

DuPont Performance Polymers Delrin® FG100P NC010 Acetal (POM) (Unverified Data**)

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

Material Notes:

High Viscosity Acetal Homopolymer Developed for Food Contact Applications Delrin FG100P is a high viscosity acetal homopolymer with improved thermal stability for use in easy to fill molds. It has been developed for consideration into applications such as Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-FG100P-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	138000 cP @Shear Rate 5000 1/s, Temperature 230 °C	138000 cP @Shear Rate 5000 1/s, Temperature 446 °F	ISO 11403-1 -2
	153500 cP @Shear Rate 5000 1/s, Temperature 215 °C	153500 cP @Shear Rate 5000 1/s, Temperature 419 °F	ISO 11403-1 -2
	170500 cP @Shear Rate 5000 1/s, Temperature 200 °C	170500 cP @Shear Rate 5000 1/s, Temperature 392 °F	ISO 11403-1 -2
	702600 cP @Shear Rate 500 1/s, Temperature 230 °C	702600 cP @Shear Rate 500 1/s, Temperature 446 °F	ISO 11403-1 -2
	762300 cP @Shear Rate 500 1/s, Temperature 215 °C	762300 cP @Shear Rate 500 1/s, Temperature 419 °F	ISO 11403-1 -2
	814100 cP @Shear Rate 500 1/s, Temperature 200 °C	814100 cP @Shear Rate 500 1/s, Temperature 392 °F	ISO 11403-1 -2
Linear Mold Shrinkage, Flow	0.022 cm/cm	0.022 in/in	ISO 294-4 2577
Linear Mold Shrinkage, Transverse	0.020 cm/cm	0.020 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
	2.5 g/10 min	2.5 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	10.8 MPa	1570 psi	ISO 11403-1 -2
	@Strain 1.10 %, Temperature 90.0 °C	@Strain 1.10 %, Temperature 194 °F	
	27.2 MPa	3950 psi	ISO 11403-1 -2
	@Strain 4.40 %, Temperature 90.0 °C	@Strain 4.40 %, Temperature 194 °F	
	32.4 MPa	4700 psi	ISO 11403-1 -2
	@Strain 7.60 %, Temperature 90.0 °C	@Strain 7.60 %, Temperature 194 °F	
	33.6 MPa	4870 psi	ISO 11403-1 -2
	@Strain 10.9 %, Temperature 90.0 °C	@Strain 10.9 %, Temperature 194 °F	
	35.5 MPa	5150 psi	ISO 11403-1 -2
	@Strain 2.00 %, Temperature 40.0 °C	@Strain 2.00 %, Temperature 104 °F	
	42.0 MPa	6090 psi	ISO 11403-1 -2
	@Strain 2.40 %, Temperature 23.0 °C	@Strain 2.40 %, Temperature 73.4 °F	
	52.0 MPa	7540 psi	ISO 11403-1 -2
	@Strain 2.40 %, Temperature 0.000 °C	@Strain 2.40 %, Temperature 32.0 °F	
	57.0 MPa	8270 psi	ISO 11403-1 -2
	@Strain 8.00 %, Temperature 40.0 °C	@Strain 8.00 %, Temperature 104 °F	
	57.7 MPa	8370 psi	ISO 11403-1 -2
	@Strain 2.30 %, Temperature -20.0 °C	@Strain 2.30 %, Temperature -4.00 °F	

Mechanical Properties	59.5 MPa Metric	8530 psi English	Comments
	@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	70.0 MPa	10200 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	2.90 GPa	421 ksi	ISO 527-1/-2
Flexural Strength	74.0 MPa	10700 psi	ISO 178
	@Strain 3.50 %	@Strain 3.50 %	

Elemental Modulus Mechanical Properties	2.60 GPa Metric	377 ksi English	ISO 178 Comments
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	
	@Temperature 60.0 °C	@Temperature 140 °F	
	0.8835 GPa	128.1 ksi	
@Temperature 10.0 °C	@Temperature 50.0 °F	Dynamic; ISO 11403-1 -2	
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	
	@Temperature -60.0 °C	@Temperature -76.0 °F	
	0.337 GPa	48.9 ksi	
@Strain 19.5 %, Temperature 23.0 °C	@Strain 19.5 %, Temperature 73.4 °F	ISO 11403-1 -2	
Secant Modulus	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	
	@Strain 9.90 %, Temperature 80.0 °C	@Strain 9.90 %, Temperature 176 °F	
	0.371 GPa	53.9 ksi	
@Strain 25.9 %, Temperature -40.0 °C	@Strain 25.9 %, Temperature -40.0 °F	ISO 11403-1 -2	
Secant Modulus	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	
	@Strain 18.4 %, Temperature -20.0 °C	@Strain 18.4 %, Temperature -4.00 °F	
	0.512 GPa	74.2 ksi	
@Strain 4.20 %, Temperature 100 °C	@Strain 4.20 %, Temperature 212 °F	ISO 11403-1 -2	
Secant Modulus	0.624 GPa	90.5 ksi	ISO 11403-1 -2
	@Strain 5.00 %, Temperature 80.0 °C	@Strain 5.00 %, Temperature 176 °F	

Mechanical Properties	0.64898 GPa Metric	94.128 ksi English	Comments ISO 11403-1 -2
	@Strain 9.80 %, Temperature 23.0 °C	@Strain 9.80 %, Temperature 73.4 °F	
	0.681 GPa	98.8 ksi	ISO 11403-1 -2
	@Strain 2.10 %, Temperature 100 °C	@Strain 2.10 %, Temperature 212 °F	
	0.7125 GPa	103.3 ksi	ISO 11403-1 -2
	@Strain 8.00 %, Temperature 40.0 °C	@Strain 8.00 %, Temperature 104 °F	
	0.714 GPa	104 ksi	ISO 11403-1 -2
	@Strain 13.0 %, Temperature -40.0 °C	@Strain 13.0 %, Temperature -40.0 °F	
	0.768 GPa	111 ksi	ISO 11403-1 -2
	@Strain 9.60 %, Temperature 0.000 °C	@Strain 9.60 %, Temperature 32.0 °F	
	0.840 GPa	122 ksi	ISO 11403-1 -2
	@Strain 0.500 %, Temperature 100 °C	@Strain 0.500 %, Temperature 212 °F	
	0.872 GPa	126 ksi	ISO 11403-1 -2
	@Strain 9.20 %, Temperature -20.0 °C	@Strain 9.20 %, Temperature -4.00 °F	
	0.975 GPa	141 ksi	ISO 11403-1 -2
	@Strain 1.20 %, Temperature 80.0 °C	@Strain 1.20 %, Temperature 176 °F	
	1.75 GPa	254 ksi	ISO 11403-1 -2
	@Strain 2.40 %, Temperature 23.0 °C	@Strain 2.40 %, Temperature 73.4 °F	
	1.775 GPa	257.4 ksi	ISO 11403-1 -2
	@Strain 2.00 %, Temperature 40.0 °C	@Strain 2.00 %, Temperature 104 °F	
	2.17 GPa	314 ksi	ISO 11403-1 -2
	@Strain 2.40 %, Temperature 0.000 °C	@Strain 2.40 %, Temperature 32.0 °F	
	2.5087 GPa	363.86 ksi	ISO 11403-1 -2
	@Strain 2.30 %, Temperature -20.0 °C	@Strain 2.30 %, Temperature -4.00 °F	
	2.96 GPa	429 ksi	ISO 11403-1 -2
	@Strain 2.10 %,	@Strain 2.10 %,	

Mechanical Properties	Temperature -40.0 °C Metric	Temperature -40.0 °F English	Comments
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