

DELTRIN FG511DP NC010

Delrin USA, LLC - Acetal (POM) Homopolymer

General Information

| General | | | |
|-------------------------------|---|--|-------------------------------------|
| Material Status | • Commercial: Active | | |
| Availability | • Africa & Middle East • Asia Pacific | • Europe • Latin America | • North America |
| Additive | • Mold Release | | |
| Features | • Creep Resistant • Crystalline • Fast Molding Cycle • Fatigue Resistant | • Good Mold Release • Good Thermal Stability • High Dimensional Stability • Homopolymer | • Low Warpage • Medium Viscosity |
| RoHS Compliance | • Contact Manufacturer | | |
| Part Marking Code (ISO 11469) | • >POM< | | |
| Resin ID (ISO 1043) | • POM | | |

Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|---|---------------|------------------------|-------------|
| Density | 1.42 | g/cm ³ | ISO 1183 |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 14 | g/10 min | ISO 1133 |
| Melt Volume-Flow Rate (MVR) (190°C/2.16 kg) | 13 | cm ³ /10min | ISO 1133 |
| Molding Shrinkage | | | ISO 294-4 |
| Across Flow | 1.8 | % | |
| Flow | 1.9 | % | |
| Water Absorption (Saturation, 73°F, 0.0787 in) | 0.90 | % | ISO 62 |
| Water Absorption (Equilibrium, 73°F, 0.0787 in, 50% RH) | 0.30 | % | ISO 62 |

| Mechanical | Nominal Value | Unit | Test Method |
|---------------------------------|---------------|------|-------------|
| Tensile Modulus | 508000 | psi | ISO 527-1 |
| Tensile Stress (Yield) | 10900 | psi | ISO 527-2 |
| Tensile Strain (Yield) | 12 | % | ISO 527-2 |
| Nominal Tensile Strain at Break | 25 | % | ISO 527-2 |
| Flexural Modulus | 464000 | psi | ISO 178 |
| Flexural Stress (3.5% Strain) | 12600 | psi | ISO 178 |
| Poisson's Ratio | 0.37 | | |

| Impact | Nominal Value | Unit | Test Method |
|----------------------------------|---------------|-----------------------|-------------|
| Charpy Notched Impact Strength | | | ISO 179/1eA |
| -22°F | 2.9 | ft·lb/in ² | |
| 73°F | 3.1 | ft·lb/in ² | |
| Charpy Unnotched Impact Strength | | | ISO 179/1eU |
| -22°F | 95 | ft·lb/in ² | |
| 73°F | 100 | ft·lb/in ² | |

| Thermal | Nominal Value | Unit | Test Method |
|---|---------------|----------|-------------|
| Deflection Temperature Under Load (66 psi, Unannealed) | 325 | °F | ISO 75-2/B |
| Deflection Temperature Under Load (264 psi, Unannealed) | 221 | °F | ISO 75-2/A |
| Vicat Softening Temperature | 320 | °F | ISO 306/B50 |
| Melting Temperature ² | 352 | °F | ISO 11357-3 |
| CLTE - Flow | 5.6E-5 | in/in/°F | ISO 11359-2 |
| CLTE - Transverse | 6.1E-5 | in/in/°F | ISO 11359-2 |
| Annealing Temperature | 320 | °F | |
| Annealing Time - Optional | 30.0 | min/mm | |

| Flammability | Nominal Value | Unit | Test Method |
|--------------|---------------|------|-------------|
|--------------|---------------|------|-------------|



| | | |
|---------------------------------------|---------------------------|----------------------|
| Burning Rate ³ (0.0394 in) | < 3.1 in/min | ISO 3795 |
| Flame Rating | | UL 94 |
| 0.031 in | HB | |
| 0.06 in | HB | |
| Flammability Classification | | IEC 60695-11-10, -20 |
| 0.03 in | HB | |
| 0.06 in | HB | |
| FMVSS Flammability | B | ISO 3795 |
| Additional Information | Nominal Value Unit | Test Method |
| Emission | < 8 ppm | VDA 275 |
| Fogging | | ISO 6452 |
| F-value (refraction) | 97 % | |
| G-value (condensate) | 0.10 mg | |

Processing Information

| Injection | Nominal Value Unit |
|-------------------------------------|---------------------------|
| Drying Temperature | 176 °F |
| Drying Time - Desiccant Dryer | 2.0 to 4.0 hr |
| Suggested Max Moisture | < 0.20 % |
| Processing (Melt) Temp | 410 to 428 °F |
| Melt Temperature, Optimum | 419 °F |
| Mold Temperature | 176 to 212 °F |
| Mold Temperature, Optimum | 194 °F |
| Holding Pressure | 11600 to 14500 psi |
| Drying Recommended | yes |
| Hold Pressure Time | 7.50 s/mm |
| Maximum Screw Tangential Speed | 709 in/min |
| Extrusion | Nominal Value Unit |
| Drying Temperature | 167 to 185 °F |
| Drying Time | 2.0 to 4.0 hr |
| Suggested Max Moisture | < 0.20 % |
| Melt Temperature | 383 to 401 °F |
| Extrusion Melt Temperature, Optimum | 392 °F |

Notes

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

² 10°C/min

³ FMVSS 302

