

DuPont Performance Polymers Delrin® FG511DP NC010 Acetal (POM) (Unverified Data**)

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

Material Notes:

Nucleated Medium Viscosity Acetal Homopolymer Developed for Food Contact Applications Delrin FG511DP is a medium viscosity acetal homopolymer with improved thermal stability and modifications for more precise molding. It has been developed for considerInformation provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-FG511DP-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	0.90 % @Thickness 2.00 mm	0.90 % @Thickness 0.0787 in	Sim. to ISO 62
Moisture Absorption	0.200 % @Thickness 2.00 mm	0.200 % @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	13 g/10 min @Load 2.16 kg, Temperature 190 °C	13 g/10 min @Load 4.76 lb, Temperature 374 °F	cm ³ /10min; ISO 1133
	14 g/10 min @Load 2.16 kg, Temperature 190 °C	14 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Stress	15.4 MPa @Strain 0.500 %, Temperature 23.0 °C	2230 psi @Strain 0.500 %, Temperature 73.4 °F	ISO 11403-1 -2
	17.8 MPa @Strain 0.500 %, Temperature 0.000 °C	2580 psi @Strain 0.500 %, Temperature 32.0 °F	ISO 11403-1 -2
	21.0 MPa @Strain 0.500 %, Temperature -40.0 °C	3050 psi @Strain 0.500 %, Temperature -40.0 °F	ISO 11403-1 -2
	50.3 MPa	7300 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 2.20 %, Temperature 23.0 °C	@Strain 2.20 %, Temperature 73.4 °F	ISO 11403-1 -2
	56.4 MPa	8180 psi	ISO 11403-1 -2
	@Strain 2.20 %, Temperature 0.000 °C	@Strain 2.20 %, Temperature 32.0 °F	
	63.0 MPa	9140 psi	ISO 11403-1 -2
	@Strain 3.80 %, Temperature 23.0 °C	@Strain 3.80 %, Temperature 73.4 °F	
	67.8 MPa	9830 psi	ISO 11403-1 -2
	@Strain 2.00 %, Temperature -40.0 °C	@Strain 2.00 %, Temperature -40.0 °F	
	68.8 MPa	9980 psi	ISO 11403-1 -2
	@Strain 6.00 %, Temperature 23.0 °C	@Strain 6.00 %, Temperature 73.4 °F	
	70.7 MPa	10300 psi	ISO 11403-1 -2
	@Strain 3.80 %, Temperature 0.000 °C	@Strain 3.80 %, Temperature 32.0 °F	
	75.1 MPa	10900 psi	ISO 11403-1 -2
	@Strain 5.00 %, Temperature 0.000 °C	@Strain 5.00 %, Temperature 32.0 °F	
	88.3 MPa	12800 psi	ISO 11403-1 -2
	@Strain 3.60 %, Temperature -40.0 °C	@Strain 3.60 %, Temperature -40.0 °F	
	94.6 MPa	13700 psi	ISO 11403-1 -2
	@Strain 5.00 %, Temperature -40.0 °C	@Strain 5.00 %, Temperature -40.0 °F	
Tensile Strength, Yield	73.0 MPa	10600 psi	ISO 527-1/-2
Elongation at Break	25 %	25 %	Nominal; ISO 527-1/-2
Elongation at Yield	12 %	12 %	ISO 527-1/-2
Tensile Modulus	3.40 GPa	493 ksi	ISO 527-1/-2
Flexural Strength	87.0 MPa	12600 psi	ISO 178
	@Strain 3.50 %	@Strain 3.50 %	
Flexural Modulus	3.20 GPa	464 ksi	ISO 178
Secant Modulus	0.365 GPa	52.9 ksi	ISO 11403-1 -2
	@Strain 8.00 %, Temperature 100 °C	@Strain 8.00 %, Temperature 212 °F	

