandability. Like other Cardolite phenalkamines, this curing agent has good adhesion on wet or otherwise unprepared surfaces, and can provide outstanding water resistance and corrosion protection.

PROPERTIES

PROPERTY	SPECIFICATION	TEST METHOD
Color (Gardner)	≤ 16	ASTM D1544
Viscosity @ 25°C (cPs)	2,800 - 8,000	ASTM D2196
Amine Value (mg KOH/g)	310 - 350	ASTM D2074
Solids (% weight)	75 - 80	ASTM D2369-98

PROPERTY	TYPICAL VALUE	TEST METHOD
Appearance	Reddish brown liquid	Visual
Theoretical Active Hydrogen Equivalent (AHEW) ¹	135	Calculated
Density @ 25°C (kg/L) (lbs/gal)	0.99 - 1.01 8.24 - 8.41	ASTM D1475
Flash point	32°C / 90°F	ASTM D93
Recommended Use Level (phr, EEW 190)	70 - 90	-
Shelf Life (Months)	24	-

Typical properties are not to be construed as specifications

¹ Based on total product weight

APPLICATIONS

Cardolite NC-556X80 is usable for all season cure, fast setting, heavy duty industrial, marine, and protective coatings at greater than 80% solids by weight. Transportation primers and fleet refinish/repair coating applications requiring fast dry to handle times or early sandability can benefit from this curing agent's ability to develop hardness quickly. Its fast cure brings early return to service for applications like potable water pipe linings*, and can help lower oven cure temperatures in forced cure applications. This curing agent can also be used in applications requiring FDA 175.300 compliance.

* Dependent on country regulations

ADVANTAGES

- Excellent combination of rapid cure and long pot life at both ambient and low (<5°C/40°F) temperatures
- Continues to chemically crosslink at very low temperatures (<0°C/32°F)
- Low viscosity for excellent workability
- Good adhesion to poorly prepared surfaces
- Good adhesion to difficult substrates
- Moisture tolerant during cure
- Excellent early water resistance
- Good chemical resistance
- Very good flexibility
- Compatible with most epoxy resins, solvents and their blends
- Superior corrosion resistance mitigating the need for anti-corrosion pigments
- Non-critical mix ratio
- No induction time required
- Non-toxic
- Based from natural, renewable, non-food chain raw material feedstock

CURE PROPERTIES

	FORMULATION	TEST METHOD
Liquid Epoxy Resin (pbw, EEW 190)	100	
Cardolite NC-556X80 (pbw)	71	
Mix viscosity @ 25°C (cPs)	5,860	
Gel time, 50 g @ 25°C (min)	75	NTM-15
Thin film dry times, 8 mils (200 micron)		
@ 25°C (77°F) (hrs hard/through)	3.5 / 4.5	ASTM D5895
@ 5°C (41°F) (hrs hard/through)	12 / 16	ASTM D5895
@ 0°C (32°F) (hrs hard/through)	19.5 / 22	ASTM D5895
Film appearance @ 10°C, 92% RH	Blush	Visual

REGULATORY STATUS

Please refer to the material safety data sheet (MSDS). Specific information regarding chemical inventory listing can be obtained from your local sales representative.

SAFETY PRECAUTIONS

Please refer to the material safety data sheet (MSDS). Copies of the MSDS can be requested on the Cardolite website or via your local sales representative.

STABILITY AND STORAGE

Cardolite products may absorb moisture and carbon dioxide when left in open containers, which could result in increased viscosity, discoloration, reduction of reactivity, and/or crystallization of the products. These products should be kept tightly sealed in their original containers when not in use, and stored in a cool, dry place.

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