**Product Description**

UL rated HB as of 10/97. 200 series recommended when V-2 rating required. Nonhalogenated. 10.5 MFR. UV-stabilized. Internal mold release.

**General**

<table>
<thead>
<tr>
<th>Material Status</th>
<th>Commercial: Active</th>
</tr>
</thead>
</table>

**Literature**

- Technical Datasheet
- Processing - Extrusion Blow Molding (English)
- Processing - Lexan (English)
- Processing - Injection Molding (English)
- Processing - Thermoforming (English)

**Availability**

- North America

**Additive**

- Mold Release
- UV Stabilizer

**Features**

- Halogen Free

**Forms**

- Pellets

**Processing Method**

- Injection Molding

**Multi-Point Data**

- Coefficient of Thermal Expansion vs. Temperature (ASTM E831)
- Flexural DMA (ASTM D4065)
- Pressure-Volume-Temperature (PVT - Zoller Method)
- Shear DMA (ASTM D4065)
- Tensile Fatigue
- Tensile Stress vs. Strain (ASTM D638)
- Thermal Conductivity vs. Temperature (ASTM E1530)
- Viscosity vs. Shear Rate (ASTM D3835)

**Physical**

<table>
<thead>
<tr>
<th>Property</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Gravity</td>
<td>1.20</td>
<td></td>
<td>ASTM D792</td>
</tr>
<tr>
<td>Melt Mass-Flow Rate (MFR)</td>
<td>11</td>
<td>g/10 min</td>
<td>ASTM D1238</td>
</tr>
<tr>
<td>(300°C/1.2 kg)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Absorption</td>
<td>0.0050 to 0.0070</td>
<td>in/in</td>
<td>ASTM D955</td>
</tr>
<tr>
<td>Molding Shrinkage - Flow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0.126 in)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 hr</td>
<td>0.15</td>
<td>%</td>
<td>ASTM D570</td>
</tr>
<tr>
<td>Equilibrium, 73°F</td>
<td>0.35</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Equilibrium, 212°F</td>
<td>0.58</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Hardness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rockwell Hardness</td>
<td></td>
<td></td>
<td>ASTM D785</td>
</tr>
<tr>
<td>M-Scale</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-Scale</td>
<td>118</td>
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**Mechanical**

<table>
<thead>
<tr>
<th>Property</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength</td>
<td>9000</td>
<td>psi</td>
<td>ASTM D638</td>
</tr>
<tr>
<td>Yield</td>
<td>9500</td>
<td>psi</td>
<td></td>
</tr>
<tr>
<td>Break</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexural Modulus</td>
<td>340000</td>
<td>psi</td>
<td>ASTM D790</td>
</tr>
<tr>
<td>(1.97 in Span)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexural Strength</td>
<td>13500</td>
<td>psi</td>
<td>ASTM D790</td>
</tr>
<tr>
<td>(Yield, 1.97 in Span)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taber Abrasion Resistance</td>
<td>10.0</td>
<td>mg</td>
<td>ASTM D1044</td>
</tr>
<tr>
<td>(1000 Cycles, 1000 g, CS-17 Wheel)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Impact**

<table>
<thead>
<tr>
<th>Property</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Nominal Value</td>
<td>Unit</td>
<td>Test Method</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>---------------</td>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Notched Izod Impact (73°F)</td>
<td>15.0</td>
<td>ft·lb/in</td>
<td>ASTM D256</td>
</tr>
<tr>
<td>Unnotched Izod Impact (73°F)</td>
<td>60.0</td>
<td>ft·lb/in</td>
<td>ASTM D4812</td>
</tr>
<tr>
<td>Gardner Impact (73°F)</td>
<td>1500</td>
<td>in/lb</td>
<td>ASTM D3029</td>
</tr>
<tr>
<td>Tensile Impact Strength</td>
<td>260</td>
<td>ft·lb/in²</td>
<td>ASTM D1822</td>
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**Thermal**

<table>
<thead>
<tr>
<th>Deflection Temperature Under Load</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>66 psi, Unannealed, 0.252 in</td>
<td>280</td>
<td>°F</td>
<td>ASTM D648</td>
</tr>
<tr>
<td>264 psi, Unannealed, 0.252 in</td>
<td>270</td>
<td>°F</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vicat Softening Temperature</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>310</td>
<td>°F</td>
<td>ASTM D1525</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CLTE - Flow (-40 to 203°F)</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.000038</td>
<td>in/in/°F</td>
<td>ASTM E831</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Specific Heat</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.300</td>
<td>Btu/lb/°F</td>
<td>ASTM C351</td>
</tr>
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<table>
<thead>
<tr>
<th>Thermal Conductivity</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.3</td>
<td>Btu·in/hr/ft²/°F</td>
<td>ASTM C177</td>
</tr>
</tbody>
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**Electrical**

<table>
<thead>
<tr>
<th>Volume Resistivity</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&gt; 1.0E+17</td>
<td>ohm·cm</td>
<td>ASTM D257</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Dielectric Strength (0.126 in, in Air)</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>380</td>
<td>V/mil</td>
<td>ASTM D149</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Dielectric Constant</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Hz</td>
<td>3.17</td>
<td></td>
<td>ASTM D150</td>
</tr>
<tr>
<td>60 Hz</td>
<td>3.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1E+6 Hz</td>
<td>2.96</td>
<td></td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Dissipation Factor</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Hz</td>
<td>0.00090</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 Hz</td>
<td>0.00090</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1E+6 Hz</td>
<td>0.010</td>
<td></td>
<td></td>
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</table>

**Flammability**

<table>
<thead>
<tr>
<th>Flame Rating - UL (0.0300 in)</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HB</td>
<td></td>
<td>UL 94</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oxygen Index</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25 %</td>
<td>%</td>
<td>ASTM D2863</td>
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</table>

