

DuPont Performance Polymers Delrin® 500TL NC010 Acetal (POM) (Unverified Data**)

Category : Polymer , Thermoplastic , Acetal (POM) , Acetal Homopolymer, Unreinforced

Material Notes:

Teflon® Lubricated Medium Viscosity Acetal Homopolymer with Low Wear and Low Friction Delrin 500TL is a medium viscosity acetal homopolymer resin containing 1.5% Teflon PTFE Micropowder. It is designed for applications requiring moderate low wear and flnformation provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-500TL-NC010-Acetal-POM-nbspUnverified-Data.php

| Physical Properties | Metric | English | Comments |
|-----------------------------------|---|---|----------------------------------|
| Density | 1.43 g/cc | 0.0517 lb/in ³ | ISO 1183 |
| Water Absorption | 0.90 % @Thickness 2.00 mm | 0.90 % @Thickness 0.0787 in | Sim. to ISO 62 |
| Moisture Absorption | 0.170 % @Thickness 2.00 mm | 0.170 % @Thickness 0.0787 in | Sim. to ISO 62 |
| Linear Mold Shrinkage, Flow | 0.018 cm/cm | 0.018 in/in | ISO 294-4 2577 |
| Linear Mold Shrinkage, Transverse | 0.017 cm/cm | 0.017 in/in | ISO 294-4 2577 |
| Melt Flow | 12 g/10 min @Load 2.16 kg, Temperature 190 °C | 12 g/10 min @Load 4.76 lb, Temperature 374 °F | cm ³ /10min; ISO 1133 |
| | 14 g/10 min @Load 2.16 kg, Temperature 190 °C | 14 g/10 min @Load 4.76 lb, Temperature 374 °F | ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|--|--|----------------|
| Tensile Stress | 31.8 MPa @Strain 1.10 %, Temperature 23.0 °C | 4610 psi @Strain 1.10 %, Temperature 73.4 °F | ISO 11403-1 -2 |
| | 34.3 MPa @Strain 1.10 %, Temperature 0.000 °C | 4970 psi @Strain 1.10 %, Temperature 32.0 °F | ISO 11403-1 -2 |
| | 36.6 MPa @Strain 0.900 %, Temperature -40.0 °C | 5310 psi @Strain 0.900 %, Temperature -40.0 °F | ISO 11403-1 -2 |
| | 62.6 MPa | 9080 psi | |

| Mechanical Properties | Metric | English | Comments |
|-------------------------|---|---|-----------------------|
| | @Strain 4.40 %, Temperature 23.0 °C | @Strain 4.40 %, Temperature 73.4 °F | ISO 11403-1 -2 |
| | 66.6 MPa | 9660 psi | |
| | @Strain 7.70 %, Temperature 23.0 °C | @Strain 7.70 %, Temperature 73.4 °F | ISO 11403-1 -2 |
| | 67.2 MPa | 9750 psi | |
| | @Strain 11.0 %, Temperature 23.0 °C | @Strain 11.0 %, Temperature 73.4 °F | ISO 11403-1 -2 |
| | 71.7 MPa | 10400 psi | |
| | @Strain 4.30 %, Temperature 0.000 °C | @Strain 4.30 %, Temperature 32.0 °F | ISO 11403-1 -2 |
| | 76.7 MPa | 11100 psi | |
| | @Strain 7.60 %, Temperature 0.000 °C | @Strain 7.60 %, Temperature 32.0 °F | ISO 11403-1 -2 |
| | 77.5 MPa | 11200 psi | |
| | @Strain 10.8 %, Temperature 0.000 °C | @Strain 10.8 %, Temperature 32.0 °F | ISO 11403-1 -2 |
| | 88.1 MPa | 12800 psi | |
| | @Strain 3.70 %, Temperature -40.0 °C | @Strain 3.70 %, Temperature -40.0 °F | ISO 11403-1 -2 |
| | 96.6 MPa | 14000 psi | |
| | @Strain 6.50 %, Temperature -40.0 °C | @Strain 6.50 %, Temperature -40.0 °F | ISO 11403-1 -2 |
| Tensile Strength, Yield | 71.0 MPa | 10300 psi | ISO 527-1/-2 |
| Elongation at Break | 20 % | 20 % | Nominal; ISO 527-1/-2 |
| Elongation at Yield | 13 % | 13 % | ISO 527-1/-2 |
| Tensile Modulus | 3.30 GPa | 479 ksi | ISO 527-1/-2 |
| Flexural Modulus | 3.10 GPa | 450 ksi | ISO 178 |
| Secant Modulus | 0.425 GPa | 61.7 ksi | |
| | @Strain 7.10 %, Temperature 100 °C | @Strain 7.10 %, Temperature 212 °F | ISO 11403-1 -2 |
| | 0.532 GPa | 77.2 ksi | |
| | @Strain 7.50 %, Temperature 80.0 °C | @Strain 7.50 %, Temperature 176 °F | ISO 11403-1 -2 |
| | 0.689 GPa | 99.9 ksi | |
| | @Strain 3.50 %, | @Strain 3.50 %, | ISO 11403-1 -2 |

