

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

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

Material Notes:

Toughened Medium Viscosity Acetal Homopolymer Delrin 500T NC010 is a toughened medium viscosity acetal homopolymer resin with impact resistance similar to Delrin 100. It can be used in parts requiring noise reduction. Information provided by DuPont Performance Polymers

Order this product through the following link:

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

| Physical Properties | Metric | English | Comments |
|-----------------------------------|--|--|----------------|
| Density | 1.38 g/cc | 0.0499 lb/in ³ | ISO 1183 |
| Water Absorption | 0.82 % @Thickness 2.00 mm | 0.82 % @Thickness 0.0787 in | Sim. to ISO 62 |
| Moisture Absorption | 0.210 % @Thickness 2.00 mm | 0.210 % @Thickness 0.0787 in | Sim. to ISO 62 |
| Viscosity | 69000 cP @Shear Rate 5000 1/s, Temperature 220 °C | 69000 cP @Shear Rate 5000 1/s, Temperature 428 °F | ISO 11403-1 -2 |
| | 83000 cP @Shear Rate 5000 1/s, Temperature 205 °C | 83000 cP @Shear Rate 5000 1/s, Temperature 401 °F | ISO 11403-1 -2 |
| | 102000 cP @Shear Rate 5000 1/s, Temperature 190 °C | 102000 cP @Shear Rate 5000 1/s, Temperature 374 °F | ISO 11403-1 -2 |
| | 211000 cP @Shear Rate 500 1/s, Temperature 220 °C | 211000 cP @Shear Rate 500 1/s, Temperature 428 °F | ISO 11403-1 -2 |
| | 277000 cP @Shear Rate 500 1/s, Temperature 205 °C | 277000 cP @Shear Rate 500 1/s, Temperature 401 °F | ISO 11403-1 -2 |
| | 365000 cP @Shear Rate 500 1/s, Temperature 190 °C | 365000 cP @Shear Rate 500 1/s, Temperature 374 °F | ISO 11403-1 -2 |
| Linear Mold Shrinkage, Flow | 0.017 cm/cm | 0.017 in/in | ISO 294-4 2577 |
| Linear Mold Shrinkage, Transverse | 0.016 cm/cm | 0.016 in/in | ISO 294-4 2577 |

