

Ultraform[®] N 2640 Z2 UNC Q600 Polyoxymethylene (POM)

Ultraform N 2640 Z2 UNC Q600 is an elastomer-modified injection molding POM grade with high impact strength.

Applications

Typical applications include toys components such as bicycle frames, automotive parts such as cladding elements and windshield wiper units, and clips, snap and fastening elements, and other components subject to impact stress.

| PHYSICAL | ISO Test Method | Property Value |
|--|-----------------|----------------|
| Density, g/cm ³ | 1183 | 1.37 |
| Mold Shrinkage, parallel, % | 294-4 | 1.9 |
| Mold Shrinkage, normal, % | 294-4 | 1.9 |
| Moisture, % | 62 | |
| (50% RH) | | 0.2 |
| (Saturation) | | 0.8 |
| RHEOLOGICAL | ISO Test Method | Property Value |
| Melt Volume Rate (190 °C/2.16 Kg), cc/10min. | 1133 | 7 |
| MECHANICAL | ISO Test Method | Property Value |
| Tensile Modulus, MPa | 527 | |
| 23 °C | | 2,000 |
| Tensile stress at yield, MPa | 527 | |
| -40 °C | | 80 |
| 23 °C | | 50 |
| Tensile strain at yield, % | 527 | |
| 23 °C | | 12 |

| | | |
|---|------------------------|-----------------------|
| Nominal strain at break, % | 527 | |
| 23°C | | 45 |
| Tensile Creep Modulus (1000h), MPa | 899 | 1,050 |
| Tensile Creep Modulus (1h), MPa | 899 | 1,550 |
| IMPACT | ISO Test Method | Property Value |
| Charpy Notched, kJ/m² | 179 | |
| -30°C | | 6.5 |
| 23°C | | 11 |
| Charpy Unnotched, kJ/m² | 179 | |
| -30°C | | 230 |
| 23°C | | N |
| THERMAL | ISO Test Method | Property Value |
| Melting Point, °C | 3146 | 167 |
| HDT A, ° C | 75 | 85 |
| HDT B, ° C | 75 | 150 |
| Coef. of Linear Thermal Expansion, Parallel, mm/mm °C | | 1.2 X10-4 |
| ELECTRICAL | ISO Test Method | Property Value |
| Comparative Tracking Index | IEC 60112 | 600 |
| Volume Resistivity (Ohm-m) | IEC 60093 | 1E12 |
| Surface Resistivity (Ohm) | IEC 60093 | 1E14 |
| Dielectric Constant (100 Hz) | IEC 60250 | 4 |
| Dielectric Constant (1 MHz) | IEC 60250 | 4 |
| Dissipation Factor (100 Hz), E-4 | IEC 60250 | 100 |
| Dissipation Factor (1 MHz), E-4 | IEC 60250 | 140 |
| Dielectric Strength, KV/mm | IEC 60243-1 | 40 |

Processing Guidelines

Material Handling

Max. Water content: 0.15%

Product is supplied in polyethylene bags and drying prior to molding is not required. However, after relatively long storage or when handling material from previously opened containers, preliminary drying is recommended in order to remove any moisture which has been absorbed. If drying is required, a dehumidifying or desiccant dryer operating at 80 - 110 °C (176 - 230 °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 190-230 °C (375-446 °F)

Mold Temperature 60-120 °C (140-248 °F)

Injection and Packing Pressure 35-70 bar (500-1000psi)

Mold Temperatures

A mold temperature of 60-120 °C (140-248 °F) is recommended, however temperatures of as low as 45 °C (113 °F) can be used where applicable.

Pressures

Injection speed must be optimized. A filling rate which is too high results in anisotropic mechanical properties, while a filling rate which is too low yields parts with poor surface finish. The tool must be vented to avoid burn marks and prevent mold deposits. 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.

Back pressure can be utilized to provide uniform melt consistency and reduce trapped air and gas.

Fill Rate

Injection speed must be optimized. A filling rate which is too high results in anisotropic mechanical properties, while a filling rate which is too low yields parts with poor surface finish. The tool must be vented to avoid burn marks and prevent mold deposits.

Note

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