

## Bomar™ BR-641D Polybutadiene Urethane Acrylate

### APPLICATIONS

- Coatings for Electronics
- Potting Compounds

### FEATURES & BENEFITS

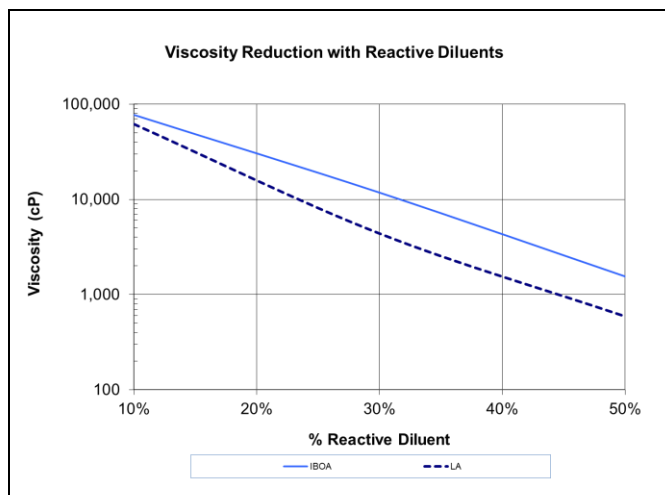
- Excellent Hydrophobic Properties
- Acid/Base Resistance
- Exception Elongation
- Outstanding Adhesion
- Low Water Absorption

### FEATURES & BENEFITS

- Low Temperature Flexibility
- Excellent Dielectric Properties
- Exhibits Hydrolytic Stability
- Gloss Finish

Bomar™ BR-641D is a Polybutadiene (PBD) urethane acrylate, which was designed to meet rigorous electronic coating applications. This oligomer has exceptional adhesion to various metals, glass, and polycarbonate substrates. BR-641D has many desirable properties that are typical to PBD resins, combined with 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 or Gardner Color | <100   |
| Refractive Index (25 °C)            | 1.48   |
| Density, g/cm <sup>3</sup> (25°C)   | 0.93   |



Brookfield – CAP 2000+ @ 25°C

| TYPICAL FORMULATIONS |        |       |
|----------------------|--------|-------|
|                      | I30    | I50   |
| BR-641D              | 70     | 50    |
| IBOA                 | 30     | 50    |
| TMPTA                |        |       |
| TPGDA                |        |       |
| HDDA                 |        |       |
| Omnirad™ 481         | 2      | 2     |
| Viscosity, 25°C *    | 11,781 | 1,550 |

\* Brookfield – CAP 2000+ @ 25°C

| CURED MECHANICAL PROPERTIES  |      |      |
|--|------|------|
| Property   | I30  | I50  |
| Tensile Strength, psi**  | 700  | 1050 |
| Elongation, %**  | 320  | 375  |
| Elastic Modulus, ksi**   | 0.2  | 0.3  |
| Durometer Hardness   | 85A  | 54D  |
| Water Absorption (%)   | 0.06 | 0.06 |
| MEK Double Rubs (#)  | 60   | 40   |
| T <sub>g</sub> (DMA) = -20°C; Peak tan delta; cured with 2 phr of Omnirad™ 481 |      |      |

\*\* Per ASTM D882

| ADHESION PROPERTIES |     |     |
|---------------------|-----|-----|
| Substrate           | I30 | I50 |
| Aluminum            | ✓✓✓ | ✓✓✓ |
| Cold Rolled Steel   | ✓✓✓ | ✓✓✓ |
| Glass               | ✓✓✓ | ✓✓✓ |
| HDPE                |     |     |
| Polycarbonate       | ✓✓✓ | ✓✓✓ |
| Stainless Steel     | ✓✓✓ | ✓✓✓ |

✓ Recommended    ✓✓ Highly Recommended    ✓✓✓ Strongly Recommended

© 2014 Dymax Corporation. All rights reserved. All trademarks in this guide, except where noted, are the property of, or used under license by Dymax Corporation, U.S.A. Omnirad™ is a trademark of IGM Resins, BV.

Technical data provided is of a general nature and is based on laboratory test conditions. Dymax does not warrant the data contained in this bulletin. Any warranty applicable to the product, its application and use is strictly limited to that contained in Dymax standard Conditions of Sale. Dymax does not assume responsibility for test or performance results obtained by users. It is the user's responsibility to determine the suitability for the product application and purposes and the suitability for use in the user's intended manufacturing apparatus and methods. The user should adopt such precautions and use guidelines as may be reasonably advisable or necessary for the protection of property and persons. Nothing in this communication shall act as a representation that the product use or application will not infringe on a patent owned by someone other than Dymax or act as a grant of license under any Dymax Corporation Patent. Dymax recommends that each user adequately test its proposed use and application before actual repetitive use, using the data in this communication as a general guideline. 05/06/2014