Mechanical Properties	Metric 0.575 GPa	English 83.4 ksi	Comments
	@Strain 4.80 %, Temperature 100 °C	@Strain 4.80 %, Temperature 212 °F	ISO 11403-1 -2
	0.637 GPa	92.3 ksi	
	@Strain 6.00 %, Temperature 80.0 °C	@Strain 6.00 %, Temperature 176 °F	ISO 11403-1 -2
	0.747 GPa	108 ksi	
	@Strain 3.20 %, Temperature 100 °C	@Strain 3.20 %, Temperature 212 °F	ISO 11403-1 -2
	0.87875 GPa	127.45 ksi	
	@Strain 8.00 %, Temperature 23.0 °C	@Strain 8.00 %, Temperature 73.4 °F	ISO 11403-1 -2
	0.889 GPa	129 ksi	
	@Strain 3.80 %, Temperature 80.0 °C	@Strain 3.80 %, Temperature 176 °F	ISO 11403-1 -2
	0.975 GPa	141 ksi	
	@Strain 1.60 %, Temperature 100 °C	@Strain 1.60 %, Temperature 212 °F	ISO 11403-1 -2
	1.11 GPa	162 ksi	
	@Strain 7.00 %, Temperature 0.000 °C	@Strain 7.00 %, Temperature 32.0 °F	ISO 11403-1 -2
	1.15 GPa	167 ksi	
	@Strain 0.400 %, Temperature 100 °C	@Strain 0.400 %, Temperature 212 °F	ISO 11403-1 -2
	1.23 GPa	179 ksi	
	@Strain 1.90 %, Temperature 80.0 °C	@Strain 1.90 %, Temperature 176 °F	ISO 11403-1 -2
	1.38 GPa	201 ksi	
	@Strain 7.00 %, Temperature -40.0 °C	@Strain 7.00 %, Temperature -40.0 °F	ISO 11403-1 -2
	1.49 GPa	216 ksi	
	@Strain 4.40 %, Temperature 23.0 °C	@Strain 4.40 %, Temperature 73.4 °F	ISO 11403-1 -2
	1.60 GPa	232 ksi	
	@Strain 0.400 %, Temperature 80.0 °C	@Strain 0.400 %, Temperature 176 °F	ISO 11403-1 -2
	1.67 GPa	242 ksi	
			ISO 11403-1 -2

Mechanical Properties	Metric @Strain 4.40 %, Temperature 0.000 °C	English @Strain 4.40 %, Temperature 32.0 °F	Comments
	2.23 GPa	323 ksi	ISO 11403-1 -2
	@Strain 4.10 %, Temperature -40.0 °C	@Strain 4.10 %, Temperature -40.0 °F	
	2.29 GPa	332 ksi	ISO 11403-1 -2
	@Strain 2.20 %, Temperature 23.0 °C	@Strain 2.20 %, Temperature 73.4 °F	
	2.56 GPa	372 ksi	ISO 11403-1 -2
	@Strain 2.20 %, Temperature 0.000 °C	@Strain 2.20 %, Temperature 32.0 °F	
	3.08 GPa	447 ksi	ISO 11403-1 -2
	@Strain 0.500 %, Temperature 23.0 °C	@Strain 0.500 %, Temperature 73.4 °F	
	3.39 GPa	492 ksi	ISO 11403-1 -2
	@Strain 2.00 %, Temperature -40.0 °C	@Strain 2.00 %, Temperature -40.0 °F	
	3.56 GPa	516 ksi	ISO 11403-1 -2
	@Strain 0.500 %, Temperature 0.000 °C	@Strain 0.500 %, Temperature 32.0 °F	
	4.20 GPa	609 ksi	ISO 11403-1 -2
	@Strain 0.500 %, Temperature -40.0 °C	@Strain 0.500 %, Temperature -40.0 °F	
Charpy Impact Unnotched	22.0 J/cm ²	105 ft-lb/in ²	ISO 179/1eU
	20.0 J/cm ²	95.2 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
	0.650 J/cm ²	3.09 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	100 µm/m-°C	55.6 µin/in-°F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	110 µm/m-°C	61.1 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)	163 °C	325 °F	ISO 75-1/-2

Thermal Properties <small>Deflection Temperature at 1.8 MPa (204 psi)</small>	Metric	English	Comments
Vicat Softening Point	160 °C	320 °F	50°C/h 50N; ISO 306

Descriptive Properties	Value	Comments
Additives	Lubricants	
	Release agent	
Delivery Form	Pellets	
Part Marking Code	>POM<	ISO 11469
Processing	Injection Moulding	
Regional Availability	Asia Pacific	
	Europe	
	Global	
	Near East/Africa	
	North America	
	South and Central America	
Resin Identification	POM	ISO 1043

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