<table>
<thead>
<tr>
<th>UL 746</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTI Str</td>
<td>266</td>
<td>°F</td>
<td>UL 746</td>
</tr>
<tr>
<td>RTI Imp</td>
<td>266</td>
<td>°F</td>
<td>UL 746</td>
</tr>
<tr>
<td>RTI Elec</td>
<td>266</td>
<td>°F</td>
<td>UL 746</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comparative Tracking Index (CTI) (PLC)</th>
<th>Nominal Value</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PLC 2</td>
<td>UL 746</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High Voltage Arc Tracking Rate (HVTR) (PLC)</th>
<th>Nominal Value</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PLC 2</td>
<td>UL 746</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hot-wire Ignition (HWI) (PLC)</th>
<th>Nominal Value</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PLC 4</td>
<td>UL 746</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High Amp Arc Ignition (HAI) (PLC)</th>
<th>Nominal Value</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PLC 1</td>
<td>UL 746</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outdoor Suitability</th>
<th>Nominal Value</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f1</td>
<td>UL 746C</td>
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**Optical**

<table>
<thead>
<tr>
<th>Refractive Index</th>
<th>Nominal Value</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.586</td>
<td>ASTM D542</td>
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</table>

<table>
<thead>
<tr>
<th>Transmittance</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>88.0 %</td>
<td></td>
<td>ASTM D1003</td>
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</table>

<table>
<thead>
<tr>
<th>Haze</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.0 %</td>
<td></td>
<td>ASTM D1003</td>
</tr>
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</table>

**Additional Information**

<table>
<thead>
<tr>
<th>Specific Volume</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.830</td>
<td>cm³/g</td>
<td>ASTM D792</td>
</tr>
</tbody>
</table>

**Injection**

<table>
<thead>
<tr>
<th>Drying Temperature</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>250</td>
<td>°F</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Drying Time</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.0 to 4.0 hr</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Drying Time, Maximum</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>48 hr</td>
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<table>
<thead>
<tr>
<th>Suggested Max Moisture</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.020</td>
<td>%</td>
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</table>

<table>
<thead>
<tr>
<th>Suggested Shot Size</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40 to 60 %</td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Rear Temperature</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>423 to 559 °F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Middle Temperature</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>540 to 579 °F</td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Front Temperature</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>559 to 601 °F</td>
<td></td>
<td></td>
</tr>
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<table>
<thead>
<tr>
<th>Nozzle Temperature</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>550 to 590 °F</td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Processing (Melt) Temp</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>559 to 601 °F</td>
<td></td>
<td></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Mold Temperature</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>160 to 199 °F</td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Back Pressure</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50.0 to 100 psi</td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Screw Speed</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40 to 70 rpm</td>
<td></td>
<td></td>
</tr>
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</table>
### Vent Depth

<table>
<thead>
<tr>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0010 to 0.0030 in</td>
</tr>
</tbody>
</table>

1. These links provide you with access to supplier literature. We work hard to keep them up to date, however you may find the most current literature from the supplier.
2. Type I, 2.0 in/min
3. 0.051 in/min
4. Type S
5. Rate B (120°C/h), Loading 2 (50 N)
SABIC INNOVATIVE PLASTICS US L L C
AMERICAS - RESIN, 1 PLASTICS AVE, PITTSFIELD MA 01201

103(f1), 103R(f1), 143(f1), 143R(f1), ML6622(f1), FXD143(f1), FXD143R (f1), FXD103(f1), FXD103R(f1)

Polycarbonate (PC), "Lexan", furnished as pellets

<table>
<thead>
<tr>
<th>Color</th>
<th>Min Thk</th>
<th>Flame</th>
<th>RTI</th>
<th>RTI</th>
<th>RTI</th>
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<tbody>
<tr>
<td>ALL</td>
<td>0.75</td>
<td>HB</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>ALL</td>
<td>1.5</td>
<td>HB</td>
<td>130</td>
<td>125</td>
<td>125</td>
</tr>
<tr>
<td>ALL</td>
<td>3.0</td>
<td>HB</td>
<td>130</td>
<td>130</td>
<td>130</td>
</tr>
</tbody>
</table>

Comparative Tracking Index (CTI): 2
High-Voltage Arc Tracking Rate (HVTR): 2

NOTE - Material designation may be followed by a color nomenclature consisting of either an alpha/numeric or numeric/alpha combination.

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

IEC and ISO Test Methods

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Test Method</th>
<th>Units</th>
<th>Thickness</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>IEC 60695-11-10</td>
<td>Class (color)</td>
<td>0.75</td>
<td>HB75 (ALL)</td>
</tr>
<tr>
<td>Glow-Wire Flammability (GWFI)</td>
<td>IEC 60695-2-12</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glow-Wire Ignition (GWIT)</td>
<td>IEC 60695-2-13</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IEC Comparative Tracking Index</td>
<td>IEC 60112</td>
<td>Volts (Max)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IEC Ball Pressure</td>
<td>IEC 60695-10-2</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISO Heat Deflection (1.80 MPa)</td>
<td>ISO 75-2</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISO Tensile Strength</td>
<td>ISO 527-2</td>
<td>MPa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISO Flexural Strength</td>
<td>ISO 178</td>
<td>MPa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISO Tensile Impact</td>
<td>ISO 8256</td>
<td>kJ/m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISO Izod Impact</td>
<td>ISO 180</td>
<td>kJ/m²</td>
<td></td>
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<tr>
<td>ISO Charpy Impact</td>
<td>ISO 179-2</td>
<td>kJ/m²</td>
<td></td>
<td></td>
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