CYMEL® UI-21-E resin

PRODUCT DESCRIPTION

CYMEL UI-21-E resin is a partially iso-butylated urea resin supplied in ethanol. It has been designed for a wide range of high build, low odor industrial wood finishes. CYMEL UI-21-E resin is not suitable for exterior applications.

BENEFITS

- Fast drying
- Low odor

APPLICATION AREAS

- Industrial wood finishes

PHYSICAL PROPERTIES

Property	Range	Method
Appearance	Clear to hazy liquid	Visual
Non-volatile by wt.	76-80%	Pan, 1 hr/100°C
Viscosity, 23°C	3500 – 4500 mPa-s	Dynamic Viscosity
Free formaldehyde	< 0.8%	Sulfite Method
Color, APHA	< 50	ISO 6271

SOLUBILITY

Alcohols	Complete
Esters	Complete
Ketones	Complete
Aromatic hydrocarbons	Partial
Aliphatic hydrocarbons	Partial
Water	Insoluble

COMPATIBILITY

Acrylic resins	Medium
Alkyd resins	Good
Polyester resins	Good
Nitrocellulose	Good
Cellulose acetate butyrate	Good
Polyvinyl butyrate	Good

BACKBONE POLYMER SELECTION

CYMEL UI-21-E resin is a very effective crosslinking agent for backbone polymer resins containing hydroxyl functional groups, such as alkyd, polyester or acrylic resins. The optimum level of CYMEL UI-21-E resin in an acid curing wood coating formulation should be in the range of 25-35% on total resin solids. To obtain coatings with optimum resistance properties, addition of a melamine resin, such as CYMEL MB-98, at levels of 5-10% on total resin solids is recommended.

CATALYSIS

CYMEL UI-21-E resin responds to both weak acids and sulfonic acid catalysts, like CYCAT® 4040 catalyst. Generally, 6-10% CYCAT 4040 catalyst on total resin solids of the formulation is sufficient to obtain fast drying behavior at room temperature.

POT LIFE

To extend catalyzed pot life of the formulation, addition of primary alcohols, such as n-butanol and ethanol, is required at concentrations of 10-25% on total resin solids. Faster evaporating alcohols will improve speed of dry.

STORAGE STABILITY

CYMEL UI-21-E resin has a shelf life of 24 months from date of manufacture when stored at temperatures between 5°C and 30°C. Although low temperatures are not detrimental to stability, the viscosity of the product will increase making the resin more difficult to pump or pour. Product viscosity can be returned to normal by gentle re-warming, however, care should be taken to avoid excessive localized heating as this can cause irreversible viscosity increase.

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