TECHNICAL DATASHEET

CYMEL® XW 3106 resin

March 2017

PRODUCT DESCRIPTION

CYMEL XW 3106 resin is a specially alkylated, high solids melamine crosslinking agent designed for solvent-borne, two-pack ambient and low bake formulations. The low temperature cure potential for this crosslinker provides the opportunity to formulate high performance coatings for heat sensitive substrates. These systems have excellent early hardness, resistance properties, appearance and hot/cold cycle flexibility.

BENEFITS

- Fast cure response in both ambient and forced cure applications
- Excellent compatibility with a wide variety of OH functional resins
- Extended catalyzed coating stability

APPLICATION AREAS

CYMEL XW 3106 resin works especially well for two component, solvent-based coating systems cured below 100°C such as:

- OEM auto plastic
- Consumer electronics
- General industrial metal

PHYSICAL PROPERTIES

Property	Range	Method
Appearance	Clear Liquid	ASTM E284
Non-volatile	≥ 98%	DIN 55671 (Foil, 45 min/45°C)
Viscosity, 23°C	6000-12000 mPa·s	DIN EN ISO 3219
Free formaldehyde	< 0.1%	Sulfite Titration
Color, APHA	≤ 70	DIN EN ISO 6271

SOLUBILITY

Alcohols	Complete
Esters	Complete
Ketones	Complete
Aromatic hydrocarbons	Complete
Water	Insoluble

COMPATIBILITY

Acrylic resins	Very good
Alkyd resins	Very good
Polyester resins	Very good

BACKBONE POLYMER SELECTION

CYMEL XW 3106 resin is a very effective crosslinker for acrylic, polyester, and alkyd polymers containing primary hydroxyl functionality. The coatings demonstrate very good flow, gloss, early film hardness, early print resistance and chemical resistance. Polyols with high T_g (>40°C) should be avoided as these may limit the network development with this crosslinker.

CATALYSIS

CYMEL XW 3106 resin requires the addition of a sulfonic acid catalyst, such as CYCAT® 4040 catalyst or CYCAT 600 catalyst, at levels of 2.0-4.0% on total resin solids, in order to obtain effective cure for both ambient and heat cured applications. The acidity of other formulation components may contribute to the reaction and should be evaluated in combination with the catalyst.

FORMULATION STABILITY

CYMEL XW 3106 resin can be formulated with good catalyzed coating stability with the addition of a primary alcohol, such as ethanol or n-butanol, at loadings of 10-20% on total resin solids.

STORAGE STABILITY

CYMEL XW 3106 resin has a shelf life of 1800 days from date of manufacture when stored at temperatures below 32°C. Although low temperatures are not detrimental to stability, the viscosity of the product will increase, possibly making the resin difficult to pump or pour. Product viscosity can be returned to normal by gentle rewarming, however, care should be taken to avoid excessive localized heating which can result in an irreversible increase in viscosity.

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