# BASF Ultramid® KR 4355 G7 35% Glass Filled PA6/6T (Dry)

**Category :** Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, 40% Glass Fiber Filled

**Material Notes:**

Description: 35% glass-fiber reinforced product for injection-molding; high toughness, strength and stiffness, low water absorption, high melting point (295°C [563°F]). The mechanical properties remain constant after moisture absorption up to a temperature of 60°C [140°F], for instance, for automotive valve housings.Information provided by BASF

Order this product through the following link:
http://www.lookpolymers.com/polymer_BASF-Ultramid-KR-4355-G7-35-Glass-Filled-PA66T-Dry.php

| Physical Properties | Metric | English | Comments |
|---|---|---|---|
| Density | 1.43 g/cc | 0.0517 lb/in³ | ISO 1183 |
| Water Absorption | 4.3 - 5.3 % | 4.3 - 5.3 % | Saturation; ISO 62 |
| Moisture Absorption at Equilibrium | 0.80 - 1.2 % | 0.80 - 1.2 % | 23°C; 50% RH; ISO 62 |
| Viscosity Measurement | 130 | 130 | ISO 307 |
| Linear Mold Shrinkage | 0.0033 cm/cm | 0.0033 in/in | restricted |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|
| Tensile Strength | 40.0 MPa<br>@Strain 2.00 %, Temperature 150 °C | 5800 psi<br>@Strain 2.00 %, Temperature 302 °F | 5mm/min |
| | 50.0 MPa<br>@Strain 2.00 %, Temperature 100 °C | 7250 psi<br>@Strain 2.00 %, Temperature 212 °F | 5mm/min |
| | 60.0 MPa<br>@Strain 6.00 %, Temperature 150 °C | 8700 psi<br>@Strain 6.00 %, Temperature 302 °F | 5mm/min |
| | 65.0 MPa<br>@Strain 9.00 %, Temperature 150 °C | 9430 psi<br>@Strain 9.00 %, Temperature 302 °F | 5mm/min |
| | 75.0 MPa<br>@Strain 6.00 %, Temperature 100 °C | 10900 psi<br>@Strain 6.00 %, Temperature 212 °F | 5mm/min |
| | 80.0 MPa<br>@Strain 9.00 %, Temperature 100 °C | 11600 psi<br>@Strain 9.00 %, Temperature 212 °F | 5mm/min |
| | 100 MPa | 14500 psi | |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|
| | @Strain 2.00 %, Temperature 80.0 °C | @Strain 2.00 %, Temperature 176 °F | 5mm/min |
| | 110 MPa<br>@Strain 1.00 %, Temperature 60.0 °C | 16000 psi<br>@Strain 1.00 %, Temperature 140 °F | 5mm/min |
| | 120 MPa<br>@Strain 3.00 %, Temperature 80.0 °C | 17400 psi<br>@Strain 3.00 %, Temperature 176 °F | 5mm/min |
| | 125 MPa<br>@Strain 5.00 %, Temperature 80.0 °C | 18100 psi<br>@Strain 5.00 %, Temperature 176 °F | 5mm/min |
| | 160 MPa<br>@Strain 2.00 %, Temperature 60.0 °C | 23200 psi<br>@Strain 2.00 %, Temperature 140 °F | 5mm/min |
| | 175 MPa<br>@Strain 1.00 %, Temperature 23.0 °C | 25400 psi<br>@Strain 1.00 %, Temperature 73.4 °F | 5mm/min |
| | 200 MPa<br>@Strain 2.00 %, Temperature 23.0 °C | 29000 psi<br>@Strain 2.00 %, Temperature 73.4 °F | 5mm/min |
| Tensile Strength, Yield | 210 MPa | 30500 psi | 50 mm/min; ISO 527-1/-2 |
| Elongation at Yield | 3.0 % | 3.0 % | 50 mm/min; ISO 527-1/-2 |
| Modulus of Elasticity | 12.0 GPa | 1740 ksi | ISO 527-1/-2 |
| | 5.00 GPa<br>@Temperature 140 °C | 725 ksi<br>@Temperature 284 °F | ISO 527 |
| | 9.00 GPa<br>@Temperature 80.0 °C | 1310 ksi<br>@Temperature 176 °F | ISO 527 |
| | 12.0 GPa<br>@Temperature 0.000 °C | 1740 ksi<br>@Temperature 32.0 °F | ISO 527 |
| | 12.0 GPa<br>@Temperature 40.0 °C | 1740 ksi<br>@Temperature 104 °F | ISO 527 |
| Charpy Impact Unnotched | 10.0 J/cm² <br>@Temperature 23.0 °C | 47.6 ft-lb/in² <br>@Temperature 73.4 °F | ISO 179/1eU |
| Charpy Impact, Notched | 1.70 J/cm² | 8.09 ft-lb/in² | ISO 179/1eA |

