

## Bomar<sup>®</sup> BR-641D

### Difunctional Aliphatic Polybutadiene Urethane Acrylate

**APPLICATIONS**

- Electronics coatings
- Potting compounds
- Electronics adhesives

**FEATURES**

- Excellent hydrophobic properties
- Acid/base resistance
- Excellent elongation
- Low water absorption

**FEATURES**

- Low temperature flexibility
- Excellent dielectric properties
- Outstanding adhesion
- Thermal cycling capability

BR-641D is a polybutadiene (PBD) urethane acrylate designed to meet rigorous electronic coating applications. This oligomer has exceptional adhesion to various metals, glass, and polycarbonate substrates. BR-641D displays many of the desirable properties typical of PBD resins in addition to radiation curability. In applications requiring thermal cycling resistance, BR-641D withstands the extremes of temperature typical of such tests without undue degradation of properties. In addition to the adhesion properties listed in the table below, BR-641D showed excellent adhesion to PMMA, ABS, PVC, Nylon-6, Polystyrene, and Polypropylene.

**UNCURED PROPERTIES**

Property	Value
Viscosity, cP (60°C)	15,000
Pt-Co (APHA) Color	<100
Refractive Index (25°C)	1.480
Density, g/cm <sup>3</sup> (25°C)	0.930

**CURED MECHANICAL PROPERTIES**

Property	I30	I50	TM50	TP50	H50	HE30
Tensile Strength, psi**	700	1,100				
Elongation, %**	300	400				
Elastic Modulus, ksi**	0.2	0.3				
Durometer Hardness	85A	54D	Not Compatible			
Water Absorption, % (24 hrs)	0.06	0.06				
MEK Double Rubs (#)	60	40				
T <sub>g</sub> (DMA) = -20°C; Peak tan delta; cured with 2 phr of Irgacure <sup>®</sup> 184						

\*\* Per ASTM D882

**ADHESION PROPERTIES**

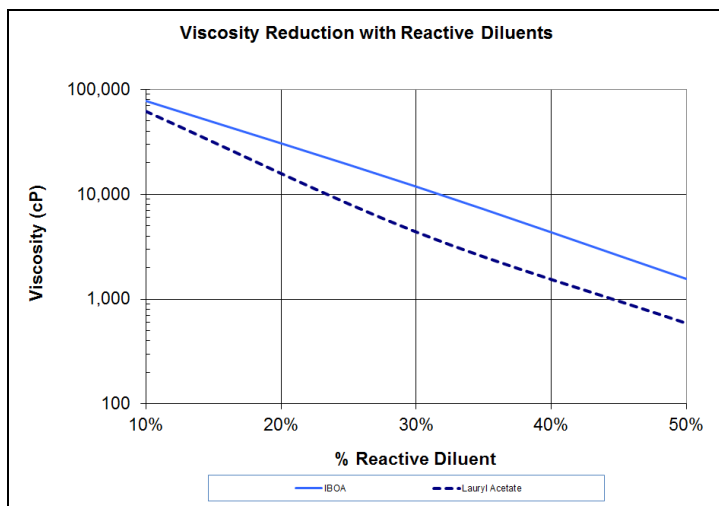
Substrate	I30	I50	TM50	TP50	H50	HE30
ABS	✓		Not Compatible			
Aluminum						
Cold Rolled Steel		✓✓				
Glass		✓				
HDPE						
PET		✓				
PMMA						
Polycarbonate						
Polypropylene						
PVC	✓✓					
Stainless Steel		✓✓✓				

✓ Recommended    ✓✓ Highly Recommended    ✓✓✓ Strongly Recommended

**TYPICAL FORMULATIONS**

Test Formulation Name	I30	I50	TM50	TP50	H50	HE30
BR-641D	70	50	50	50	50	70
IBOA	30	50				
TMPTA			50			
TPGDA				50		
HDDA					50	
HEMA						30
Irgacure <sup>®</sup> 184	2	2	2	2	2	2
Viscosity, 25°C *	12,000	1,600	Not Compatible			

\* Brookfield – CAP 2000+ @ 25°C.



Brookfield – CAP 2000+ @ 25°C

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Data Collected Jun 2017  
Data Sheet Revision 2/20/2019

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