# BASF Ultramid® B3S HP PA6 (Conditioned)

**Category :** Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, Unreinforced

**Material Notes:**

Ultramid B3S HP is a easy flowing, finely crystalline, injection molding PA6 for fast processing

Order this product through the following link:
http://www.lookpolymers.com/polymer_BASF-Ultramid-B3S-HP-PA6-Conditioned.php

| Physical Properties | Metric | English | Comments |
|---|---|---|---|
| Density | 1.13 g/cc | 0.0408 lb/in³ | ISO 1183 |
| Water Absorption | 9.0 - 10 % | 9.0 - 10 % | ISO 62 |
| Moisture Absorption at Equilibrium | 2.6 - 3.4 % | 2.6 - 3.4 % | (23°C/50% R.H.); ISO 62 |
| Viscosity Test | 145 cm³/g | 145 cm³/g | Viscosity number; ISO 307 |
| Linear Mold Shrinkage | 0.0055 cm/cm | 0.0055 in/in | |
| Melt Flow | 198 g/10 min<br>@Load 5.00 kg, Temperature 275 °C | 198 g/10 min<br>@Load 11.0 lb, Temperature 527 °F | ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|
| Tensile Strength, Yield | 45.0 MPa | 6530 psi | 50mm/min; ISO 527 |
| Elongation at Yield | 20 % | 20 % | 50mm/min; ISO 527 |
| Modulus of Elasticity | 1.20 GPa | 174 ksi | ISO 527 |
| Izod Impact, Notched (ISO) | NB | NB | ISO 180/A |
| Charpy Impact Unnotched | NB | NB | ISO 179/1eU |
| Charpy Impact, Notched | 5.00 J/cm² | 23.8 ft-lb/in² | ISO 179/1eA |
| Tensile Creep Modulus, 1000 hours | 1100 MPa<br>@Strain 0.500 % | 160000 psi<br>@Strain 0.500 % | ISO 899-1 |

| Thermal Properties | Metric | English | Comments |
|---|---|---|---|
| Specific Heat Capacity | 1.70 J/g-°C | 0.406 BTU/lb-°F | |
| Thermal Conductivity | 0.330 W/m-K | 2.29 BTU-in/hr-ft²-°F | DIN 52612 |
| Melting Point | 220 °C | 428 °F | DIN 53765 |
| Maximum Service Temperature, Air | 87.0 °C | 189 °F | for 50% loss of tensile strength after |

| Thermal Properties | Metric | English | Comments |
|---|---|---|---|
| | | | 20,000 hr |
| | 97.0 °C | 207 °F | for 50% loss of tensile strength after 5,000 hr |
| | 180 °C | 356 °F | |

| Electrical Properties | Metric | English | Comments |
|---|---|---|---|
| Volume Resistivity | 1.00e+10 ohm-cm | 1.00e+10 ohm-cm | IEC 60093 |
| Surface Resistance | 1.00e+10 ohm | 1.00e+10 ohm | IEC 60093 |
| Dielectric Constant | 7.0<br>@Frequency 1.00e+6 Hz | 7.0<br>@Frequency 1.00e+6 Hz | IEC 60250 |
| Dissipation Factor | 0.30<br>@Frequency 1.00e+6 Hz | 0.30<br>@Frequency 1.00e+6 Hz | IEC 60250 |
| Comparative Tracking Index | 600 V | 600 V | Test Solution A; IEC 60112 |

| Processing Properties | Metric | English | Comments |
|---|---|---|---|
| Melt Temperature | 250 - 270 °C | 482 - 518 °F | Injection-molding/Extrusion |
| Mold Temperature | 40.0 - 60.0 °C | 104 - 140 °F | Injection-molding |

| Descriptive Properties | Value | Comments |
|---|---|---|
| Color | Natural | |
| Commercial Status | RG-NAFTA | |
| Impact Modified | No | |
| Primary Processing Technique | Injection Molding | |

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