

Durez® 32633 (Compression)

Phenolic

Sumitomo Bakelite North America, Inc.

Message:

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.

| General Information | |
|------------------------|---------------------------------|
| Filler / Reinforcement | Glass fiber reinforced material |
| Features | Good dimensional stability |
| | High strength |
| | Heat resistance, high |
| Uses | Parts under the hood of a car |
| | Shell |
| Appearance | Black |
| Forms | Particles |
| Processing Method | Resin transfer molding |
| | Compression molding |

| Physical | Nominal Value | Unit | Test Method |
|--------------------------|---------------|-------------------|-------------|
| Specific Gravity | 1.77 | g/cm ³ | ASTM D792 |
| Apparent Density | 0.80 | g/cm ³ | ASTM D1895 |
| Molding Shrinkage - Flow | 0.15 | % | ASTM D6289 |
| Water Absorption | 0.050 | % | ASTM D570 |

| Mechanical | Nominal Value | Unit | Test Method |
|----------------------------------|---------------|------|-------------|
| Tensile Modulus | 15800 | MPa | ASTM D638 |
| Tensile Strength | 103 | MPa | ASTM D638 |
| Flexural Modulus (23°C) | 15200 | MPa | |
| Flexural Strength | 138 | MPa | ASTM D790 |
| Compressive Modulus ¹ | 10500 | MPa | |
| Compressive Strength | 345 | MPa | ASTM D695 |
| Shear Strength | 47.4 | MPa | |

| Impact | Nominal Value | Unit | Test Method |
|---------------------|---------------|------|-------------|
| Notched Izod Impact | 48 | J/m | ASTM D256 |

| Thermal | Nominal Value | Unit | Test Method |
|---|---------------|------|-------------|
| Deflection Temperature Under Load (1.8 MPa, Unannealed) | 204 | °C | ASTM D648 |
| RTI Elec (3.00 mm) | 150 | °C | UL 746 |

| Electrical | Nominal Value | Unit | Test Method |
|---|-------------------------|---------|-------------|
| Volume Resistivity | 1.0E+12 | ohms·cm | ASTM D257 |
| Dielectric Strength | | | ASTM D149 |
| -- ² | 18 | kV/mm | ASTM D149 |
| -- ³ | 16 | kV/mm | ASTM D149 |
| Dielectric Constant (1 MHz) | 4.30 | | ASTM D2520 |
| Dissipation Factor (1 MHz) | 0.020 | | ASTM D150 |
| Flammability | Nominal Value | Unit | Test Method |
| Flame Rating | | | UL 94 |
| 1.50 mm | V-0 | | UL 94 |
| 3.00 mm | V-0 | | UL 94 |
| 6.50 mm | V-0 | | UL 94 |
| Thermoset | Nominal Value | Unit | |
| Shelf Life | 52 | wk | |
| Additional Information | | | |
| Test Specimens Molded at 340-350°F Typical transfer-molded shrinkage is 0.003 in/in | | | |
| NOTE | | | |
| 1. | 250°F | | |
| 2. | Method A (short time) | | |
| 3. | Method B (step by step) | | |

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