

DuPont Performance Polymers Delrin® 511P BK402 Acetal Homopolymer

Category : Polymer , Thermoplastic , Acetal (POM)

Material Notes:

Delrin® 511P is a medium viscosity acetal homopolymer with improved thermal stability and modifications for more precise molding (reduced warpage, less shrinkage, fewer voids). Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-511P-BK402-Acetal-Homopolymer.php

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/in ³	ISO 1183
Water Absorption	0.20 %	0.20 %	Equilibrium 50%RH; ISO 62, Similar to
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.0 %	1.0 %	Saturation, immersed; ISO 62, Similar to
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Linear Mold Shrinkage, Flow	0.017 cm/cm	0.017 in/in	ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Linear Mold Shrinkage, Transverse	0.017 cm/cm	0.017 in/in	ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Melt Flow	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	0.830 MPa	120 psi	ISO 11403-1/-2
	@Strain 0.100 %, Temperature 100 °C	@Strain 0.100 %, Temperature 212 °F	
	1.13 MPa	164 psi	ISO 11403-1/-2
	@Strain 0.100 %, Temperature 80.0 °C	@Strain 0.100 %, Temperature 176 °F	
	2.24 MPa	325 psi	ISO 11403-1/-2
	@Strain 0.100 %, Temperature 23.0 °C	@Strain 0.100 %, Temperature 73.4 °F	
	2.56 MPa	371 psi	ISO 11403-1/-2
	@Strain 0.200 %, Temperature 100 °C	@Strain 0.200 %, Temperature 212 °F	

Mechanical Properties	2.80 MPa Metric	406 psi English	Comments ISO 11403-1/-2
	@Strain 0.100 %, Temperature -40.0 °C	@Strain 0.100 %, Temperature -40.0 °F	
	3.40 MPa	493 psi	ISO 11403-1/-2
	@Strain 0.200 %, Temperature 80.0 °C	@Strain 0.200 %, Temperature 176 °F	
	3.83 MPa	555 psi	ISO 11403-1/-2
	@Strain 0.300 %, Temperature 100 °C	@Strain 0.300 %, Temperature 212 °F	
	4.58 MPa	664 psi	ISO 11403-1/-2
	@Strain 0.400 %, Temperature 100 °C	@Strain 0.400 %, Temperature 212 °F	
	5.08 MPa	737 psi	ISO 11403-1/-2
	@Strain 0.300 %, Temperature 80.0 °C	@Strain 0.300 %, Temperature 176 °F	
	6.17 MPa	895 psi	ISO 11403-1/-2
	@Strain 0.500 %, Temperature 100 °C	@Strain 0.500 %, Temperature 212 °F	
	6.41 MPa	930 psi	ISO 11403-1/-2
	@Strain 0.400 %, Temperature 80.0 °C	@Strain 0.400 %, Temperature 176 °F	
	6.77 MPa	982 psi	ISO 11403-1/-2
	@Strain 0.200 %, Temperature 23.0 °C	@Strain 0.200 %, Temperature 73.4 °F	
	7.51 MPa	1090 psi	ISO 11403-1/-2
	@Strain 0.600 %, Temperature 100 °C	@Strain 0.600 %, Temperature 212 °F	
	8.21 MPa	1190 psi	ISO 11403-1/-2
	@Strain 0.700 %, Temperature 100 °C	@Strain 0.700 %, Temperature 212 °F	
	8.52 MPa	1240 psi	ISO 11403-1/-2
	@Strain 0.200 %, Temperature -40.0 °C	@Strain 0.200 %, Temperature -40.0 °F	
	8.53 MPa	1240 psi	ISO 11403-1/-2
	@Strain 0.500 %, Temperature 80.0 °C	@Strain 0.500 %, Temperature 176 °F	
	9.28 MPa	1350 psi	ISO 11403-1/-2
	@Strain 0.800 %,	@Strain 0.800 %,	

Mechanical Properties	Temperature 100 °C	Temperature 212 °F	Comments
	Metric	English	
	9.95 MPa	1440 psi	
	@Strain 0.600 %, Temperature 80.0 °C	@Strain 0.600 %, Temperature 176 °F	ISO 11403-1/-2
	10.25 MPa	1487 psi	
	@Strain 0.300 %, Temperature 23.0 °C	@Strain 0.300 %, Temperature 73.4 °F	ISO 11403-1/-2
	10.25 MPa	1487 psi	
	@Strain 0.900 %, Temperature 100 °C	@Strain 0.900 %, Temperature 212 °F	ISO 11403-1/-2
	10.95 MPa	1588 psi	
	@Strain 1.00 %, Temperature 100 °C	@Strain 1.00 %, Temperature 212 °F	ISO 11403-1/-2
	11.4 MPa	1650 psi	
	@Strain 0.700 %, Temperature 80.0 °C	@Strain 0.700 %, Temperature 176 °F	ISO 11403-1/-2
	12.07 MPa	1751 psi	
	@Strain 1.10 %, Temperature 100 °C	@Strain 1.10 %, Temperature 212 °F	ISO 11403-1/-2
	12.36 MPa	1793 psi	
	@Strain 0.800 %, Temperature 80.0 °C	@Strain 0.800 %, Temperature 176 °F	ISO 11403-1/-2
	12.89 MPa	1870 psi	
	@Strain 0.400 %, Temperature 23.0 °C	@Strain 0.400 %, Temperature 73.4 °F	ISO 11403-1/-2
	12.92 MPa	1874 psi	
	@Strain 0.300 %, Temperature -40.0 °C	@Strain 0.300 %, Temperature -40.0 °F	ISO 11403-1/-2
	13.19 MPa	1913 psi	
	@Strain 1.20 %, Temperature 100 °C	@Strain 1.20 %, Temperature 212 °F	ISO 11403-1/-2
	13.59 MPa	1971 psi	
	@Strain 0.900 %, Temperature 80.0 °C	@Strain 0.900 %, Temperature 176 °F	ISO 11403-1/-2
	13.98 MPa	2028 psi	
	@Strain 1.30 %, Temperature 100 °C	@Strain 1.30 %, Temperature 212 °F	ISO 11403-1/-2
	14.76 MPa	2141 psi	

