

| Processing/Physical Characteristics | Value | Unit | Test Standard |
|---|-------|------------------------|-----------------|
| ISO Data | | | |
| ^[C] Melt volume-flow rate, MVR | 23 | cm ³ /10min | ISO 1133 |
| Temperature | 190 | °C | - |
| Load | 2.16 | kg | - |
| ^[C] Molding shrinkage, parallel | 1.7 | % | ISO 294-4, 2577 |
| ^[C] Molding shrinkage, normal | 1.6 | % | ISO 294-4, 2577 |
| ^[C] Density of melt | 1200 | kg/m ³ | - |
| ^[C] Thermal conductivity of melt | 0.155 | W/(m K) | - |
| ^[C] Spec. heat capacity of melt | 2210 | J/(kg K) | - |
| ^[C] Ejection temperature | 140 | °C | - |

[C]: CAMPUS

| Mechanical properties | Value | Unit | Test Standard |
|--|-------|-------------------|---------------|
| ISO Data | | | |
| ^[C] Tensile Modulus | 2800 | MPa | ISO 527 |
| ^[C] Yield stress | 67 | MPa | ISO 527 |
| ^[C] Yield strain | 8 | % | ISO 527 |
| ^[C] Charpy impact strength, +23°C | 116 | kJ/m ² | ISO 179/1eU |
| ^[C] Charpy impact strength, -30°C | 108 | kJ/m ² | ISO 179/1eU |
| ^[C] Charpy notched impact strength, +23°C | 5.2 | kJ/m ² | ISO 179/1eA |

[C]: CAMPUS

| Thermal properties | Value | Unit | Test Standard |
|--|-------|-------|----------------|
| ISO Data | | | |
| ^[C] Melting temperature, 10°C/min | 166 | °C | ISO 11357-1/-3 |
| ^[C] Temp. of deflection under load, 1.80 MPa | 103 | °C | ISO 75-1/-2 |
| ^[C] Temp. of deflection under load, 0.45 MPa | 156 | °C | ISO 75-1/-2 |
| ^[C] Coeff. of linear therm. expansion, parallel | 110 | E-6/K | ISO 11359-1/-2 |
| ^[C] Coeff. of linear therm. expansion, normal | 120 | E-6/K | ISO 11359-1/-2 |

[C]: CAMPUS

| Other properties | Value | Unit | Test Standard |
|------------------------------------|-------|-------------------|----------------|
| ^[C] Water absorption | 0.75 | % | Sim. to ISO 62 |
| ^[C] Humidity absorption | 0.2 | % | Sim. to ISO 62 |
| ^[C] Density | 1410 | kg/m ³ | ISO 1183 |

[C]: CAMPUS

| Processing Recommendation Injection Molding | Value | Unit | Test Standard |
|---|-----------|------|---------------|
| Pre-drying - Temperature | 80 | °C | - |
| Pre-drying - Time | 3 | h | - |
| Processing humidity | ≤0.35 | % | - |
| Melt temperature | 182 - 199 | °C | - |
| Mold temperature | 82 - 93 | °C | - |

Characteristics

Processing

Injection Molding

Delivery form

Pellets

Additives

Release agent

Features

Copolymer

Regional Availability

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

Other text information**Injection molding**

Drying is generally not required because Celcon® and Hostaform® acetal copolymers are not hygroscopic nor are they degraded by moisture during processing. Excessive moisture can lead to splay (silver streaking) in molded parts. For better uniformity in molding especially when using regrind or material that has been stored in containers open to the atmosphere, recommended drying conditions are 80 C (180 F) for 3 hours. Desiccant hopper dryers are not required. Maximum water content = 0.35% Standard reciprocating screw injection molding machines with a high compression screw (minimum 3:1 and preferably 4:1) and low back pressure (0.35 Mpa/50 PSI) are favored. Using a low compression screw (I.E. general purpose 2:1 compression ratio) can result in unmelted particles and poor melt homogeneity. Using a high back pressure to make up for a low compression ratio may lead to excessive shear heating and deterioration of the material.

Melt Temperature: Preferred range 182-199 C (360-390 F). Melt temperature should never exceed 230 C (450 F).

Mold Surface Temperature: Preferred range 82-93 C (180-200 F) especially with wall thickness less than 1.5 mm (0.060 in.). May require mold temperature as high as 120 C (250 F) to reproduce mold surface or to assure minimal molded in stress. Wall thickness greater than 3mm (1/8 in.) may use a cooler (65 C/150 F) mold surface temperature and wall thickness over 6mm (1/4 in.) may use a cold mold surface down to 25 C (80 F). In general, mold surface temperatures lower than 82 C (180 F) may hinder weld line formation and produce a hazy surface or a surface with flow lines, pits and other included defects that can hinder part performance. Postprocessing conditioning and moisturizing are not required. It may be necessary to fixture large or complicated parts with varying wall thickness to prevent warpage while cooling to ambient temperature.