

DuPont Performance Polymers Delrin® FG500P NC010 Acetal (POM) (Unverified Data**)

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

Material Notes:

Medium Viscosity Acetal Homopolymer Developed for Food Contact Applications Delrin FG500P is a medium viscosity acetal homopolymer with improved thermal stability. It has been developed for consideration into applications such as parts for the food indInformation provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-FG500P-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	92857 cP @Shear Rate 5000 1/s, Temperature 230 °C	92857 cP @Shear Rate 5000 1/s, Temperature 446 °F	ISO 11403-1 -2
	100600 cP @Shear Rate 5000 1/s, Temperature 215 °C	100600 cP @Shear Rate 5000 1/s, Temperature 419 °F	ISO 11403-1 -2
	107100 cP @Shear Rate 5000 1/s, Temperature 200 °C	107100 cP @Shear Rate 5000 1/s, Temperature 392 °F	ISO 11403-1 -2
	260530 cP @Shear Rate 500 1/s, Temperature 230 °C	260530 cP @Shear Rate 500 1/s, Temperature 446 °F	ISO 11403-1 -2
	298700 cP @Shear Rate 500 1/s, Temperature 215 °C	298700 cP @Shear Rate 500 1/s, Temperature 419 °F	ISO 11403-1 -2
	348640 cP @Shear Rate 500 1/s, Temperature 200 °C	348640 cP @Shear Rate 500 1/s, Temperature 392 °F	ISO 11403-1 -2
	Linear Mold Shrinkage, Flow	0.020 cm/cm	0.020 in/in
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
	15 g/10 min	15 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	20.0 MPa	2900 psi	ISO 11403-1 -2
	@Strain 0.476 %, Temperature -40.0 °C	@Strain 0.476 %, Temperature -40.0 °F	
	20.0 MPa	2900 psi	ISO 11403-1 -2
	@Strain 0.527 %, Temperature -20.0 °C	@Strain 0.527 %, Temperature -4.00 °F	
	26.5 MPa	3840 psi	ISO 11403-1 -2
	@Strain 1.20 %, Temperature 40.0 °C	@Strain 1.20 %, Temperature 104 °F	
	30.9 MPa	4480 psi	ISO 11403-1 -2
	@Strain 1.10 %, Temperature 23.0 °C	@Strain 1.10 %, Temperature 73.4 °F	
	41.0 MPa	5950 psi	ISO 11403-1 -2
	@Strain 1.30 %, Temperature 0.000 °C	@Strain 1.30 %, Temperature 32.0 °F	
	53.4 MPa	7750 psi	ISO 11403-1 -2
	@Strain 4.80 %, Temperature 40.0 °C	@Strain 4.80 %, Temperature 104 °F	
	58.3 MPa	8460 psi	ISO 11403-1 -2
	@Strain 8.30 %, Temperature 40.0 °C	@Strain 8.30 %, Temperature 104 °F	
	60.3 MPa	8750 psi	ISO 11403-1 -2
	@Strain 4.40 %, Temperature 23.0 °C	@Strain 4.40 %, Temperature 73.4 °F	
	65.9 MPa	9560 psi	ISO 11403-1 -2
	@Strain 7.80 %, Temperature 23.0 °C	@Strain 7.80 %, Temperature 73.4 °F	

Mechanical Properties	71.5 MPa Metric	10400 psi English	Comments
	@Strain 5.30 %, Temperature 0.000 °C	@Strain 5.30 %, Temperature 32.0 °F	ISO 11403-1 -2
	74.93 MPa	10870 psi	
	@Strain 4.50 %, Temperature -20.0 °C	@Strain 4.50 %, Temperature -4.00 °F	ISO 11403-1 -2
	75.5 MPa	11000 psi	
	@Strain 9.30 %, Temperature 0.000 °C	@Strain 9.30 %, Temperature 32.0 °F	ISO 11403-1 -2
	80.0 MPa	11600 psi	
	@Strain 3.81 %, Temperature -40.0 °C	@Strain 3.81 %, Temperature -40.0 °F	ISO 11403-1 -2
	82.32 MPa	11940 psi	
	@Strain 9.00 %, Temperature -20.0 °C	@Strain 9.00 %, Temperature -4.00 °F	ISO 11403-1 -2
	96.5 MPa	14000 psi	
	@Strain 12.0 %, Temperature -40.0 °C	@Strain 12.0 %, Temperature -40.0 °F	ISO 11403-1 -2
Tensile Strength, Yield	70.0 MPa	10200 psi	ISO 527-1/-2
Elongation at Break	30 %	30 %	Nominal; ISO 527-1/-2
Elongation at Yield	17 %	17 %	ISO 527-1/-2
Tensile Modulus	3.10 GPa	450 ksi	ISO 527-1/-2
Flexural Strength	80.0 MPa	11600 psi	ISO 178
	@Strain 3.50 %	@Strain 3.50 %	
Flexural Modulus	2.90 GPa	421 ksi	ISO 178
Shear Modulus	0.275 GPa	39.9 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 120 °C	@Temperature 248 °F	
	0.5547 GPa	80.45 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 70.0 °C	@Temperature 158 °F	
	0.9459 GPa	137.2 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	1.1421 GPa	165.65 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	1.3715 GPa	198.92 ksi	