| Mechanical Properties | Metric<br>@Temperature 23.0 °C | English<br>@Temperature 73.4 °F | Comments |
|---|---|---|---|

| Thermal Properties | Metric | English | Comments |
|---|---|---|---|
| CTE, linear, Parallel to Flow | 50.0 - 60.0 µm/m-°C<br>@Temperature 23.0 - 80.0 °C | 27.8 - 33.3 µin/in-°F<br>@Temperature 73.4 - 176 °F | DIN 11359-1/-2 |
| CTE, linear, Transverse to Flow | 15.0 µm/m-°C<br>@Temperature 23.0 - 80.0 °C | 8.33 µin/in-°F<br>@Temperature 73.4 - 176 °F | DIN 11359-1/-2 |
| Specific Heat Capacity | 1.30 J/g-°C | 0.311 BTU/lb-°F | |
| Thermal Conductivity | 0.280 W/m-K | 1.94 BTU-in/hr-ft²-°F | DIN 52612 |
| Melting Point | 295 °C | 563 °F | DIN 53765 |
| Maximum Service Temperature, Air | 135 °C | 275 °F | for 50% loss of tensile strength after 20000hr |
| | 160 °C | 320 °F | for 50% loss of tensile strength after 5000hr |
| | 270 °C | 518 °F | |
| Deflection Temperature at 1.8 MPa (264 psi) | 245 °C | 473 °F | ISO 75-1/-2 |
| Flammability, UL94 | HB<br>@Thickness 1.60 mm | HB<br>@Thickness 0.0630 in | |

| Electrical Properties | Metric | English | Comments |
|---|---|---|---|
| Volume Resistivity | 1.00e+13 ohm-cm | 1.00e+13 ohm-cm | IEC 60093 |
| | 2.00e+9 ohm-cm<br>@Temperature 140 °C | 2.00e+9 ohm-cm<br>@Temperature 284 °F | IEC 60093 |
| | 6.00e+10 ohm-cm<br>@Temperature 120 °C | 6.00e+10 ohm-cm<br>@Temperature 248 °F | IEC 60093 |
| | 1.00e+13 ohm-cm<br>@Temperature 100 °C | 1.00e+13 ohm-cm<br>@Temperature 212 °F | IEC 60093 |
| | 1.00e+15 ohm-cm<br>@Temperature 80.0 °C | 1.00e+15 ohm-cm<br>@Temperature 176 °F | IEC 60093 |
| | 5.00e+15 ohm-cm<br>@Temperature 60.0 °C | 5.00e+15 ohm-cm<br>@Temperature 140 °F | IEC 60093 |

| Electrical Properties | Metric | English | Comments |
|---|---|---|---|
| | 5.00e+15 ohm-cm<br>@Temperature 20.0 °C | 5.00e+15 ohm-cm<br>@Temperature 68.0 °F | IEC 60093 |
| | 1.00e+16 ohm-cm<br>@Temperature 40.0 °C | 1.00e+16 ohm-cm<br>@Temperature 104 °F | IEC 60093 |
| Dielectric Constant | 4.2<br>@Frequency 1.00 Hz | 4.2<br>@Frequency 1.00 Hz | IEC 60250 |
| Dissipation Factor | 0.020<br>@Frequency 1.00e+6 Hz | 0.020<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 | 310 - 330 °C | 590 - 626 °F | Injection-molding/Extrusion |
| Mold Temperature | 80.0 - 120 °C | 176 - 248 °F | Injection-molding |

| Descriptive Properties | Value | Comments |
|---|---|---|
| Commercial Status | Europe | |

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