

DuPont Performance Polymers Delrin® 900P NC010 Acetal (POM) (Unverified Data**)

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

Material Notes:

Low Viscosity Acetal Homopolymer with Improved Processing Delrin 900P is a low viscosity acetal homopolymer for injection molding. It has improved processing thermal stability good mechanical properties and low volatile emissions. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-900P-NC010-Acetal-POM-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/in ³	ISO 1183
Water Absorption	1.4 % @Thickness 2.00 mm	1.4 % @Thickness 0.0787 in	Sim. to ISO 62
Moisture Absorption	0.300 % @Thickness 2.00 mm	0.300 % @Thickness 0.0787 in	Sim. to ISO 62
Viscosity	73000 cP @Shear Rate 5000 1/s, Temperature 235 °C	73000 cP @Shear Rate 5000 1/s, Temperature 455 °F	ISO 11403-1 -2
	81000 cP @Shear Rate 5000 1/s, Temperature 215 °C	81000 cP @Shear Rate 5000 1/s, Temperature 419 °F	ISO 11403-1 -2
	89000 cP @Shear Rate 5000 1/s, Temperature 195 °C	89000 cP @Shear Rate 5000 1/s, Temperature 383 °F	ISO 11403-1 -2
	168000 cP @Shear Rate 500 1/s, Temperature 235 °C	168000 cP @Shear Rate 500 1/s, Temperature 455 °F	ISO 11403-1 -2
	214000 cP @Shear Rate 500 1/s, Temperature 215 °C	214000 cP @Shear Rate 500 1/s, Temperature 419 °F	ISO 11403-1 -2
	272000 cP @Shear Rate 500 1/s, Temperature 195 °C	272000 cP @Shear Rate 500 1/s, Temperature 383 °F	ISO 11403-1 -2
Linear Mold Shrinkage, Flow	0.019 cm/cm	0.019 in/in	ISO 294-4 2577
Linear Mold Shrinkage, Transverse	0.019 cm/cm	0.019 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
	25 g/10 min	25 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	92	92	ISO 2039-2
Hardness, Rockwell R	120	120	ISO 2039-2
Tensile Stress	24.6 MPa	3570 psi	ISO 11403-1 -2
	@Strain 0.900 %, Temperature 23.0 °C	@Strain 0.900 %, Temperature 73.4 °F	
	25.2 MPa	3650 psi	ISO 11403-1 -2
	@Strain 1.20 %, Temperature 40.0 °C	@Strain 1.20 %, Temperature 104 °F	
	27.6 MPa	4000 psi	ISO 11403-1 -2
	@Strain 0.800 %, Temperature 0.000 °C	@Strain 0.800 %, Temperature 32.0 °F	
	42.5 MPa	6160 psi	ISO 11403-1 -2
	@Strain 1.10 %, Temperature -40.0 °C	@Strain 1.10 %, Temperature -40.0 °F	
	44.6 MPa	6470 psi	ISO 11403-1 -2
	@Strain 1.40 %, Temperature -20.0 °C	@Strain 1.40 %, Temperature -4.00 °F	
	53.7 MPa	7790 psi	ISO 11403-1 -2
	@Strain 4.70 %, Temperature 40.0 °C	@Strain 4.70 %, Temperature 104 °F	
	58.9 MPa	8540 psi	ISO 11403-1 -2
	@Strain 8.20 %, Temperature 40.0 °C	@Strain 8.20 %, Temperature 104 °F	
	61.5 MPa	8920 psi	ISO 11403-1 -2
	@Strain 3.50 %, Temperature 23.0 °C	@Strain 3.50 %, Temperature 73.4 °F	
	68.6 MPa	9950 psi	ISO 11403-1 -2
	@Strain 3.20 %, Temperature 0.000 °C	@Strain 3.20 %, Temperature 32.0 °F	

Mechanical Properties	69.9 MPa Metric	10100 psi English	Comments
	@Strain 6.20 %, Temperature 23.0 °C	@Strain 6.20 %, Temperature 73.4 °F	ISO 11403-1 -2
	78.9 MPa	11400 psi	
	@Strain 5.60 %, Temperature 0.000 °C	@Strain 5.60 %, Temperature 32.0 °F	ISO 11403-1 -2
	84.5 MPa	12300 psi	
	@Strain 5.60 %, Temperature -20.0 °C	@Strain 5.60 %, Temperature -4.00 °F	ISO 11403-1 -2
	87.0 MPa	12600 psi	
	@Strain 9.80 %, Temperature -20.0 °C	@Strain 9.80 %, Temperature -4.00 °F	ISO 11403-1 -2
	93.2 MPa	13500 psi	
	@Strain 4.40 %, Temperature -40.0 °C	@Strain 4.40 %, Temperature -40.0 °F	ISO 11403-1 -2
	98.6 MPa	14300 psi	
	@Strain 7.70 %, Temperature -40.0 °C	@Strain 7.70 %, Temperature -40.0 °F	ISO 11403-1 -2
Tensile Strength, Yield	71.0 MPa	10300 psi	ISO 527-1/-2
Elongation at Break	23 %	23 %	Nominal; ISO 527-1/-2
Elongation at Yield	12 %	12 %	ISO 527-1/-2
Tensile Modulus	3.30 GPa	479 ksi	ISO 527-1/-2
Flexural Modulus	3.00 GPa	435 ksi	ISO 178
Shear Modulus	0.317 GPa	46.0 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 120 °C	@Temperature 248 °F	
	0.628 GPa	91.1 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 70.0 °C	@Temperature 158 °F	
	1.026 GPa	148.8 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	1.209 GPa	175.4 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	1.449 GPa	210.2 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -50.0 °C	@Temperature -58.0 °F	
	0.0840 MPa	12.2 psi	

