# Ultraform® N 2640 Z2 UNC Q600

## BASF Corporation - Acetal (POM) Copolymer

Saturday, November 2, 2019

## General Information

**Product Description**

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.

| General | | | |
|---|---|---|---|
| Material Status | • Commercial: Active | | |
| Availability | • North America | | |
| Additive | • Impact Modifier | | |
| Features | • Copolymer | • High Impact Resistance | • Impact Modified |
| Uses | • Automotive Applications<br>• Automotive Exterior Parts | • Fasteners<br>• Toys | |
| Agency Ratings | • EC 1907/2006 (REACH) | | |
| RoHS Compliance | • RoHS Compliant | | |
| Automotive Specifications | • GM GMP.POM.024 | • GM GMW22P-POM-C2P1 | |
| Forms | • Pellets | | |
| Processing Method | • Injection Molding | | |

## ASTM & ISO Properties [1]

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Density / Specific Gravity | 1.37 | | ASTM D792 |
| Density | 1.37 | g/cm³ | ISO 1183 |
| Melt Volume-Flow Rate (MVR) (190°C/2.16 kg) | 7.00 | cm³/10min | ISO 1133 |
| Molding Shrinkage - Flow (0.125 in) | 0.019 | in/in | |
| Molding Shrinkage | | | ISO 294-4 |
| Across Flow | 1.9 | % | |
| Flow | 1.9 | % | |
| Water Absorption (Saturation) | 0.80 | % | ASTM D570 |
| Water Absorption (Saturation, 73°F) | 0.80 | % | ISO 62 |
| Water Absorption (Equilibrium, 50% RH) | 0.20 | % | ASTM D570 |
| Water Absorption (Equilibrium, 73°F, 50% RH) | 0.20 | % | ISO 62 |
| **Mechanical** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Modulus (73°F) | 290000 | psi | ISO 527-2 |
| Tensile Strength (Yield, 73°F) | 7250 | psi | ASTM D638 |
| Tensile Stress | | | ISO 527-2 |
| Yield, -40°F | 11600 | psi | |
| Yield, 73°F | 7250 | psi | |
| Tensile Elongation (Yield, 73°F) | 12 | % | ASTM D638 |
| Tensile Strain (Yield, 73°F) | 12 | % | ISO 527-2 |
| Nominal Tensile Strain at Break (73°F) | 45 | % | ISO 527-2 |
| Tensile Creep Modulus (1 hr) | 225000 | psi | ISO 899-1 |
| Tensile Creep Modulus (1000 hr) | 152000 | psi | ISO 899-1 |

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| Mechanical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Flexural Modulus (73°F) | 286000 | psi | ASTM D790 |
| **Impact** | **Nominal Value** | **Unit** | **Test Method** |
| Charpy Notched Impact Strength | | | ISO 179 |
| -22°F | 3.1 | ft·lb/in² | |
| 73°F | 5.2 | ft·lb/in² | |
| Charpy Unnotched Impact Strength | | | ISO 179 |
| -22°F | 110 | ft·lb/in² | |
| 73°F | No Break | | |
| Notched Izod Impact | | | ASTM D256 |
| -40°F | 1.3 | ft·lb/in | |
| 73°F | 2.2 | ft·lb/in | |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Deflection Temperature Under Load (66 psi, Unannealed) | 284 | °F | ASTM D648 |
| Heat Deflection Temperature (66 psi, Unannealed) | 302 | °F | ISO 75-2/B |
| Deflection Temperature Under Load | | | ASTM D648 |
| 264 psi, Unannealed | 185 | °F | |
| Heat Deflection Temperature (264 psi, Unannealed) | 185 | °F | ISO 75-2/A |
| Peak Melting Temperature | 333 | °F | ASTM D3418 |
| Melting Temperature (DSC) | 333 | °F | ISO 3146 |
| CLTE - Flow | 3.9E-5 | in/in/°F | ASTM E831 |
| CLTE - Flow | 6.7E-5 | in/in/°F | |
| **Electrical** | **Nominal Value** | **Unit** | **Test Method** |
| Surface Resistivity (0.0591 in) | 1.0E+14 | ohms | ASTM D257 |
| Surface Resistivity | 1.0E+14 | ohms | IEC 60093 |
| Volume Resistivity (0.0591 in) | 1.0E+14 | ohms·cm | ASTM D257 |
| Volume Resistivity | 1.0E+14 | ohms·cm | IEC 60093 |
| Electric Strength | 1000 | V/mil | IEC 60243-1 |
| Dielectric Constant | | | IEC 60250 |
| 100 Hz | 4.00 | | |
| 1 MHz | 4.00 | | |
| Dissipation Factor | | | IEC 60250 |
| 100 Hz | 0.010 | | |
| 1 MHz | 0.014 | | |
| Comparative Tracking Index | 600 | V | IEC 60112 |

## Processing Information

| Injection | Nominal Value | Unit |
|---|---|---|
| Drying Temperature | 176 to 230 | °F |
| Drying Time | 2.0 to 4.0 | hr |
| Suggested Max Moisture | 0.15 | % |
| Processing (Melt) Temp | 374 to 446 | °F |
| Mold Temperature | 140 to 248 | °F |
| Injection Pressure | 508 to 1020 | psi |

### Notes

[1] Typical properties: these are not to be construed as specifications.