

## Bomar™ BR-742S Polyester Urethane Acrylate

**APPLICATIONS**

- Nail Coating
- 3D Printing Inks
- Wood and Floor Coating
- Electronic Coatings and Inks

**FEATURES**

- Non-Yellowing
- High Clarity and Gloss
- High Abrasion Resistance
- High Impact Strength

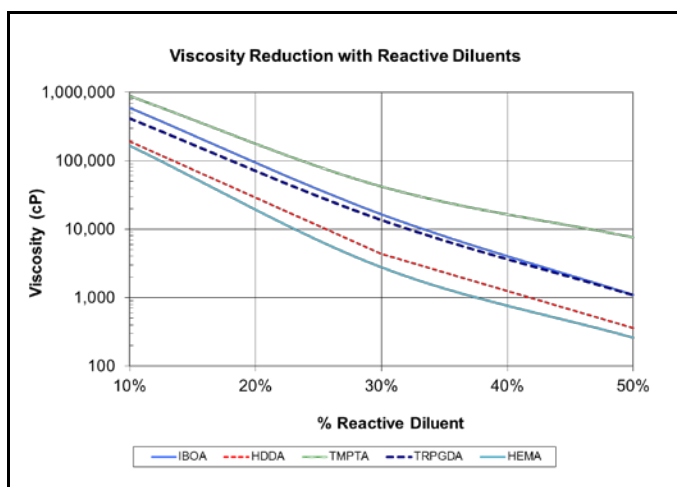
**FEATURES**

- Low Shrinkage
- High Elongation
- Balance of Hardness and Flexibility
- Low Skin Sensitivity

Bomar™ BR-742S is a difunctional, polyester Urethane Acrylate Oligomer that offers good weatherability. High-impact-strength coatings and inks can be formulated that are non-yellowing and have high gloss. This material offers low shrinkage, which is excellent for 3D printing applications. Furthermore, BR-742S is registered with INCI for cosmetic applications.

**UNCURED PROPERTIES**

Property	Value
Viscosity, cP (60°C)	25,000
Pt-Co (APHA) Color or Gardner Color	30
Refractive Index (25°C)	1.48
Density, g/cm <sup>3</sup> (25°C)	1.11



Brookfield – CAP 2000+ @ 25°C

**TYPICAL FORMULATIONS**

Test Formulation Name	I30	I50	TP50	TM50	H50	HE30
BR-742S	70	50	50	50	50	70
IBOA	30	50				
TMPTA				50		
TPGDA			50			
HDDA					50	
HEMA						30
Omnirad™ 481	2	2	2	2	2	2
Viscosity, 25°C *	16,500	1,100	1,100	7,600	360	2,800

\* Brookfield – CAP 2000+ @ 25°C

**CURED MECHANICAL PROPERTIES**

Property	I30	I50	TP50	TM50	H50	HE30
Tensile Strength, psi**	4,500	6,900	4,900	6,500	5,800	4,200
Elongation, %**	76	11	21	4	10	130
Elastic Modulus, ksi**	80	160	85	194	105	10
Durometer Hardness	80D	82D	79D	90D	81D	76D
Water Absorption, % (24 hrs)	0.25	0.18	0.44	0.35	0.31	1.66
MEK Double Rubs (#)	29	17	129	>200	96	23

 T<sub>g</sub> (DMA) = 66°C; Peak tan delta; cured with 2 phr of Irgacure® 184

\*\* Per ASTM D882

**ADHESION PROPERTIES**

Substrate	I30	I50	TP50	TM50	H50	HE30
Aluminum	✓✓	✓✓✓	✓		✓	
Cold Rolled Steel	✓✓	✓✓	✓✓			✓✓
Glass	✓	✓✓✓				✓✓✓
HDPE						
Polycarbonate	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓
PET						
PMMA	✓✓	✓✓✓	✓		✓✓✓	✓✓
Stainless Steel	✓✓✓	✓✓✓	✓✓		✓	✓✓✓

✓ Recommended    ✓✓ Highly Recommended    ✓✓✓ Strongly Recommended

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11/06/2015

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