Mechanical Properties	Metric	English	ISO 11403-1/-2 Comments
	@Strain 1.40 %, Temperature 100 °C	@Strain 1.40 %, Temperature 212 °F	
	15.17 MPa	2200 psi	
	@Strain 1.00 %, Temperature 80.0 °C	@Strain 1.00 %, Temperature 176 °F	ISO 11403-1/-2
	15.61 MPa	2264 psi	
	@Strain 1.50 %, Temperature 100 °C	@Strain 1.50 %, Temperature 212 °F	ISO 11403-1/-2
	16.2 MPa	2350 psi	
	@Strain 0.400 %, Temperature -40.0 °C	@Strain 0.400 %, Temperature -40.0 °F	ISO 11403-1/-2
	16.27 MPa	2360 psi	
	@Strain 1.10 %, Temperature 80.0 °C	@Strain 1.10 %, Temperature 176 °F	ISO 11403-1/-2
	16.33 MPa	2368 psi	
	@Strain 1.60 %, Temperature 100 °C	@Strain 1.60 %, Temperature 212 °F	ISO 11403-1/-2
	17.03 MPa	2470 psi	
	@Strain 1.70 %, Temperature 100 °C	@Strain 1.70 %, Temperature 212 °F	ISO 11403-1/-2
	17.34 MPa	2515 psi	
	@Strain 0.500 %, Temperature 23.0 °C	@Strain 0.500 %, Temperature 73.4 °F	ISO 11403-1/-2
	17.43 MPa	2528 psi	
	@Strain 1.20 %, Temperature 80.0 °C	@Strain 1.20 %, Temperature 176 °F	ISO 11403-1/-2
	17.73 MPa	2572 psi	
	@Strain 1.80 %, Temperature 100 °C	@Strain 1.80 %, Temperature 212 °F	ISO 11403-1/-2
	18.37 MPa	2664 psi	
	@Strain 1.90 %, Temperature 100 °C	@Strain 1.90 %, Temperature 212 °F	ISO 11403-1/-2
	18.53 MPa	2688 psi	
	@Strain 1.30 %, Temperature 80.0 °C	@Strain 1.30 %, Temperature 176 °F	ISO 11403-1/-2
	19.04 MPa	2762 psi	
	@Strain 2.00 %, Temperature 100 °C	@Strain 2.00 %, Temperature 212 °F	ISO 11403-1/-2

Mechanical Properties	Metric	English	Comments
	@Strain 1.40 %, Temperature 80.0 °C	@Strain 1.40 %, Temperature 176 °F	ISO 11403-1/-2
	19.68 MPa	2854 psi	
	@Strain 2.10 %, Temperature 100 °C	@Strain 2.10 %, Temperature 212 °F	ISO 11403-1/-2
	20.38 MPa	2956 psi	
	@Strain 2.20 %, Temperature 100 °C	@Strain 2.20 %, Temperature 212 °F	ISO 11403-1/-2
	20.53 MPa	2978 psi	
	@Strain 1.50 %, Temperature 80.0 °C	@Strain 1.50 %, Temperature 176 °F	ISO 11403-1/-2
	20.85 MPa	3024 psi	
	@Strain 2.30 %, Temperature 100 °C	@Strain 2.30 %, Temperature 212 °F	ISO 11403-1/-2
	21.43 MPa	3108 psi	
	@Strain 2.40 %, Temperature 100 °C	@Strain 2.40 %, Temperature 212 °F	ISO 11403-1/-2
	21.44 MPa	3110 psi	
	@Strain 0.500 %, Temperature -40.0 °C	@Strain 0.500 %, Temperature -40.0 °F	ISO 11403-1/-2
	21.46 MPa	3113 psi	
	@Strain 1.60 %, Temperature 80.0 °C	@Strain 1.60 %, Temperature 176 °F	ISO 11403-1/-2
	21.95 MPa	3184 psi	
	@Strain 2.50 %, Temperature 100 °C	@Strain 2.50 %, Temperature 212 °F	ISO 11403-1/-2
	22.39 MPa	3247 psi	
	@Strain 1.70 %, Temperature 80.0 °C	@Strain 1.70 %, Temperature 176 °F	ISO 11403-1/-2
	22.48 MPa	3260 psi	
	@Strain 2.60 %, Temperature 100 °C	@Strain 2.60 %, Temperature 212 °F	ISO 11403-1/-2
	22.54 MPa	3269 psi	
	@Strain 0.600 %, Temperature 23.0 °C	@Strain 0.600 %, Temperature 73.4 °F	ISO 11403-1/-2
	23.06 MPa	3345 psi	
			ISO 11403-1/-2

Mechanical Properties	Metric @Strain 2.70 %, Temperature 100 °C	English @Strain 2.70 %, Temperature 212 °F	Comments
	23.26 MPa	3374 psi	ISO 11403-1/-2
	@Strain 1.80 %, Temperature 80.0 °C	@Strain 1.80 %, Temperature 176 °F	
	23.47 MPa	3404 psi	ISO 11403-1/-2
	@Strain 2.80 %, Temperature 100 °C	@Strain 2.80 %, Temperature 212 °F	
	23.76 MPa	3446 psi	ISO 11403-1/-2
	@Strain 2.90 %, Temperature 100 °C	@Strain 2.90 %, Temperature 212 °F	

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