| Mechanical Properties | Temperature 100 °C Metric | Temperature 212 °F English | Comments |
|----------------------------|--|--|----------------|
| | 0.760 GPa | 110 ksi | |
| | @Strain 8.80 %, Temperature 23.0 °C | @Strain 8.80 %, Temperature 73.4 °F | ISO 11403-1 -2 |
| | 0.882 GPa | 128 ksi | |
| | @Strain 3.80 %, Temperature 80.0 °C | @Strain 3.80 %, Temperature 176 °F | ISO 11403-1 -2 |
| | 0.897 GPa | 130 ksi | |
| | @Strain 8.60 %, Temperature 0.000 °C | @Strain 8.60 %, Temperature 32.0 °F | ISO 11403-1 -2 |
| | 0.944 GPa | 137 ksi | |
| | @Strain 0.900 %, Temperature 100 °C | @Strain 0.900 %, Temperature 212 °F | ISO 11403-1 -2 |
| | 1.31 GPa | 190 ksi | |
| | @Strain 7.40 %, Temperature -40.0 °C | @Strain 7.40 %, Temperature -40.0 °F | ISO 11403-1 -2 |
| | 1.38 GPa | 200 ksi | |
| | @Strain 0.900 %, Temperature 80.0 °C | @Strain 0.900 %, Temperature 176 °F | ISO 11403-1 -2 |
| | 1.42 GPa | 206 ksi | |
| | @Strain 4.40 %, Temperature 23.0 °C | @Strain 4.40 %, Temperature 73.4 °F | ISO 11403-1 -2 |
| | 1.67 GPa | 242 ksi | |
| | @Strain 4.30 %, Temperature 0.000 °C | @Strain 4.30 %, Temperature 32.0 °F | ISO 11403-1 -2 |
| | 2.38 GPa | 345 ksi | |
| | @Strain 3.70 %, Temperature -40.0 °C | @Strain 3.70 %, Temperature -40.0 °F | ISO 11403-1 -2 |
| | 2.89 GPa | 419 ksi | |
| | @Strain 1.10 %, Temperature 23.0 °C | @Strain 1.10 %, Temperature 73.4 °F | ISO 11403-1 -2 |
| | 3.12 GPa | 452 ksi | |
| | @Strain 1.10 %, Temperature 0.000 °C | @Strain 1.10 %, Temperature 32.0 °F | ISO 11403-1 -2 |
| | 4.07 GPa | 590 ksi | |
| | @Strain 0.900 %, Temperature -40.0 °C | @Strain 0.900 %, Temperature -40.0 °F | ISO 11403-1 -2 |
| Izod Impact, Notched (ISO) | 6.00 kJ/m ² | 2.86 ft-lb/in ² | ISO 180/1A |

| Mechanical Properties | Metric | English | Comments |
|-------------------------|-------------------------|----------------------------|-------------|
| | 17.0 J/cm ² | 80.9 ft-lb/in ² | ISO 180/1A |
| | @Temperature -40.0 °C | @Temperature -40.0 °F | |
| Charpy Impact Unnotched | 17.0 J/cm ² | 80.9 ft-lb/in ² | ISO 179/1eU |
| | 16.0 J/cm ² | 76.1 ft-lb/in ² | ISO 179/1eU |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact, Notched | 0.500 J/cm ² | 2.38 ft-lb/in ² | ISO 179/1eA |
| | 0.400 J/cm ² | 1.90 ft-lb/in ² | ISO 179/1eA |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |

| Thermal Properties | Metric | English | Comments |
|---|--------------------|----------------------|--------------------------|
| CTE, linear, Parallel to Flow | 100 µm/m-°C | 55.6 µin/in-°F | ISO 11359-1/-2 |
| CTE, linear, Transverse to Flow | 100 µm/m-°C | 55.6 µin/in-°F | ISO 11359-1/-2 |
| Melting Point | 178 °C | 352 °F | 10°C/min; ISO 11357-1/-3 |
| Deflection Temperature at 0.46 MPa (66 psi) | 165 °C | 329 °F | ISO 75-1/-2 |
| Deflection Temperature at 1.8 MPa (264 psi) | 103 °C | 217 °F | ISO 75-1/-2 |
| Flammability, UL94 | HB | HB | IEC 60695-11-10 |
| | @Thickness 1.50 mm | @Thickness 0.0591 in | |

| Electrical Properties | Metric | English | Comments |
|----------------------------|-----------------------|-----------------------|-----------|
| Volume Resistivity | 1.00e+14 ohm-cm | 1.00e+14 ohm-cm | IEC 60093 |
| Dielectric Constant | 3.6 | 3.6 | IEC 60250 |
| | @Frequency 100 Hz | @Frequency 100 Hz | |
| | 3.6 | 3.6 | IEC 60250 |
| | @Frequency 1.00e+6 Hz | @Frequency 1.00e+6 Hz | |
| Comparative Tracking Index | 600 V | 600 V | IEC 60112 |

| Descriptive Properties | Value | Comments |
|------------------------|---------------|----------|
| Additives | Lubricants | |
| | Release agent | |
| Delivery Form | Pellets | |

| Descriptive Properties | Value | Comments |
|------------------------|---------------------------|-----------|
| Part Marking Code | <POM-SD> | ISO 11429 |
| Processing | Injection Moulding | |
| Regional Availability | Asia Pacific | |
| | Europe | |
| | Global | |
| | Near East/Africa | |
| | North America | |
| | South and Central America | |
| Resin Identification | POM-SD | ISO 1043 |
| UL recognition | UL | |

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