

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

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

Material Notes:

Lubricated Medium Viscosity Acetal Homopolymer with Low Wear and Low Friction Delrin 500CL is a medium viscosity acetal homopolymer resin containing a chemical lubricant designed for low wear and friction against metals. Information provided by DuPont Performance Polymers

Order this product through the following link:

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

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 lb/in ³	ISO 1183
Water Absorption	1.0 % @Thickness 2.00 mm	1.0 % @Thickness 0.0787 in	Sim. to ISO 62
Moisture Absorption	0.250 % @Thickness 2.00 mm	0.250 % @Thickness 0.0787 in	Sim. to ISO 62
Linear Mold Shrinkage, Flow	0.019 cm/cm	0.019 in/in	ISO 294-4 2577
Linear Mold Shrinkage, Transverse	0.018 cm/cm	0.018 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
	15 g/10 min @Load 2.16 kg, Temperature 190 °C	15 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	92	92	ISO 2039-2
Hardness, Rockwell R	120	120	ISO 2039-2
Tensile Stress	9.90 MPa @Strain 1.10 %, Temperature 90.0 °C	1440 psi @Strain 1.10 %, Temperature 194 °F	ISO 11403-1 -2
	25.6 MPa @Strain 4.60 %, Temperature 90.0 °C	3710 psi @Strain 4.60 %, Temperature 194 °F	ISO 11403-1 -2
	27.5 MPa	3990 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 1.40 %, Temperature 40.0 °C	@Strain 1.40 %, Temperature 104 °F	ISO 11403-1 -2
	28.9 MPa	4190 psi	
	@Strain 1.10 %, Temperature 23.0 °C	@Strain 1.10 %, Temperature 73.4 °F	ISO 11403-1 -2
	31.4 MPa	4550 psi	
	@Strain 8.00 %, Temperature 90.0 °C	@Strain 8.00 %, Temperature 194 °F	ISO 11403-1 -2
	32.6 MPa	4730 psi	
	@Strain 11.4 %, Temperature 90.0 °C	@Strain 11.4 %, Temperature 194 °F	ISO 11403-1 -2
	41.8 MPa	6060 psi	
	@Strain 1.50 %, Temperature 0.000 °C	@Strain 1.50 %, Temperature 32.0 °F	ISO 11403-1 -2
	45.7 MPa	6630 psi	
	@Strain 1.40 %, Temperature -20.0 °C	@Strain 1.40 %, Temperature -4.00 °F	ISO 11403-1 -2
	52.3 MPa	7590 psi	
	@Strain 1.60 %, Temperature -40.0 °C	@Strain 1.60 %, Temperature -40.0 °F	ISO 11403-1 -2
	52.9 MPa	7670 psi	
	@Strain 5.50 %, Temperature 40.0 °C	@Strain 5.50 %, Temperature 104 °F	ISO 11403-1 -2
	57.1 MPa	8280 psi	
	@Strain 9.60 %, Temperature 40.0 °C	@Strain 9.60 %, Temperature 104 °F	ISO 11403-1 -2
	58.0 MPa	8410 psi	
	@Strain 4.40 %, Temperature 23.0 °C	@Strain 4.40 %, Temperature 73.4 °F	ISO 11403-1 -2
	63.8 MPa	9250 psi	
	@Strain 7.60 %, Temperature 23.0 °C	@Strain 7.60 %, Temperature 73.4 °F	ISO 11403-1 -2
	65.0 MPa	9430 psi	
	@Strain 10.9 %, Temperature 23.0 °C	@Strain 10.9 %, Temperature 73.4 °F	ISO 11403-1 -2
	70.9 MPa	10300 psi	
	@Strain 5.80 %, Temperature 0.000 °C	@Strain 5.80 %, Temperature 32.0 °F	ISO 11403-1 -2

Mechanical Properties	Metric Pa	English psi	Comments
	@Strain 10.2 %, Temperature 0.000 °C	@Strain 10.2 %, Temperature 32.0 °F	ISO 11403-1 -2
	74.1 MPa	10700 psi	
	@Strain 14.6 %, Temperature 0.000 °C	@Strain 14.6 %, Temperature 32.0 °F	ISO 11403-1 -2
	78.2 MPa	11300 psi	
	@Strain 5.50 %, Temperature -20.0 °C	@Strain 5.50 %, Temperature -4.00 °F	ISO 11403-1 -2
	81.9 MPa	11900 psi	
	@Strain 9.70 %, Temperature -20.0 °C	@Strain 9.70 %, Temperature -4.00 °F	ISO 11403-1 -2
	82.2 MPa	11900 psi	
	@Strain 13.8 %, Temperature -20.0 °C	@Strain 13.8 %, Temperature -4.00 °F	ISO 11403-1 -2
	93.9 MPa	13600 psi	
	@Strain 6.40 %, Temperature -40.0 °C	@Strain 6.40 %, Temperature -40.0 °F	ISO 11403-1 -2
	96.7 MPa	14000 psi	
	@Strain 11.1 %, Temperature -40.0 °C	@Strain 11.1 %, Temperature -40.0 °F	ISO 11403-1 -2
	97.1 MPa	14100 psi	
	@Strain 15.9 %, Temperature -40.0 °C	@Strain 15.9 %, Temperature -40.0 °F	ISO 11403-1 -2
Tensile Strength, Yield	67.0 MPa	9720 psi	ISO 527-1/-2
Elongation at Break	25 %	25 %	Nominal; ISO 527-1/-2
Elongation at Yield	15 %	15 %	ISO 527-1/-2
Tensile Modulus	3.10 GPa	450 ksi	ISO 527-1/-2
Flexural Modulus	2.90 GPa	421 ksi	ISO 178
Shear Modulus	0.222 GPa	32.2 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 120 °C	@Temperature 248 °F	
	0.509 GPa	73.8 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 70.0 °C	@Temperature 158 °F	
	0.907 GPa	132 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 20.0 °C	@Temperature 68.0 °F	

