Cardolite® NX-5445
Epoxy Curing Agent
Technical Datasheet

Description

Cardolite NX-5445 is a 78% 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 NX-5445 develop hardness rapidly for applications requiring quick dry to handle. 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)	17 - 18	ASTM D1544
Viscosity @ 25°C (cPs)	1,400 - 3,500	ASTM D2196
Amine Value (mg KOH/g)	145 - 165	ASTM D2074
Solids (% weight)	76.5 - 79.5	ASTM D2369-98

Property	Typical Value	Test Method
Appearance	Dark ambler liquid	Visual
Theoretical Active Hydrogen Equivalent (AHEW)[1]	256	Calculated
Density @ 25°C (kg/L) (lbs/gal)	0.97 - 0.99 8.07 - 8.24	ASTM D1475
Flash point	24°C / 75°F	ASTM D93
Recommended Use Level (phr, EEW 190)	135	-
Shelf Life (Months)	24	-

Typical properties are not to be construed as specifications
[1] Based on total product weight

Applications

Cardolite NX-5445 is usable for all season cure, fast setting, heavy duty industrial, protective, and marine coatings at greater than 80% solids by weight. Coating applications requiring fast dry to handle times with good flexibility can benefit from this curing agent's ability to develop hardness quickly while not becoming too brittle. Its fast cure brings early return to service for time sensitive applications and can help lower oven cure temperatures in forced cure applications. This curing agent has good blush and oil free film properties at extreme conditions, and excellent overcoat properties.

Advantages

- Excellent combination of rapid cure and pot life at both ambient and low (<5°C/40°F) temperatures
- Continues to chemically crosslink at very low temperatures (<0°C/32°F)
- Good workability for >80% solids formulations
- Good adhesion to poorly prepared surfaces
- Good adhesion to difficult substrates
- Moisture tolerant during cure
- Excellent early water resistance
- Good chemical resistance
- Rapid hardness development, yet not brittle
- Excellent overcoat properties
- Superior corrosion resistance mitigating the need for anti-corrosion pigments
- Non-critical mix ratio
- No induction time required
- Non-toxic and non-corrosive
- Based from natural, renewable, non-food chain raw material feedstock

Cure Properties

	Formulation	Test Method
Liquid Epoxy Resin (pbw, EEW 190)	100	
Cardolite NX-5445 (pbw)	135	
Mix viscosity @ 25°C (cPs)	2,895	
Gel time, 50 g @ 25°C (min)	26 - 36	NTM-15
Thin film dry times, 8 mils (200 micron)		
@ 25°C (77°F) (hrs hard/through)	2/3	ASTM D5895
@ 5°C (41°F) (hrs hard/through)	6.5/12.5	ASTM D5895
@ 0°C (32°F) (hrs hard/through)	14.5/18.5	ASTM D5895
Film appearance @ 10°C, 92% RH	Slight Haze	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.

Contact Information

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