

## Sumitomo Bakelite Durez® 32633 Glass Filled Phenolic, Injection Grade

Category : Polymer , Thermoset , Phenolic , Phenolic, Novolac, Glass Filled

### Material Notes:

Durez 32633 Black Phenolic is a two-stage, glass filled, special purpose molding compound. It is designed for applications requiring high physical strengths, dimensional stability, and heat resistance. Typical applications include small motor and gear housings, brush holders, commutators, and under hood automotive applications. Information provided by Sumitomo Bakelite North America, Inc.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Sumitomo-Bakelite-Durez-32633-Glass-Filled-Phenolic-Injection-Grade.php](http://www.lookpolymers.com/polymer_Sumitomo-Bakelite-Durez-32633-Glass-Filled-Phenolic-Injection-Grade.php)

| Physical Properties   | Metric       | English                   | Comments   |
|-----------------------|--------------|---------------------------|------------|
| Density               | 1.78 g/cc    | 0.0643 lb/in <sup>3</sup> | ASTM D792  |
| Apparent Bulk Density | 0.800 g/cc   | 0.0289 lb/in <sup>3</sup> | ASTM D1895 |
| Water Absorption      | 0.050 %      | 0.050 %                   | ASTM D570  |
| Linear Mold Shrinkage | 0.0030 cm/cm | 0.0030 in/in              | ASTM D955  |

| Mechanical Properties      | Metric     | English        | Comments  |
|----------------------------|------------|----------------|-----------|
| Tensile Strength, Ultimate | 138 MPa    | 20000 psi      | ASTM D638 |
| Tensile Modulus            | 18.6 GPa   | 2700 ksi       | ASTM D638 |
| Flexural Strength          | 227 MPa    | 32900 psi      |           |
| Flexural Modulus           | 15.2 GPa   | 2200 ksi       |           |
| Compressive Strength       | 276 MPa    | 40000 psi      | ASTM D695 |
| Compressive Modulus        | 10.5 GPa   | 1530 ksi       | @ 250°F   |
| Shear Strength             | 47.4 MPa   | 6870 psi       |           |
| Izod Impact, Notched       | 0.400 J/cm | 0.749 ft-lb/in | ASTM D256 |

| Thermal Properties                          | Metric                       | English                       | Comments  |
|---------------------------------------------|------------------------------|-------------------------------|-----------|
| Maximum Service Temperature, Air            | 150 °C<br>@Thickness 3.00 mm | 302 °F<br>@Thickness 0.118 in |           |
| Deflection Temperature at 1.8 MPa (264 psi) | 204 °C                       | 399 °F                        | ASTM D648 |
| Flammability, UL94                          | V-0<br>@Thickness 1.50 mm    | V-0<br>@Thickness 0.0591 in   |           |
|                                             | V-0                          | V-0                           |           |

| Thermal Properties | Metric<br>@ Thickness 3.00 mm | English<br>@ Thickness 0.118 in | Comments |
|--------------------|-------------------------------|---------------------------------|----------|
|                    | V-0                           | V-0                             |          |
|                    | @Thickness 6.00 mm            | @Thickness 0.236 in             |          |

| Electrical Properties  | Metric             | English            | Comments                |
|------------------------|--------------------|--------------------|-------------------------|
| Electrical Resistivity | 1.00e+12 ohm-cm    | 1.00e+12 ohm-cm    | ASTM D257               |
| Dielectric Constant    | 4.3                | 4.3                | ASTM D150               |
|                        | @Frequency 1e+6 Hz | @Frequency 1e+6 Hz |                         |
|                        | 4.4                | 4.4                | ASTM D150               |
|                        | @Frequency 60 Hz   | @Frequency 60 Hz   |                         |
|                        | 4.4                | 4.4                | ASTM D150               |
|                        | @Frequency 1000 Hz | @Frequency 1000 Hz |                         |
| Dielectric Strength    | 15.7 kV/mm         | 399 kV/in          | Step by step; ASTM D149 |
|                        | 17.7 kV/mm         | 450 kV/in          | Short Time; ASTM D149   |
| Dissipation Factor     | 0.020              | 0.020              | ASTM D150               |
|                        | @Frequency 1000 Hz | @Frequency 1000 Hz |                         |
|                        | 0.020              | 0.020              | ASTM D150               |
|                        | @Frequency 1e+6 Hz | @Frequency 1e+6 Hz |                         |
|                        | 0.030              | 0.030              | ASTM D150               |
|                        | @Frequency 60 Hz   | @Frequency 60 Hz   |                         |

## Contact Songhan Plastic Technology Co.,Ltd.

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