

Bomar[®] BR-640D Difunctional Aliphatic Polybutadiene Urethane Acrylate

APPLICATIONS

- Electronics coatings and adhesives
- Potting compounds
- Water vapor barrier coatings

FEATURES

- Excellent hydrophobicity
- Low water absorption
- Excellent dielectric properties

FEATURES

- Acid/Base resistance
- Low temperature flexibility
- Thermal cycling capabilities

BR-640D is a polybutadiene (PBD) urethane acrylate with a functionality of two. Designed to meet rigorous electronic applications, BR-640D has many desirable properties typical to PBD resins, combined with radiation curability. In applications requiring thermal cycling resistance, BR-640D withstands the extremes of temperature typical of such tests, without undue degradation of properties. Excellent hydrophobic properties exhibited where 0.012 and 0.037% water was absorbed by cured coating when submerged in water for 24 hours. In addition to the adhesion properties listed in the table below, BR-640D showed excellent adhesion to ABS, acrylic, nylon-6, PVC, and PS.

UNCURED PROPERTIES

Property	Value
Viscosity, cP (60°C)	5,000
Pt-Co (APHA) Color	15
Refractive Index (25°C)	1.480
Density, g/cm ³ (25°C)	0.940

CURED MECHANICAL PROPERTIES

Property	I30	I50	TM50	TP50	H50	HE30
Tensile Strength, psi**	500	800			1,300	500
Elongation, %**	190	190			10.0	60
Elastic Modulus, ksi**	0.27	0.65			35	1.7
Durometer Hardness	76A	45D	Not Compatible		66D	45D
Water Absorption, % (24 hrs)	0.01	0.04			0.09	0.85
MEK Double Rubs (#)	65	9			>200	10

T_g (DMA) = 33°C; Peak tan delta; cured with 2 phr of Irgacure[®] 184

** Per ASTM D882

ADHESION PROPERTIES

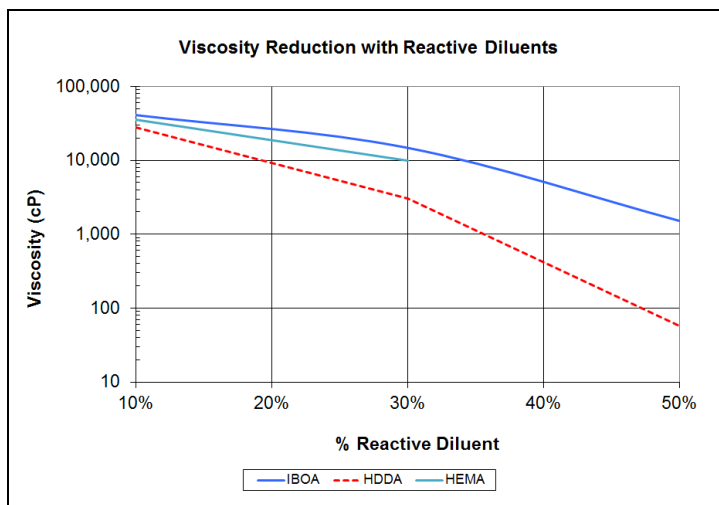
Substrate	I30	I50	TM50	TP50	H50	HE30
ABS			Not Compatible		✓✓✓	
Aluminum						✓
Cold Rolled Steel		✓✓				
Glass		✓				
HDPE						
PET		✓			✓	
PMMA						
Polycarbonate					✓✓✓	
Polypropylene					✓✓	
PVC	✓				✓✓✓	
Stainless Steel	✓	✓✓				✓

✓ Recommended ✓✓ Highly Recommended ✓✓✓ Strongly Recommended

TYPICAL FORMULATIONS

Test Formulation Name	I30	I50	TM50	TP50	H50	HE30
BR-640D	70	50	50	50	50	70
IBOA	30	50				
TMPTA			50			
TPGDA				50		
HDDA					50	
HEMA						30
Irgacure [®] 184	2	2	2	2	2	2
Viscosity, 25°C *	15,000	1,500	Not Compatible		60	9,900

* Brookfield – CAP 2000+ @ 25°C.



Brookfield – CAP 2000+ @ 25°C

GENERAL INFORMATION

This product is intended for industrial use only. Keep out of the reach of children. Avoid breathing vapors. Avoid contact with skin, eyes, and clothing. Wear impervious gloves. Repeated or continuous skin contact with uncured material may cause irritation. Remove material from skin with soap and water. Never use organic solvents to remove material from skin and eyes. For more information on the safe handling of this material, please refer to the I Safety Data Sheet before use.

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