

## DuPont Performance Polymers Delrin® 100P NC010 Acetal (POM) (Unverified Data\*\*)

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

### Material Notes:

High Viscosity Acetal Homopolymer with Improved Processing Delrin 100P is a high viscosity acetal homopolymer for use in easy to fill molds. It has improved processing thermal stability good mechanical properties toughness 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-100P-NC010-Acetal-POM-nbspUnverified-Data.php](http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-100P-NC010-Acetal-POM-nbspUnverified-Data.php)

Physical Properties	Metric	English	Comments
Density	1.19 g/cc	0.0430 lb/in <sup>3</sup>	
	1.42 g/cc	0.0513 lb/in <sup>3</sup>	ISO 1183
Water Absorption	1.4 %	1.4 %	Sim. to ISO 62
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Moisture Absorption	0.300 %	0.300 %	Sim. to ISO 62
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Viscosity	138000 cP	138000 cP	ISO 11403-1 -2
	@Shear Rate 5000 1/s, Temperature 230 °C	@Shear Rate 5000 1/s, Temperature 446 °F	
	153500 cP	153500 cP	ISO 11403-1 -2
	@Shear Rate 5000 1/s, Temperature 215 °C	@Shear Rate 5000 1/s, Temperature 419 °F	
	170500 cP	170500 cP	ISO 11403-1 -2
	@Shear Rate 5000 1/s, Temperature 200 °C	@Shear Rate 5000 1/s, Temperature 392 °F	
	702600 cP	702600 cP	ISO 11403-1 -2
	@Shear Rate 500 1/s, Temperature 230 °C	@Shear Rate 500 1/s, Temperature 446 °F	
	762300 cP	762300 cP	ISO 11403-1 -2
@Shear Rate 500 1/s, Temperature 215 °C	@Shear Rate 500 1/s, Temperature 419 °F		
814100 cP	814100 cP	ISO 11403-1 -2	
@Shear Rate 500 1/s, Temperature 200 °C	@Shear Rate 500 1/s, Temperature 392 °F		
Linear Mold Shrinkage, Flow	0.022 cm/cm	0.022 in/in	ISO 294-4 2577

Physical Properties	Metric	English	Comments
Melt Flow	2.2 g/10 min @Load 2.16 kg, Temperature 190 °C	2.2 g/10 min @Load 4.76 lb, Temperature 374 °F	cm <sup>3</sup> /10min; ISO 1133
	2.6 g/10 min @Load 2.16 kg, Temperature 190 °C	2.6 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	88	88	ISO 2039-2
Hardness, Rockwell R	119	119	ISO 2039-2
Tensile Stress	10.8 MPa @Strain 1.10 %, Temperature 90.0 °C	1570 psi @Strain 1.10 %, Temperature 194 °F	ISO 11403-1 -2
	27.2 MPa @Strain 4.40 %, Temperature 90.0 °C	3950 psi @Strain 4.40 %, Temperature 194 °F	ISO 11403-1 -2
	32.4 MPa @Strain 7.60 %, Temperature 90.0 °C	4700 psi @Strain 7.60 %, Temperature 194 °F	ISO 11403-1 -2
	33.6 MPa @Strain 10.9 %, Temperature 90.0 °C	4870 psi @Strain 10.9 %, Temperature 194 °F	ISO 11403-1 -2
	35.5 MPa @Strain 2.00 %, Temperature 40.0 °C	5150 psi @Strain 2.00 %, Temperature 104 °F	ISO 11403-1 -2
	42.0 MPa @Strain 2.40 %, Temperature 23.0 °C	6090 psi @Strain 2.40 %, Temperature 73.4 °F	ISO 11403-1 -2
	52.0 MPa @Strain 2.40 %, Temperature 0.000 °C	7540 psi @Strain 2.40 %, Temperature 32.0 °F	ISO 11403-1 -2
	57.0 MPa @Strain 8.00 %, Temperature 40.0 °C	8270 psi @Strain 8.00 %, Temperature 104 °F	ISO 11403-1 -2
	57.7 MPa	8370 psi	

Mechanical Properties	@Strain 2.30 %, Metric Temperature -20.0 °C	@Strain 2.30 %, English Temperature -4.00 °F	ISO 11403-1 -2 Comments
	59.5 MPa	8630 psi	
	@Strain 14.0 %, Temperature 40.0 °C	@Strain 14.0 %, Temperature 104 °F	ISO 11403-1 -2
	62.1 MPa	9010 psi	
	@Strain 2.10 %, Temperature -40.0 °C	@Strain 2.10 %, Temperature -40.0 °F	ISO 11403-1 -2
	63.6 MPa	9220 psi	
	@Strain 9.80 %, Temperature 23.0 °C	@Strain 9.80 %, Temperature 73.4 °F	ISO 11403-1 -2
	65.5 MPa	9500 psi	
	@Strain 17.1 %, Temperature 23.0 °C	@Strain 17.1 %, Temperature 73.4 °F	ISO 11403-1 -2
	73.73 MPa	10690 psi	
	@Strain 9.60 %, Temperature 0.000 °C	@Strain 9.60 %, Temperature 32.0 °F	ISO 11403-1 -2
	76.54 MPa	11100 psi	
	@Strain 21.59 %, Temperature 0.000 °C	@Strain 21.59 %, Temperature 32.0 °F	ISO 11403-1 -2
	80.2 MPa	11600 psi	
	@Strain 9.20 %, Temperature -20.0 °C	@Strain 9.20 %, Temperature -4.00 °F	ISO 11403-1 -2
	82.8 MPa	12000 psi	
	@Strain 16.1 %, Temperature -20.0 °C	@Strain 16.1 %, Temperature -4.00 °F	ISO 11403-1 -2
	92.8 MPa	13500 psi	
	@Strain 13.0 %, Temperature -40.0 °C	@Strain 13.0 %, Temperature -40.0 °F	ISO 11403-1 -2
	95.5 MPa	13900 psi	
	@Strain 22.7 %, Temperature -40.0 °C	@Strain 22.7 %, Temperature -40.0 °F	ISO 11403-1 -2
Tensile Strength, Yield	71.0 MPa	10300 psi	ISO 527-1/-2
Elongation at Break	45 %	45 %	Nominal; ISO 527-1/-2
Elongation at Yield	25 %	25 %	ISO 527-1/-2
Tensile Modulus	2.95 GPa	428 ksi	ISO 527-1/-2
	77.0 MPa	11200 psi	