Mechanical Properties	Metric @Shear Rate 500 1/s, Temperature 235 °C	English @Shear Rate 500 1/s, Temperature 455 °F	Comments ISO 11403-1 -2
	0.107 MPa	15.5 psi	
	@Shear Rate 500 1/s, Temperature 215 °C	@Shear Rate 500 1/s, Temperature 419 °F	ISO 11403-1 -2
	0.136 MPa	19.7 psi	
	@Shear Rate 500 1/s, Temperature 195 °C	@Shear Rate 500 1/s, Temperature 383 °F	ISO 11403-1 -2
Secant Modulus	0.417 GPa	60.4 ksi	
	@Strain 7.20 %, Temperature 100 °C	@Strain 7.20 %, Temperature 212 °F	ISO 11403-1 -2
	0.528 GPa	76.6 ksi	
	@Strain 7.50 %, Temperature 80.0 °C	@Strain 7.50 %, Temperature 176 °F	ISO 11403-1 -2
	0.629 GPa	91.2 ksi	
	@Strain 9.40 %, Temperature 40.0 °C	@Strain 9.40 %, Temperature 104 °F	ISO 11403-1 -2
	0.689 GPa	99.9 ksi	
	@Strain 3.60 %, Temperature 100 °C	@Strain 3.60 %, Temperature 212 °F	ISO 11403-1 -2
	0.911 GPa	132 ksi	
	@Strain 3.70 %, Temperature 80.0 °C	@Strain 3.70 %, Temperature 176 °F	ISO 11403-1 -2
	1.00 GPa	145 ksi	
	@Strain 0.900 %, Temperature 100 °C	@Strain 0.900 %, Temperature 212 °F	ISO 11403-1 -2
	1.01 GPa	146 ksi	
	@Strain 7.00 %, Temperature 23.0 °C	@Strain 7.00 %, Temperature 73.4 °F	ISO 11403-1 -2
	1.14 GPa	166 ksi	
	@Strain 4.70 %, Temperature 40.0 °C	@Strain 4.70 %, Temperature 104 °F	ISO 11403-1 -2
	1.25 GPa	181 ksi	
	@Strain 6.40 %, Temperature 0.000 °C	@Strain 6.40 %, Temperature 32.0 °F	ISO 11403-1 -2
	1.51 GPa	219 ksi	
	@Strain 5.60 %, Temperature -20.0 °C	@Strain 5.60 %, Temperature -4.00 °F	ISO 11403-1 -2

Mechanical Properties	MetricPa	English	Comments
	@Strain 0.900 %, Temperature 80.0 °C	@Strain 0.900 %, Temperature 176 °F	ISO 11403-1 -2
	1.76 GPa	255 ksi	
	@Strain 3.50 %, Temperature 23.0 °C	@Strain 3.50 %, Temperature 73.4 °F	ISO 11403-1 -2
	2.10 GPa	305 ksi	
	@Strain 1.20 %, Temperature 40.0 °C	@Strain 1.20 %, Temperature 104 °F	ISO 11403-1 -2
	2.12 GPa	307 ksi	
	@Strain 4.40 %, Temperature -40.0 °C	@Strain 4.40 %, Temperature -40.0 °F	ISO 11403-1 -2
	2.14 GPa	311 ksi	
	@Strain 3.20 %, Temperature 0.000 °C	@Strain 3.20 %, Temperature 32.0 °F	ISO 11403-1 -2
	2.73 GPa	396 ksi	
	@Strain 0.900 %, Temperature 23.0 °C	@Strain 0.900 %, Temperature 73.4 °F	ISO 11403-1 -2
	3.19 GPa	462 ksi	
	@Strain 1.40 %, Temperature -20.0 °C	@Strain 1.40 %, Temperature -4.00 °F	ISO 11403-1 -2
	3.45 GPa	500 ksi	
	@Strain 0.800 %, Temperature 0.000 °C	@Strain 0.800 %, Temperature 32.0 °F	ISO 11403-1 -2
	3.86 GPa	560 ksi	
	@Strain 1.10 %, Temperature -40.0 °C	@Strain 1.10 %, Temperature -40.0 °F	ISO 11403-1 -2
Izod Impact, Notched (ISO)	7.00 kJ/m ²	3.33 ft-lb/in ²	ISO 180/1A
	8.00 kJ/m ²	3.81 ft-lb/in ²	
	@Temperature -40.0 °C	@Temperature -40.0 °F	ISO 180/1A
Charpy Impact Unnotched	20.0 J/cm ²	95.2 ft-lb/in ²	ISO 179/1eU

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