

ALIPHATIC URETHANE DIACRYLATE

INTRODUCTION

EBECRYL® 246/10IBM is a difunctional aliphatic urethane acrylate diluted in 10% by weight Isobornyl methacrylate (IBOMA). Films of EBECRYL® 246/10IBM cured by electron beam (EB) or ultraviolet light (UV) exhibit excellent abrasion resistance, toughness and flexibility and are resistant to yellowing. EBECRYL® 246/10IBM does not contain intentionally added organic tin compounds, heavy metals or quinones. Please note that quinones are present in many raw materials, so the overall quinone content is reduced, but not zero.

PERFORMANCE HIGHLIGHTS

EBECRYL® 246/10IBM is characterized by:

- No intentionally added tin, heavy metals or quinones
- Light color

UV/EB cured products, based on EBECRYL® 246/10IBM, are characterized by the following performance properties:

- Excellent flexibility
- Excellent non-yellowing
- High scuff and abrasion resistance
- Good exterior durability

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 photoinitiators.

SUGGESTED APPLICATIONS

The viscosity of EBECRYL® 246/10IBM can be reduced with additional IBOMA, other monofunctional (meth)acrylate monomers, or with multifunctional monomers such as 1,6-hexanediol diacrylate (HDDA)⁽¹⁾, propoxylated neopentylglycol diacrylate (NPG(PO)₂DA)⁽¹⁾, or trimethylolpropane trimethacrylate (EBECRYL® TMPTMA)⁽¹⁾. The specific reactive diluents used will influence performance properties such as hardness and flexibility. Viscosity reduction can be achieved with non-reactive solvents.

⁽¹⁾ Product of allnex

Graph I illustrates the change in viscosity of EBECRYL® 246/10IBM with increasing temperature.

TYPICAL PHYSICAL PROPERTIES

Appearance	Clear liquid
Color, Gardner scale	<1.0
Density, g/ml at 25°C	1.10
Functionality, theoretical	2
Resin, % by weight	90
Viscosity, 60°C, cP/mPa·s	~15000

TYPICAL CURED PROPERTIES

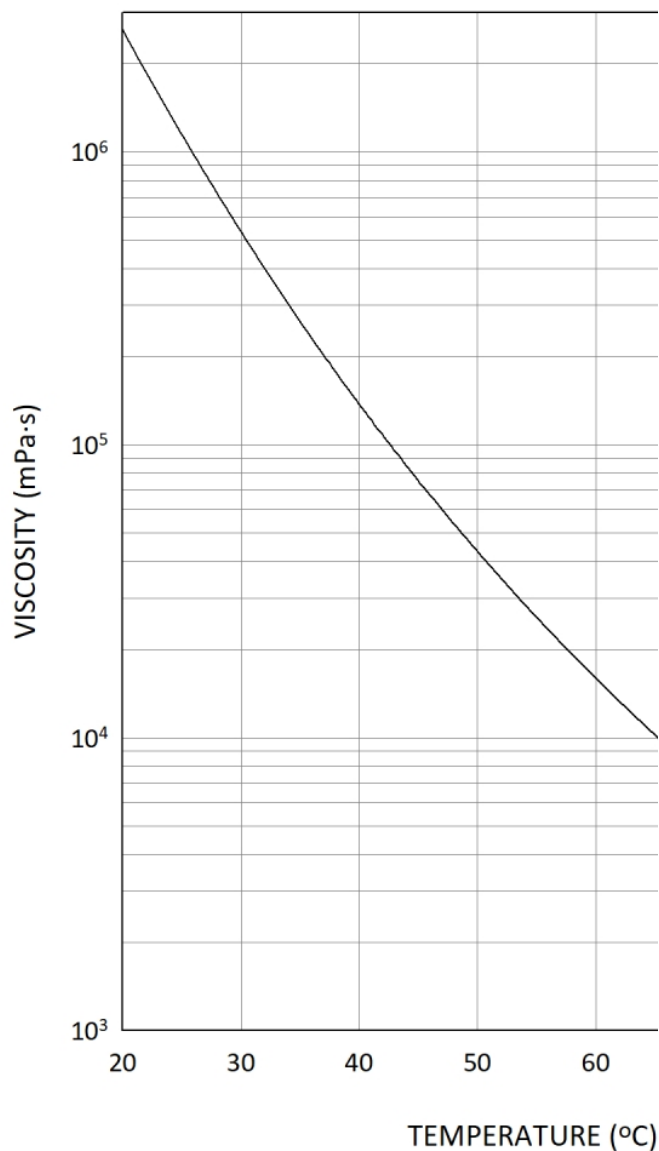
Tensile strength, MPa (psi) ⁽¹⁾	32 (4683)
Elongation at break, % ⁽¹⁾	83
Young's modulus, MPa (psi) ⁽¹⁾	399 (57902)
Glass transition temperature, °C ⁽¹⁾⁽²⁾	54

⁽¹⁾ UV cured 125 µ thick films.

⁽²⁾ Determined by Dynamic Mechanical Analysis; tan(δ) max.

GRAPH I

EBECRYL® 246/10IBM - Viscosity vs. Temperature



PRECAUTIONS

Before using EBECRYL® 246/10IBM, 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® 246/10IBM.