Mechanical Properties	Metric	English	Comments
	1.115 GPa	160.3 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	1.29 GPa	187 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -50.0 °C	@Temperature -58.0 °F	
Secant Modulus	0.308 GPa	44.7 ksi	ISO 11403-1 -2
	@Strain 9.80 %, Temperature 100 °C	@Strain 9.80 %, Temperature 212 °F	
	0.450 GPa	65.3 ksi	ISO 11403-1 -2
	@Strain 8.60 %, Temperature 80.0 °C	@Strain 8.60 %, Temperature 176 °F	
	0.498 GPa	72.3 ksi	ISO 11403-1 -2
	@Strain 5.40 %, Temperature 100 °C	@Strain 5.40 %, Temperature 212 °F	
	0.522 GPa	75.7 ksi	ISO 11403-1 -2
	@Strain 11.0 %, Temperature 40.0 °C	@Strain 11.0 %, Temperature 104 °F	
	0.632 GPa	91.7 ksi	ISO 11403-1 -2
	@Strain 11.7 %, Temperature 0.000 °C	@Strain 11.7 %, Temperature 32.0 °F	
	0.737 GPa	107 ksi	ISO 11403-1 -2
	@Strain 4.30 %, Temperature 80.0 °C	@Strain 4.30 %, Temperature 176 °F	
	0.74023 GPa	107.36 ksi	ISO 11403-1 -2
	@Strain 8.70 %, Temperature 23.0 °C	@Strain 8.70 %, Temperature 73.4 °F	
	0.745 GPa	108 ksi	ISO 11403-1 -2
	@Strain 11.0 %, Temperature -20.0 °C	@Strain 11.0 %, Temperature -4.00 °F	
	0.762 GPa	111 ksi	ISO 11403-1 -2
	@Strain 12.7 %, Temperature -40.0 °C	@Strain 12.7 %, Temperature -40.0 °F	
	0.764 GPa	111 ksi	ISO 11403-1 -2
	@Strain 2.20 %, Temperature 100 °C	@Strain 2.20 %, Temperature 212 °F	
	0.962 GPa	140 ksi	ISO 11403-1 -2
	@Strain 5.50 %, Temperature 40.0 °C	@Strain 5.50 %, Temperature 104 °F	

Mechanical Properties	Metric	English	Comments
	@Strain 5.80 %, Temperature 0.000 °C	@Strain 5.80 %, Temperature 32.0 °F	ISO 11403-1 -2
	1.23 GPa	178 ksi	
	@Strain 1.10 %, Temperature 80.0 °C	@Strain 1.10 %, Temperature 176 °F	ISO 11403-1 -2
	1.32 GPa	191 ksi	
	@Strain 4.40 %, Temperature 23.0 °C	@Strain 4.40 %, Temperature 73.4 °F	ISO 11403-1 -2
	1.42 GPa	206 ksi	
	@Strain 5.50 %, Temperature -20.0 °C	@Strain 5.50 %, Temperature -4.00 °F	ISO 11403-1 -2
	1.47 GPa	213 ksi	
	@Strain 6.40 %, Temperature -40.0 °C	@Strain 6.40 %, Temperature -40.0 °F	ISO 11403-1 -2
	1.96 GPa	285 ksi	
	@Strain 1.40 %, Temperature 40.0 °C	@Strain 1.40 %, Temperature 104 °F	ISO 11403-1 -2
	2.63 GPa	381 ksi	
	@Strain 1.10 %, Temperature 23.0 °C	@Strain 1.10 %, Temperature 73.4 °F	ISO 11403-1 -2
	2.79 GPa	404 ksi	
	@Strain 1.50 %, Temperature 0.000 °C	@Strain 1.50 %, Temperature 32.0 °F	ISO 11403-1 -2
	3.26 GPa	473 ksi	
	@Strain 1.40 %, Temperature -20.0 °C	@Strain 1.40 %, Temperature -4.00 °F	ISO 11403-1 -2
	3.27 GPa	474 ksi	
	@Strain 1.60 %, Temperature -40.0 °C	@Strain 1.60 %, Temperature -40.0 °F	ISO 11403-1 -2
Izod Impact, Notched (ISO)	9.00 kJ/m ²	4.28 ft-lb/in ²	ISO 180/1A
	9.00 kJ/m ²	4.28 ft-lb/in ²	
	@Temperature -40.0 °C	@Temperature -40.0 °F	ISO 180/1A
Charpy Impact Unnotched	35.0 J/cm ²	167 ft-lb/in ²	ISO 179/1eU

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