

Sumitomo Bakelite North America 2004B Glass Reinforced Hardware Grade Epoxy

Category : Polymer , Thermoset , Epoxy , Epoxy, Molded, Glass Fiber Filler , Filled/Reinforced Thermoset

Material Notes:

Epoxy is the premier material for military firewall connectors. Information provided by Sumitomo Bakelite North America, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Sumitomo-Bakelite-North-America-2004B-Glass-Reinforced-Hardware-Grade-Epoxy.php

| Physical Properties | Metric | English | Comments |
|-----------------------|-----------------------|---------------------------|--|
| Density | 2.00 g/cc | 0.0723 lb/in ³ | ASTM D792 |
| Water Absorption | 0.15 % | 0.15 % | 48 hours, 50 ^o C. ASTM D570 |
| Linear Mold Shrinkage | 0.0010 - 0.0030 cm/cm | 0.0010 - 0.0030 in/in | Compression Molding. ASTM D955 |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|------------|----------------|------------|
| Hardness, Barcol | 72 | 72 | |
| Tensile Strength, Ultimate | 62.0 MPa | 8990 psi | ASTM D638 |
| Flexural Yield Strength | 138 MPa | 20000 psi | ASTM D790 |
| Flexural Modulus | 16.5 GPa | 2390 ksi | ASTM D790 |
| Compressive Yield Strength | 207 MPa | 30000 psi | ASTM D695 |
| Izod Impact, Notched | 0.370 J/cm | 0.693 ft-lb/in | ASTM D256A |

| Thermal Properties | Metric | English | Comments |
|---|--|--|-------------------------------|
| CTE, linear, Parallel to Flow | 33.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Temperature 20.0 $\text{Å}^\circ\text{C}$ | 18.3 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Temperature 68.0 $\text{Å}^\circ\text{F}$ | ASTM D696 |
| Thermal Conductivity | 0.607 W/m-K | 4.21 BTU-in/hr-ft ² - $\text{Å}^\circ\text{F}$ | ASTM F433 |
| Maximum Service Temperature, Air | 130 $\text{Å}^\circ\text{C}$ | 266 $\text{Å}^\circ\text{F}$ | UL temperature Index, UL 746B |
| Deflection Temperature at 1.8 MPa (264 psi) | 282 $\text{Å}^\circ\text{C}$ | 540 $\text{Å}^\circ\text{F}$ | ASTM D648A |
| UL RTI, Electrical | 130 $\text{Å}^\circ\text{C}$ | 266 $\text{Å}^\circ\text{F}$ | UL temperature Index, UL 746B |
| UL RTI, Mechanical with Impact | 130 $\text{Å}^\circ\text{C}$ | 266 $\text{Å}^\circ\text{F}$ | UL temperature Index, UL 746B |
| UL RTI, Mechanical without Impact | 130 $\text{Å}^\circ\text{C}$ | 266 $\text{Å}^\circ\text{F}$ | UL temperature Index, UL 746B |

| Thermal Properties | V-0 Metric | V-0 English | Comments |
|--------------------|--------------------|----------------------|------------|
| | @Thickness 1.60 mm | @Thickness 0.0630 in | |
| Oxygen Index | >= 50 % | >= 50 % | ASTM D2863 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|--------------------|--------------------|----------------------------|
| Dielectric Constant | 4.0 | 4.0 | Wet; ASTM D150 |
| Dielectric Strength | 11.0 kV/mm | 279 kV/in | Wet, short term. ASTM D149 |
| Dissipation Factor | 0.019 | 0.019 | Wet; ASTM D150 |
| | @Frequency 1e+6 Hz | @Frequency 1e+6 Hz | |
| Arc Resistance | 170 sec | 170 sec | ASTM D495 |

| Processing Properties | Metric | English | Comments |
|-----------------------|---------------|---------------|-------------------------------|
| Mold Temperature | 143 - 177 Â°C | 289 - 351 Â°F | compression/transfer molding. |
| | 174 - 182 Â°C | 345 - 360 Â°F | injection molding. |

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