

DuPont Performance Polymers Delrin® 500AL 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 500AL is a medium viscosity acetal homopolymer with an advanced system of lubrication for applications requiring low wear and/or coefficient of friction against steel. Information provided by DuPont Performance Polymers

Order this product through the following link:

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

Physical Properties	Metric	English	Comments
Density	1.39 g/cc	0.0502 lb/in ³	ISO 1183
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	12 g/10 min	cm ³ /10min; ISO 1133
	@Load 2.16 kg, Temperature 190 °C	@Load 4.76 lb, Temperature 374 °F	
	14 g/10 min	14 g/10 min	ISO 1133
	@Load 2.16 kg, Temperature 190 °C	@Load 4.76 lb, Temperature 374 °F	

Mechanical Properties	Metric	English	Comments
Tensile Stress	16.3 MPa	2360 psi	ISO 11403-1 -2
	@Strain 0.500 %, Temperature 23.0 °C	@Strain 0.500 %, Temperature 73.4 °F	
	18.7 MPa	2710 psi	ISO 11403-1 -2
	@Strain 0.500 %, Temperature -40.0 °C	@Strain 0.500 %, Temperature -40.0 °F	
	47.7 MPa	6920 psi	ISO 11403-1 -2
	@Strain 2.00 %, Temperature 23.0 °C	@Strain 2.00 %, Temperature 73.4 °F	
	59.2 MPa	8590 psi	ISO 11403-1 -2
	@Strain 3.50 %, Temperature 23.0 °C	@Strain 3.50 %, Temperature 73.4 °F	
	62.8 MPa	9110 psi	ISO 11403-1 -2
	@Strain 2.30 %, Temperature -40.0 °C	@Strain 2.30 %, Temperature -40.0 °F	

Mechanical Properties	Metric (Pa)	English (psi)	Comments
	@Strain 5.00 %, Temperature 23.0 °C	@Strain 5.00 %, Temperature 73.4 °F	ISO 11403-1 -2
	84.1 MPa	12200 psi	
	@Strain 4.00 %, Temperature -40.0 °C	@Strain 4.00 %, Temperature -40.0 °F	ISO 11403-1 -2
	91.4 MPa	13300 psi	
	@Strain 6.00 %, Temperature -40.0 °C	@Strain 6.00 %, Temperature -40.0 °F	ISO 11403-1 -2
Tensile Strength, Yield	65.0 MPa	9430 psi	ISO 527-1/-2
Elongation at Break	23 %	23 %	Nominal; ISO 527-1/-2
Elongation at Yield	11 %	11 %	ISO 527-1/-2
Tensile Modulus	3.00 GPa	435 ksi	ISO 527-1/-2
Flexural Modulus	2.80 GPa	406 ksi	ISO 178
Secant Modulus	0.396 GPa	57.4 ksi	
	@Strain 7.00 %, Temperature 100 °C	@Strain 7.00 %, Temperature 212 °F	ISO 11403-1 -2
	0.46125 GPa	66.900 ksi	
	@Strain 8.00 %, Temperature 80.0 °C	@Strain 8.00 %, Temperature 176 °F	ISO 11403-1 -2
	0.595 GPa	86.4 ksi	
	@Strain 4.40 %, Temperature 100 °C	@Strain 4.40 %, Temperature 212 °F	ISO 11403-1 -2
	0.737 GPa	107 ksi	
	@Strain 4.60 %, Temperature 80.0 °C	@Strain 4.60 %, Temperature 176 °F	ISO 11403-1 -2
	0.769 GPa	112 ksi	
	@Strain 2.90 %, Temperature 100 °C	@Strain 2.90 %, Temperature 212 °F	ISO 11403-1 -2
	0.934 GPa	136 ksi	
	@Strain 7.00 %, Temperature 23.0 °C	@Strain 7.00 %, Temperature 73.4 °F	ISO 11403-1 -2
	0.957 GPa	139 ksi	
	@Strain 1.40 %, Temperature 100 °C	@Strain 1.40 %, Temperature 212 °F	ISO 11403-1 -2
	1.09 GPa	158 ksi	

Mechanical Properties	Metric	English	Comments
	@Strain 2.30 %, Temperature 80.0 °C	@Strain 2.30 %, Temperature 176 °F	ISO 11403-1 -2
	1.17 GPa	169 ksi	
	@Strain 8.00 %, Temperature -40.0 °C	@Strain 8.00 %, Temperature -40.0 °F	ISO 11403-1 -2
	1.23 GPa	179 ksi	
	@Strain 0.300 %, Temperature 100 °C	@Strain 0.300 %, Temperature 212 °F	ISO 11403-1 -2
	1.52 GPa	220 ksi	
	@Strain 0.500 %, Temperature 80.0 °C	@Strain 0.500 %, Temperature 176 °F	ISO 11403-1 -2
	1.53 GPa	222 ksi	
	@Strain 4.00 %, Temperature 23.0 °C	@Strain 4.00 %, Temperature 73.4 °F	ISO 11403-1 -2
	1.89 GPa	274 ksi	
	@Strain 4.60 %, Temperature -40.0 °C	@Strain 4.60 %, Temperature -40.0 °F	ISO 11403-1 -2
	2.385 GPa	345.9 ksi	
	@Strain 2.00 %, Temperature 23.0 °C	@Strain 2.00 %, Temperature 73.4 °F	ISO 11403-1 -2
	2.73 GPa	396 ksi	
	@Strain 2.30 %, Temperature -40.0 °C	@Strain 2.30 %, Temperature -40.0 °F	ISO 11403-1 -2
	3.26 GPa	473 ksi	
	@Strain 0.500 %, Temperature 23.0 °C	@Strain 0.500 %, Temperature 73.4 °F	ISO 11403-1 -2
	3.74 GPa	542 ksi	
	@Strain 0.500 %, Temperature -40.0 °C	@Strain 0.500 %, 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
	5.00 kJ/m ²	2.38 ft-lb/in ²	ISO 180/1A
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Charpy Impact Unnotched	16.0 J/cm ²	76.1 ft-lb/in ²	ISO 179/1eU
	13.0 J/cm ²	61.9 ft-lb/in ²	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.700 J/cm ²	3.33 ft-lb/in ²	ISO 179/1eA

Mechanical Properties	Metric /cm ²	English lb/in ²	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 119/1EA
Tensile Creep Modulus, 1 hour	2400 MPa @Time 3600 sec	348000 psi @Time 1.00 hour	ISO 899-1
Tensile Creep Modulus, 1000 hours	1600 MPa @Time 3.60e+6 sec	232000 psi @Time 1000 hour	ISO 899-1

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	120 µm/m-°C	66.7 µin/in-°F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	120 µm/m-°C	66.7 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)	164 °C	327 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	97.0 °C	207 °F	ISO 75-1/-2
Flammability, UL94	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	IEC 60695-11-10
	HB @Thickness 0.800 mm	HB @Thickness 0.0315 in	IEC 60695-11-10

Descriptive Properties	Value	Comments
Additives	Lubricants	
	Release agent	
Delivery Form	Pellets	
Part Marking Code	>POM-S<	ISO 11469
Processing	Injection Moulding	
Regional Availability	Asia Pacific	
	Europe	
	Global	
	Near East/Africa	
	North America	

Descriptive Properties	South and Central America Value	Comments
Resin Identification	POM-S	ISO 1043
UL recognition	UL	

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