

## Bomar<sup>®</sup> BR-744BT

### Difunctional Aliphatic Polyester Urethane Acrylate

**APPLICATIONS**

- Nail gel coatings
- Flexible 3D printing resins
- Plastic coatings
- Peelable coatings

**FEATURES**

- Improves adhesion
- Enhances flexibility and elongation
- Provides impact resistance
- Non-yellowing

**FEATURES**

- Provides weather resistance
- Gloss finish
- Low skin irritation
- Low MeHQ levels

BR-744BT is an aliphatic difunctional polyester urethane acrylate offering excellent adhesion, toughness, and flexibility. BR-744BT provides excellent flexibility and high elongation to UV formulations, and can provide impact and chip resistance to nail gel polishes. This material has low skin sensitivity for dental and cosmetic applications, and is INCI listed.

**UNCURED PROPERTIES**

Property	Value
Viscosity, cP (60°C)	46,000
Pt-Co (APHA) Color	45
Refractive Index (25°C)	1.496
Density, g/cm <sup>3</sup> (25°C)	1.11

**CURED MECHANICAL PROPERTIES**

Property	I30	I50	TM50	TP50	H50	HE30
Tensile Strength, psi**	1,000	2,000	2,600	1,100	1,600	600
Elongation, %**	160	170	3	12	6	120
Elastic Modulus, ksi**	2.4	45	110	25	45	2.7
Durometer Hardness	75A	58D	81D	59D	65D	55A
Water Absorption, % (24 hrs)	0.44	0.37	0.56	0.69	0.52	3.78
MEK Double Rubs (#)	>200	56	>200	49	68	89

T<sub>g</sub> (DMA) = 8°C; Peak tan delta; cured with 2 phr of Omnirad<sup>®</sup> 184

\*\* Per ASTM D882

**ADHESION PROPERTIES**

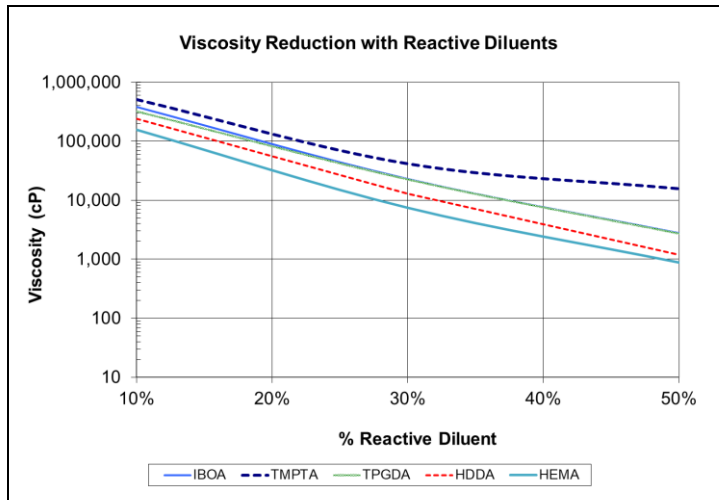
Substrate	I30	I50	TM50	TP50	H50	HE30
ABS	✓✓✓	✓✓✓	✓✓✓		✓✓✓	✓
Aluminum						
Cold Rolled Steel		✓				
Glass		✓				
HDPE						
PET	✓✓	✓✓✓	✓✓✓	✓✓	✓✓	✓
PMMA	✓✓	✓✓			✓	✓
Polycarbonate	✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓
Polypropylene						
PVC	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓
Stainless Steel		✓✓				✓

✓ Recommended    ✓✓ Highly Recommended    ✓✓✓ Strongly Recommended

**TYPICAL FORMULATIONS**

Test Formulation Name	I30	I50	TM50	TP50	H50	HE30
BR-744BT	70	50	50	50	50	70
IBOA	30	50				
TMPTA			50			
TPGDA				50		
HDDA					50	
HEMA						30
Omnirad <sup>™</sup> 184	2	2	2	2	2	2
Viscosity, 25°C *	23,000	2,800	16,000	2,700	1,200	7,500

\* 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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