| Physical Properties | Metric | English | Comments |
|---------------------|--------------------------------------|--------------------------------------|----------------------------------|
| Melt Flow | @Load 2.16 kg, Temperature 190 °C | @Load 4.76 lb, Temperature 374 °F | cm ³ /10min; ISO 1133 |
| | 12 g/10 min | 12 g/10 min | ISO 1133 |
| | @Load 2.16 kg, Temperature 190 °C | @Load 4.76 lb, Temperature 374 °F | |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|---|---|----------------|
| Hardness, Rockwell M | 79 | 79 | ISO 2039-2 |
| Hardness, Rockwell R | 117 | 117 | ISO 2039-2 |
| Tensile Stress | 8.20 MPa | 1190 psi | ISO 11403-1 -2 |
| | @Strain 1.10 %, Temperature 90.0 °C | @Strain 1.10 %, Temperature 194 °F | |
| | 21.0 MPa | 3050 psi | ISO 11403-1 -2 |
| | @Strain 4.40 %, Temperature 90.0 °C | @Strain 4.40 %, Temperature 194 °F | |
| | 21.7 MPa | 3150 psi | ISO 11403-1 -2 |
| | @Strain 1.40 %, Temperature 40.0 °C | @Strain 1.40 %, Temperature 104 °F | |
| | 25.8 MPa | 3740 psi | ISO 11403-1 -2 |
| | @Strain 7.70 %, Temperature 90.0 °C | @Strain 7.70 %, Temperature 194 °F | |
| | 26.1 MPa | 3790 psi | ISO 11403-1 -2 |
| | @Strain 1.30 %, Temperature 23.0 °C | @Strain 1.30 %, Temperature 73.4 °F | |
| | 26.5 MPa | 3840 psi | ISO 11403-1 -2 |
| | @Strain 11.0 %, Temperature 90.0 °C | @Strain 11.0 %, Temperature 194 °F | |
| | 33.0 MPa | 4790 psi | ISO 11403-1 -2 |
| | @Strain 1.30 %, Temperature -40.0 °C | @Strain 1.30 %, Temperature -40.0 °F | |
| | 40.5 MPa | 5870 psi | ISO 11403-1 -2 |
| | @Strain 1.90 %, Temperature 0.000 °C | @Strain 1.90 %, Temperature 32.0 °F | |
| | 44.2 MPa | 6410 psi | ISO 11403-1 -2 |
| | @Strain 5.50 %, Temperature 40.0 °C | @Strain 5.50 %, Temperature 104 °F | |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|---|---|----------------|
| | 46.5 MPa | 6740 psi | ISO 11403-1 -2 |
| | @Strain 2.10 %, Temperature -20.0 °C | @Strain 2.10 %, Temperature -4.00 °F | |
| | 47.5 MPa | 6890 psi | ISO 11403-1 -2 |
| | @Strain 9.60 %, Temperature 40.0 °C | @Strain 9.60 %, Temperature 104 °F | |
| | 50.1 MPa | 7270 psi | ISO 11403-1 -2 |
| | @Strain 5.00 %, Temperature 23.0 °C | @Strain 5.00 %, Temperature 73.4 °F | |
| | 54.0 MPa | 7830 psi | ISO 11403-1 -2 |
| | @Strain 8.80 %, Temperature 23.0 °C | @Strain 8.80 %, Temperature 73.4 °F | |
| | 54.6 MPa | 7920 psi | ISO 11403-1 -2 |
| | @Strain 12.6 %, Temperature 23.0 °C | @Strain 12.6 %, Temperature 73.4 °F | |
| | 61.7 MPa | 8950 psi | ISO 11403-1 -2 |
| | @Strain 7.60 %, Temperature 0.000 °C | @Strain 7.60 %, Temperature 32.0 °F | |
| | 63.7 MPa | 9240 psi | ISO 11403-1 -2 |
| | @Strain 13.2 %, Temperature 0.000 °C | @Strain 13.2 %, Temperature 32.0 °F | |
| | 64.4 MPa | 9340 psi | ISO 11403-1 -2 |
| | @Strain 18.4 %, Temperature 0.000 °C | @Strain 18.4 %, Temperature 32.0 °F | |
| | 70.2 MPa | 10200 psi | ISO 11403-1 -2 |
| | @Strain 8.30 %, Temperature -20.0 °C | @Strain 8.30 %, Temperature -4.00 °F | |
| | 71.9 MPa | 10400 psi | ISO 11403-1 -2 |
| | @Strain 14.5 %, Temperature -20.0 °C | @Strain 14.5 %, Temperature -4.00 °F | |
| | 72.7 MPa | 10500 psi | ISO 11403-1 -2 |
| | @Strain 19.9 %, Temperature -20.0 °C | @Strain 19.9 %, Temperature -4.00 °F | |
| | 77.2 MPa | 11200 psi | ISO 11403-1 -2 |
| | @Strain 9.60 %, Temperature -40.0 °C | @Strain 9.60 %, Temperature -40.0 °F | |
| | 81.0 MPa | 11700 psi | ISO 11403-1 -2 |
| | @Strain 19.2 %, | @Strain 19.2 %, | |