Mechanical Properties	Metric @ Temperature -50.0 °C	English @ Temperature -58.0 °F	Dynamic: ISO 11403-1 -2 Comments
Secant Modulus	0.475 GPa	68.9 ksi	ISO 11403-1 -2
	@Strain 8.1495 %, Temperature 80.0 °C	@Strain 8.1495 %, Temperature 176 °F	
	0.501 GPa	72.7 ksi	ISO 11403-1 -2
	@Strain 6.0764 %, Temperature 100 °C	@Strain 6.0764 %, Temperature 212 °F	
	0.618 GPa	89.6 ksi	ISO 11403-1 -2
	@Strain 9.50 %, Temperature 40.0 °C	@Strain 9.50 %, Temperature 104 °F	
	0.716 GPa	104 ksi	ISO 11403-1 -2
	@Strain 10.6 %, Temperature 0.000 °C	@Strain 10.6 %, Temperature 32.0 °F	
	0.746 GPa	108 ksi	ISO 11403-1 -2
	@Strain 8.90 %, Temperature 23.0 °C	@Strain 8.90 %, Temperature 73.4 °F	
	0.761 GPa	110 ksi	ISO 11403-1 -2
	@Strain 3.06 %, Temperature 100 °C	@Strain 3.06 %, Temperature 212 °F	
	0.790 GPa	115 ksi	ISO 11403-1 -2
	@Strain 10.5 %, Temperature -20.0 °C	@Strain 10.5 %, Temperature -4.00 °F	
	0.82593 GPa	119.79 ksi	ISO 11403-1 -2
	@Strain 4.0748 %, Temperature 80.0 °C	@Strain 4.0748 %, Temperature 176 °F	
	0.999 GPa	145 ksi	ISO 11403-1 -2
	@Strain 0.86806 %, Temperature 100 °C	@Strain 0.86806 %, Temperature 212 °F	
	1.1125 GPa	161.36 ksi	ISO 11403-1 -2
	@Strain 4.80 %, Temperature 40.0 °C	@Strain 4.80 %, Temperature 104 °F	
	1.35 GPa	196 ksi	ISO 11403-1 -2
	@Strain 5.30 %, Temperature 0.000 °C	@Strain 5.30 %, Temperature 32.0 °F	
	1.36 GPa	198 ksi	ISO 11403-1 -2
	@Strain 1.0187 %, Temperature 80.0 °C	@Strain 1.0187 %, Temperature 176 °F	

Mechanical Properties	1.37 GPa Metric	199 ksi English	Comments ISO 11403-1 -2
	@Strain 4.40 %, Temperature 23.0 °C	@Strain 4.40 %, Temperature 73.4 °F	
	1.67 GPa	242 ksi	ISO 11403-1 -2
	@Strain 4.50 %, Temperature -20.0 °C	@Strain 4.50 %, Temperature -4.00 °F	
	2.10 GPa	305 ksi	ISO 11403-1 -2
	@Strain 3.81 %, Temperature -40.0 °C	@Strain 3.81 %, Temperature -40.0 °F	
	2.21 GPa	320 ksi	ISO 11403-1 -2
	@Strain 1.20 %, Temperature 40.0 °C	@Strain 1.20 %, Temperature 104 °F	
	2.81 GPa	407 ksi	ISO 11403-1 -2
	@Strain 1.10 %, Temperature 23.0 °C	@Strain 1.10 %, Temperature 73.4 °F	
	3.15 GPa	457 ksi	ISO 11403-1 -2
	@Strain 1.30 %, Temperature 0.000 °C	@Strain 1.30 %, Temperature 32.0 °F	
	3.80 GPa	550 ksi	ISO 11403-1 -2
	@Strain 0.527 %, Temperature -20.0 °C	@Strain 0.527 %, Temperature -4.00 °F	
	4.20 GPa	609 ksi	ISO 11403-1 -2
	@Strain 0.476 %, Temperature -40.0 °C	@Strain 0.476 %, Temperature -40.0 °F	
Izod Impact, Notched (ISO)	9.00 kJ/m ²	4.28 ft-lb/in ²	ISO 180/1A
	8.00 kJ/m ²	3.81 ft-lb/in ²	ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	30.0 J/cm ²	143 ft-lb/in ²	ISO 179/1eU
	24.0 J/cm ²	114 ft-lb/in ²	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.900 J/cm ²	4.28 ft-lb/in ²	ISO 179/1eA

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