Ultramid® C3U
Polyamide 66/6

**Product Description**

Ultramid C3U is an injection molding, general purpose PA6/66 grade with improved flame retardance. The product is UL recognized as 94V0 at 0.4 mm minimum thickness.

**Applications**

It is used for impact resistant electrical insulating parts such as contact bases and plug connector strips.

**PHYSICAL**

<table>
<thead>
<tr>
<th>Property Value</th>
<th>ISO Test Method</th>
<th>Property Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density, g/cm³</td>
<td>1183</td>
<td>1.16</td>
</tr>
<tr>
<td>Moisture, %</td>
<td>62</td>
<td>2.9</td>
</tr>
<tr>
<td>(50% RH)</td>
<td></td>
<td>8.5</td>
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<tr>
<td>(Saturation)</td>
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**RHEOLOGICAL**

<table>
<thead>
<tr>
<th>Property Value</th>
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<tbody>
<tr>
<td>Melt Volume Rate (275 C/5 Kg), cc/10min.</td>
<td>1133</td>
<td>140</td>
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**MECHANICAL**

<table>
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<tr>
<th>Property Value</th>
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<tr>
<td>Tensile Modulus, MPa</td>
<td>527</td>
<td>3,500</td>
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<tr>
<td>23C</td>
<td></td>
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<tr>
<td>Tensile stress at yield, MPa</td>
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<td>75</td>
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<tr>
<td>23C</td>
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<td></td>
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<tr>
<td>Tensile stress at break, MPa</td>
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<tr>
<td>Tensile strain at yield, %</td>
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<tr>
<td>23C</td>
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<td>18</td>
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<tr>
<td>Nominal strain at break, %</td>
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<tr>
<td>-40C</td>
<td>4.4</td>
<td>5.7</td>
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<tr>
<td>23C</td>
<td>6</td>
<td>&gt;50</td>
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<tr>
<td>Flexural Modulus, MPa</td>
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<tr>
<td>23C</td>
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<tr>
<td>Ball Indentation, MPa</td>
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<td>23C</td>
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**IMPACT**

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<tr>
<th>Property Value</th>
<th>ISO Test Method</th>
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<tr>
<td>Izod Notched Impact, kJ/m²</td>
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<tr>
<td>23C</td>
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<tr>
<td>Charpy Notched, kJ/m²</td>
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<td>-30C</td>
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<td>Charpy Unnotched, kJ/m²</td>
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**THERMAL**

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<tbody>
<tr>
<td>Melting Point, C</td>
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<td>243</td>
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<tr>
<td>HDT A, C</td>
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<td>70</td>
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<tr>
<td>HDT B, C</td>
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<td>210</td>
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<tr>
<td>Coef. of Linear Thermal Expansion, Parallel, mm/mm C</td>
<td>0.8 X10-4</td>
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</table>
**Ultramid® C3U**

<table>
<thead>
<tr>
<th>Coef. of Linear Thermal Expansion, Normal, mm/mm C</th>
<th>0.9 X10^-4</th>
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<tbody>
<tr>
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<td>Comparative Tracking Index</td>
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<tr>
<td>Volume Resistivity (Ohm-m)</td>
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<tr>
<td>Dielectric Constant (1 MHz)</td>
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<tr>
<td>Dissipation Factor (1 MHz), E-4</td>
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<td>Dielectric Strength, KV/mm</td>
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<tr>
<td>ELECTRICAL</td>
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<tr>
<td>Dissipation Factor (1 MHz), E-4</td>
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<tr>
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<tr>
<td>UL RATINGS</td>
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<td>Property Value</td>
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<tr>
<td>Flammability Rating, 0.38mm</td>
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<tr>
<td>Relative Temperature Index, 0.38mm</td>
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<td>Mechanical w/o Impact, C</td>
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<td>Flammability Rating, 0.75mm</td>
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<tr>
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<td>Flammability Rating, 1.5mm</td>
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<td>Relative Temperature Index, 1.5mm</td>
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<td>Mechanical w/o Impact, C</td>
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<td>Mechanical w/ Impact, C</td>
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<td>Mechanical w/ Impact, C</td>
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<tr>
<td>Electrical, C</td>
<td>120</td>
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</tbody>
</table>

**Processing Guidelines**

**Material Handling**
Max. Water content: 0.15%
Product is supplied in sealed containers and drying prior to molding is not required. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 80°C (176°F) is recommended. Drying time is dependent on moisture level, however 2-4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

**Typical Profile**
Melt Temperature 250-270°C (482-518°F)
Mold Temperature 65-80°C (149-176°F)
Injection and Packing Pressure 35-125 bar (500-1500 psi)

**Mold Temperatures**
A mold temperature of 65-80°C (149-176°F) is recommended, however temperatures of as low as 10°C (50°F) can be used where applicable.

**Pressures**
Injection pressure controls the filling of the part and should be applied for 90% of ram travel. Packing pressure affects the final part and can be used effectively in controlling sink marks and shrinkage. It should be applied and maintained until the gate area is completely frozen off.

BASF Corporation
Engineering Plastics
1609 Biddle Avenue
Wyandotte, MI 48192

General Information: 800-BC-RESIN
Technical Assistance: 800-527-TECH (734-324-5150)
Web address: http://www.plasticsportal.com/usa
**Fill Rate**
Fast fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing.

**Note**
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