

Makroblend® UT1018

Covestro - Polycarbonates - *Polycarbonate + PET*

General Information

Product Description

(PET+PC) blend, unreinforced; impact modified, injection molding grade. Good dimensional stability; excellent low-temperature impact and chemical resistance. UL746C f2 rated.

General

| | |
|-------------------|--|
| Material Status | • Commercial: Active |
| Availability | • Africa & Middle East • Europe • North America • Asia Pacific • Latin America |
| Additive | • Impact Modifier |
| Features | • Chemical Resistant • Impact Modified • Good Dimensional Stability • Low Temperature Impact Resistance |
| RoHS Compliance | • RoHS Compliant |
| Processing Method | • Injection Molding |

Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|---|---------------|-------------------------------|--------------|
| Density (73°F) | 1.22 | g/cm ³ | ISO 1183 |
| Melt Volume-Flow Rate (MVR) (270°C/5.0 kg) | 13 | cm ³ /10min | ISO 1133 |
| Molding Shrinkage ² | | | ISO 2577 |
| Across Flow | 0.70 to 0.90 | % | |
| Flow | 0.70 to 0.90 | % | |
| Water Absorption (Saturation, 73°F) | 0.70 | % | ISO 62 |
| Water Absorption (Equilibrium, 73°F, 50% RH) | 0.20 | % | ISO 62 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Modulus (73°F) | 290000 | psi | ISO 527-1/1 |
| Tensile Stress (Yield, 73°F) | 7110 | psi | ISO 527-2/50 |
| Tensile Stress (Break, 73°F) | 6670 | psi | ISO 527-2/50 |
| Tensile Strain (Yield, 73°F) | 4.5 | % | ISO 527-2/50 |
| Nominal Tensile Strain at Break (73°F) | 100 | % | ISO 527-2/50 |
| Flexural Modulus ³ (73°F) | 276000 | psi | ISO 178 |
| Flexural Stress ³ | | | ISO 178 |
| 3.5% Strain, 73°F | 8700 | psi | |
| 73°F | 10200 | psi | |
| Impact | Nominal Value | Unit | Test Method |
| Charpy Notched Impact Strength | | | ISO 179/1eA |
| -22°F | 17 | ft·lb/in ² | |
| 73°F | 31 | ft·lb/in ² | |
| Notched Izod Impact Strength | | | ISO 180/A |
| -4°F | 24 | ft·lb/in ² | |
| 73°F | 29 | ft·lb/in ² | |
| Thermal | Nominal Value | Unit | Test Method |
| Deflection Temperature Under Load (66 psi, Unannealed) | 226 | °F | ISO 75-2/B |
| Deflection Temperature Under Load (264 psi, Unannealed) | 172 | °F | ISO 75-2/A |
| Vicat Softening Temperature | 270 | °F | ISO 306/B120 |
| CLTE - Flow (73 to 131°F) | 4.4E-5 | in/in/°F | ISO 11359-2 |
| CLTE - Transverse (73 to 131°F) | 5.0E-5 | in/in/°F | ISO 11359-2 |
| Thermal Conductivity ⁴ (73°F) | 1.4 | Btu·in/hr/ft ² /°F | ISO 8302 |



| Electrical | Nominal Value | Unit | Test Method |
|---|----------------------|-------------|--------------------|
| Surface Resistivity | 1.0E+16 | ohms | IEC 60093 |
| Volume Resistivity (73°F) | 1.0E+16 | ohms·cm | IEC 60093 |
| Electric Strength (73°F, 0.0394 in) | 860 | V/mil | IEC 60243-1 |
| Relative Permittivity | | | IEC 60250 |
| 73°F, 100 Hz | 3.20 | | |
| 73°F, 1 MHz | 3.10 | | |
| Dissipation Factor | | | IEC 60250 |
| 73°F, 100 Hz | 2.0E-3 | | |
| 73°F, 1 MHz | 0.015 | | |
| Comparative Tracking Index (Solution A) | 600 | V | IEC 60112 |
| Flammability | Nominal Value | Unit | Test Method |
| Flame Rating | | | UL 94 |
| 0.06 in | | HB | |
| 0.12 in | | HB | |

Processing Information

| Injection | Nominal Value | Unit |
|------------------------------------|----------------------|-------------|
| Drying Temperature - Dry Air Dryer | 230 | °F |
| Drying Time - Dry Air Dryer | 2.0 to 4.0 | hr |
| Suggested Max Moisture | < 0.010 | % |
| Suggested Shot Size | 30 to 70 | % |
| Rear Temperature | 473 to 491 | °F |
| Middle Temperature | 482 to 500 | °F |
| Front Temperature | 491 to 509 | °F |
| Nozzle Temperature | 491 to 518 | °F |
| Processing (Melt) Temp | 500 to 536 | °F |
| Mold Temperature | 122 to 212 | °F |
| Back Pressure | 725 to 2180 | psi |
| Vent Depth | 9.8E-4 to 3.0E-3 | in |

Injection Notes

Standard Melt Temperature: 270°C
Peripheral Screw Speed: 0.05 - 0.2 m/s
Hold Pressure (% of Injection Pressure): 50 - 75%

Notes

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

² 600 bar

³ 0.079 in/min

⁴ Across Flow