| Mechanical Properties | Temperature -40.0 °C Metric | Temperature -40.0 °F English | Comments |
|-------------------------|---|---|-------------------------|
| | 82.5 MPa | 12000 psi | |
| | @Strain 28.8 %, Temperature -40.0 °C | @Strain 28.8 %, Temperature -40.0 °F | ISO 11403-1 -2 |
| Tensile Strength, Yield | 56.0 MPa | 8120 psi | ISO 527-1/-2 |
| Elongation at Break | 35 % | 35 % | Nominal; ISO 527-1/-2 |
| Elongation at Yield | 18 % | 18 % | ISO 527-1/-2 |
| Tensile Modulus | 2.30 GPa | 334 ksi | ISO 527-1/-2 |
| Flexural Strength | 60.0 MPa | 8700 psi | ISO 178 |
| | @Strain 3.50 % | @Strain 3.50 % | |
| Flexural Modulus | 2.10 GPa | 305 ksi | ISO 178 |
| Shear Modulus | 0.394 GPa | 57.1 ksi | Dynamic; ISO 11403-1 -2 |
| | @Temperature 110 °C | @Temperature 230 °F | |
| | 0.7691 GPa | 111.6 ksi | Dynamic; ISO 11403-1 -2 |
| | @Temperature 60.0 °C | @Temperature 140 °F | |
| | 1.0753 GPa | 155.96 ksi | Dynamic; ISO 11403-1 -2 |
| | @Temperature 10.0 °C | @Temperature 50.0 °F | |
| | 1.1915 GPa | 172.82 ksi | Dynamic; ISO 11403-1 -2 |
| | @Temperature -20.0 °C | @Temperature -4.00 °F | |
| | 1.3674 GPa | 198.33 ksi | Dynamic; ISO 11403-1 -2 |
| | @Temperature -50.0 °C | @Temperature -58.0 °F | |
| Secant Modulus | 0.199 GPa | 28.9 ksi | ISO 11403-1 -2 |
| | @Strain 11.1 %, Temperature 100 °C | @Strain 11.1 %, Temperature 212 °F | |
| | 0.322 GPa | 46.7 ksi | ISO 11403-1 -2 |
| | @Strain 9.20 %, Temperature 80.0 °C | @Strain 9.20 %, Temperature 176 °F | |
| | 0.334 GPa | 48.4 ksi | ISO 11403-1 -2 |
| | @Strain 5.60 %, Temperature 100 °C | @Strain 5.60 %, Temperature 212 °F | |
| | 0.365 GPa | 53.0 ksi | ISO 11403-1 -2 |
| | @Strain 22.4 %, Temperature -40.0 °C | @Strain 22.4 %, Temperature -40.0 °F | |

| Mechanical Properties | 0.425 GPa Metric | 61.6 ksi English | Comments ISO 11403-1 -2 |
|-----------------------|---|---|----------------------------|
| | @Strain 15.1 %, Temperature 0.000 °C | @Strain 15.1 %, Temperature 32.0 °F | |
| | 0.434 GPa | 62.9 ksi | ISO 11403-1 -2 |
| | @Strain 11.0 %, Temperature 40.0 °C | @Strain 11.0 %, Temperature 104 °F | |
| | 0.436 GPa | 63.2 ksi | ISO 11403-1 -2 |
| | @Strain 16.6 %, Temperature -20.0 °C | @Strain 16.6 %, Temperature -4.00 °F | |
| | 0.530 GPa | 76.9 ksi | ISO 11403-1 -2 |
| | @Strain 4.60 %, Temperature 80.0 °C | @Strain 4.60 %, Temperature 176 °F | |
| | 0.536 GPa | 77.7 ksi | ISO 11403-1 -2 |
| | @Strain 1.40 %, Temperature 100 °C | @Strain 1.40 %, Temperature 212 °F | |
| | 0.538 GPa | 78.0 ksi | ISO 11403-1 -2 |
| | @Strain 10.1 %, Temperature 23.0 °C | @Strain 10.1 %, Temperature 73.4 °F | |
| | 0.804 GPa | 117 ksi | ISO 11403-1 -2 |
| | @Strain 5.50 %, Temperature 40.0 °C | @Strain 5.50 %, Temperature 104 °F | |
| | 0.804 GPa | 117 ksi | ISO 11403-1 -2 |
| | @Strain 9.60 %, Temperature -40.0 °C | @Strain 9.60 %, Temperature -40.0 °F | |
| | 0.812 GPa | 118 ksi | ISO 11403-1 -2 |
| | @Strain 7.60 %, Temperature 0.000 °C | @Strain 7.60 %, Temperature 32.0 °F | |
| | 0.846 GPa | 123 ksi | ISO 11403-1 -2 |
| | @Strain 8.30 %, Temperature -20.0 °C | @Strain 8.30 %, Temperature -4.00 °F | |
| | 0.855 GPa | 124 ksi | ISO 11403-1 -2 |
| | @Strain 1.10 %, Temperature 80.0 °C | @Strain 1.10 %, Temperature 176 °F | |
| | 1.002 GPa | 145.3 ksi | ISO 11403-1 -2 |
| | @Strain 5.00 %, Temperature 23.0 °C | @Strain 5.00 %, Temperature 73.4 °F | |
| | 1.55 GPa | 225 ksi | ISO 11403-1 -2 |
| | @Strain 1.40 %, | @Strain 1.40 %, | |

| Mechanical Properties | Temperature 40.0 °C Metric | Temperature 104 °F English | Comments |
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