

URETHANE ACRYLATE OLIGOMER

INTRODUCTION

EBECRYL® 285 is an aliphatic urethane diacrylate oligomer diluted with 25% of tripropyleneglycol diacrylate (TPGDA) monomer. Films of EBECRYL® 285 cured by ultraviolet light (UV) or electron beam (EB) exhibit good exterior durability, toughness and flexibility, as well as the non-yellowing properties typical of an aliphatic urethane.

PERFORMANCE HIGHLIGHTS

EBECRYL® 285 is characterized by:

- Light colour

UV/EB cured products based on EBECRYL® 285 are characterized by the following performance properties:

- Good flexibility
- Good toughness
- Good exterior durability
- Non-yellowing

The actual properties of UV/EB cured products also depend on the selection of the other formulation components, such as reactive diluent(s), additives and photo initiators.

SUGGESTED APPLICATIONS

Formulated UV/EB curable products containing EBECRYL® 285 may be applied by lithographic, screen, gravure, direct or reverse roll, and curtain coating methods.

EBECRYL® 285 is recommended for use in:

- Coatings for wood and plastics requiring excellent exterior durability
- Clear coatings for cork and plastics like plasticized PVC
- Metal coatings
- Pigmented coatings for wood, paper and plastics
- Paper upgrading
- Finish base for wood and PVC floor covering

TYPICAL VALUES

Höppler viscosity at 25°C, mPa.s	23000
Colour, Gardner	max. 2

PHYSICAL PROPERTIES

Density, g/cm ³	1.13
Molecular weight, theoretical	1200
Functionality, theoretical	2
Polymer solids, % by weight	75
TPGDA, % by weight	25

TYPICAL CURED PROPERTIES

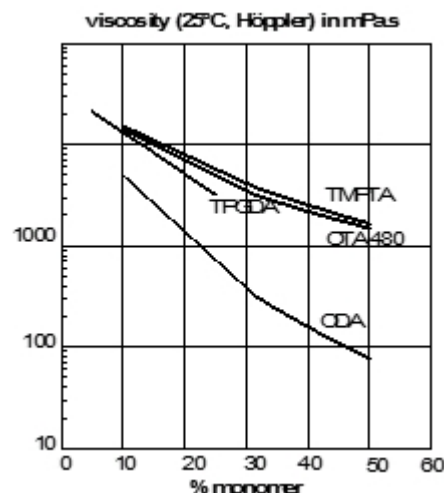
Tensile strength, psi (MPa)	4600 (32)
Tensile elongation, %	17
Young's modulus, psi (MPa)	164000 (1130)
Glass transition temperature, °C	66

VISCOSITY REDUCTION

EBECRYL® 285 can be diluted with reactive monomers such as trimethylolpropane triacrylate (TMPTA)⁽¹⁾, tripropyleneglycol diacrylate (TPGDA)⁽¹⁾ and oligotriacrylate (OTA 480)⁽¹⁾. The specific reactive diluent(s) used will influence performance properties such as hardness and flexibility.

⁽¹⁾ product of allnex

The graph shows the viscosity reduction of EBECRYL® 285 as a function of the concentration of different monomers.



STORAGE AND HANDLING

Care should be taken not to expose radiation curable products to temperatures exceeding 40°C for prolonged periods or to direct sunlight. This might cause uncontrollable polymerization of the product with generation of heat.

Storage and handling should be in stainless steel, amber glass, amber polyethylene or baked phenolic lined containers.

Do not store this material under an oxygen free atmosphere. Use dry air to displace material removed from the container. This material should not be stored for more than 2 years.

PRECAUTION

The following is a summary of the precautions to be taken when handling this product. Please refer to the Safety Data Sheet for further details.

The toxicological properties of this material have not been fully determined. Products of this type can be expected to be eye and skin irritant and have the potential to cause sensitization or other allergic responses. Appropriate precautions should be taken to avoid eye and skin contact and to avoid inhalation of the aerosols or vapours. Consult the relevant Safety Data Sheet for appropriate handling procedures and protective equipment prior to using this or any other material referred to in this bulletin.

See Safety Data Sheet for emergency and first aid procedures.

STATUTORY LABELING

For Statutory Labeling information, please refer to Safety Data Sheet.