Flexural Strength Mechanical Properties	Metric @Strain 3.50 %	English @Strain 3.50 %	ISO 178 Comments
Flexural Modulus	2.85 GPa	413 ksi	ISO 178
Shear Modulus	0.297 GPa	43.1 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 120 °C	@Temperature 248 °F	
	0.6221 GPa	90.23 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 60.0 °C	@Temperature 140 °F	
	0.8835 GPa	128.1 ksi	Dynamic; ISO 11403-1 -2
@Temperature 10.0 °C	@Temperature 50.0 °F		
Secant Modulus	1.0443 GPa	151.47 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.4976 GPa	217.21 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -60.0 °C	@Temperature -76.0 °F	
	0.337 GPa	48.9 ksi	ISO 11403-1 -2
	@Strain 19.5 %, Temperature 23.0 °C	@Strain 19.5 %, Temperature 73.4 °F	
	0.357 GPa	51.8 ksi	ISO 11403-1 -2
	@Strain 7.00 %, Temperature 100 °C	@Strain 7.00 %, Temperature 212 °F	
	0.369 GPa	53.5 ksi	ISO 11403-1 -2
	@Strain 9.90 %, Temperature 80.0 °C	@Strain 9.90 %, Temperature 176 °F	
0.371 GPa	53.9 ksi	ISO 11403-1 -2	
@Strain 25.9 %, Temperature -40.0 °C	@Strain 25.9 %, Temperature -40.0 °F		
0.37375 GPa	54.209 ksi	ISO 11403-1 -2	
@Strain 16.0 %, Temperature 40.0 °C	@Strain 16.0 %, Temperature 104 °F		
0.453 GPa	65.7 ksi	ISO 11403-1 -2	
@Strain 18.4 %, Temperature -20.0 °C	@Strain 18.4 %, Temperature -4.00 °F		
0.512 GPa	74.2 ksi	ISO 11403-1 -2	
@Strain 4.20 %, Temperature 100 °C	@Strain 4.20 %, Temperature 212 °F		
	0.624 GPa	90.5 ksi	

Mechanical Properties	Metric @Strain 5.00 %, Temperature 80.0 °C	English @Strain 5.00 %, Temperature 176 °F	ISO 11403-1 -2 Comments
	<b>0.64898 GPa</b>	<b>94.128 ksi</b>	
	@Strain 9.80 %, Temperature 23.0 °C	@Strain 9.80 %, Temperature 73.4 °F	ISO 11403-1 -2
	<b>0.681 GPa</b>	<b>98.8 ksi</b>	
	@Strain 2.10 %, Temperature 100 °C	@Strain 2.10 %, Temperature 212 °F	ISO 11403-1 -2
	<b>0.7125 GPa</b>	<b>103.3 ksi</b>	
	@Strain 8.00 %, Temperature 40.0 °C	@Strain 8.00 %, Temperature 104 °F	ISO 11403-1 -2
	<b>0.714 GPa</b>	<b>104 ksi</b>	
	@Strain 13.0 %, Temperature -40.0 °C	@Strain 13.0 %, Temperature -40.0 °F	ISO 11403-1 -2
	<b>0.768 GPa</b>	<b>111 ksi</b>	
	@Strain 9.60 %, Temperature 0.000 °C	@Strain 9.60 %, Temperature 32.0 °F	ISO 11403-1 -2
	<b>0.840 GPa</b>	<b>122 ksi</b>	
	@Strain 0.500 %, Temperature 100 °C	@Strain 0.500 %, Temperature 212 °F	ISO 11403-1 -2
	<b>0.872 GPa</b>	<b>126 ksi</b>	
	@Strain 9.20 %, Temperature -20.0 °C	@Strain 9.20 %, Temperature -4.00 °F	ISO 11403-1 -2
	<b>0.975 GPa</b>	<b>141 ksi</b>	
	@Strain 1.20 %, Temperature 80.0 °C	@Strain 1.20 %, Temperature 176 °F	ISO 11403-1 -2
	<b>1.75 GPa</b>	<b>254 ksi</b>	
	@Strain 2.40 %, Temperature 23.0 °C	@Strain 2.40 %, Temperature 73.4 °F	ISO 11403-1 -2
	<b>1.775 GPa</b>	<b>257.4 ksi</b>	
	@Strain 2.00 %, Temperature 40.0 °C	@Strain 2.00 %, Temperature 104 °F	ISO 11403-1 -2
	<b>2.17 GPa</b>	<b>314 ksi</b>	
	@Strain 2.40 %, Temperature 0.000 °C	@Strain 2.40 %, Temperature 32.0 °F	ISO 11403-1 -2
	<b>2.5087 GPa</b>	<b>363.86 ksi</b>	
	@Strain 2.30 %, Temperature -20.0 °C	@Strain 2.30 %, Temperature -4.00 °F	ISO 11403-1 -2

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