EBECRYL® 242

Technical Datasheet

ALIPHATIC URETHANE ACRYLATE OLIGOMER

INTRODUCTION

EBECRYL® 242 is an aliphatic urethane acrylate oligomer diluted 30% by weight with the reactive diluent IBOA (isobornyl acrylate). EBECRYL® 242 was developed for use in UV/EB cure coatings for metal requiring very high flexibility, good adhesion and corrosion resistance.

PERFORMANCE HIGHLIGHTS

UV/EB cured products based on EBECRYL® 242 can be expected to have the following properties:

- Excellent flexibility
- Good adhesion to metal
- Good corrosion resistance

The final properties of UV/EB cured products also depend on the selection of other formulation components, such as reactive diluents, additives and photo initiators.

SUGGESTED APPLICATIONS

EBECRYL® 242 is recommended for use in UV/EB cured primer/base coats on metal requiring excellent flexibility and good adhesion combined with corrosion resistance properties.
To obtain optimum adhesion, the acidic adhesion promoters EBECRYL 168 or EBECRYL 170 should be used in combination with EBECRYL® 242.
For UV curing a suitable photoinitiator must be added. The specific photoinitiator type and quantity is dependent upon line speed, number and power of UV lamps, the thickness of the coating and the use of any pigments.

VISCOSITY REDUCTION

In addition to IBOA[(1)], EBECRYL® 242 can be reduced in common reactive diluents such as 2-phenoxyethyl acrylate (EBECRYL® 114)[(1)], 1,6-hexanediol diacrylate (HDDA)[(1)]1), trimethylolpropane triacrylate (TMPTA)[(1)], and tripropylene glycol diacrylate (TPGDA)[(1)]. Although viscosity reduction can be achieved with non-reactive solvents, reactive diluents are usually preferred because they are essentially 100 percent converted during UV/EB exposure to form a part of the coating or ink, thus avoiding solvent emissions. The specific reactive diluents used will influence performance properties such as hardness and flexibility.

[(1)] product of allnex

TYPICAL PHYSICAL PROPERTIES

Appearance	Clear liquid
Color, Gardner	max. 1
Density, g/cm³ @ 25°C	1.10
Functionality, theoretical	2
Oligomer, % by weight	70
Reactive diluent, % by weight	30
Viscosity, 25°C, mPa.s	~21000

TYPICAL CURED PROPERTIES

Tensile strength, psi (MPa)	4045 (28)
Elongation at break, %	186
Glass transition temperature, °C	46

PRECAUTIONS

Before using EBECRYL® 242, see the Safety Data Sheet (SDS) for information on the identified hazards of the material and the recommended personal protective equipment and procedures.

STORAGE AND HANDLING

Care should be taken not to expose the product to high temperature conditions, direct sunlight, ignition sources, oxidizing agents, alkalis or acids. This might cause uncontrollable polymerization of the product with the generation of heat. Storage and handling should be in stainless steel, amber glass, amber polyethylene or baked phenolic lined containers. Procedures that remove or displace oxygen from the material should be avoided. Do not store this material under an oxygen free atmosphere. Dry air is recommended to displace material removed from the container. Wash thoroughly after handling. Keep container tightly closed. Use with adequate ventilation.
See the SDS for the recommended storage temperature range for EBECRYL® 242.