

DuPont Performance Polymers Delrin® 500PE NC010 Acetal (POM) (Unverified Data**)

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

Material Notes:

Medium Viscosity Acetal Homopolymer with Very Low Emissions Delrin 500PE NC010 (formerly DE20578) is a medium viscosity acetal homopolymer an enhanced version of Delrin 500P with very low VOC emissions. It has good mechanical properties and improved prInformation provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-500PE-NC010-Acetal-POM-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/in³	ISO 1183
Viscosity	94957 cP	94957 cP	ISO 11403-1 -2
	@Shear Rate 5000 1/s, Temperature 230 °C	@Shear Rate 5000 1/s, Temperature 446 °F	
	99460 cP	99460 cP	ISO 11403-1 -2
	@Shear Rate 5000 1/s, Temperature 215 °C	@Shear Rate 5000 1/s, Temperature 419 °F	
	106400 cP	106400 cP	ISO 11403-1 -2
	@Shear Rate 5000 1/s, Temperature 200 °C	@Shear Rate 5000 1/s, Temperature 392 °F	
	244860 cP	244860 cP	ISO 11403-1 -2
	@Shear Rate 500 1/s, Temperature 230 °C	@Shear Rate 500 1/s, Temperature 446 °F	
	303800 cP	303800 cP	ISO 11403-1 -2
	@Shear Rate 500 1/s, Temperature 215 °C	@Shear Rate 500 1/s, Temperature 419 °F	
	349300 cP	349300 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	0.020 cm/cm	0.020 in/in	ISO 294-4 2577
Linear Mold Shrinkage, Transverse	0.019 cm/cm	0.019 in/in	ISO 294-4 2577
Melt Flow	12 g/10 min	12 g/10 min	cm³/10min; ISO 1133
	@Load 2.16 kg, Temperature 190 °C	@Load 4.76 lb, Temperature 374 °F	
	14 g/10 min	14 g/10 min	

Physical Properties	Metric @Load 2.16 kg, Temperature 190 °C	English @Load 4.76 lb, Temperature 374 °F	ISO 1133 Comments
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Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	93	93	ISO 2039-2
Hardness, Rockwell R	122	122	ISO 2039-2
Tensile Stress	5.60 MPa	812 psi	ISO 11403-1 -2
	@Strain 0.400 %, Temperature 90.0 °C	@Strain 0.400 %, Temperature 194 °F	
	19.5 MPa	2830 psi	ISO 11403-1 -2
	@Strain 0.600 %, Temperature 23.0 °C	@Strain 0.600 %, Temperature 73.4 °F	
	20.1 MPa	2920 psi	ISO 11403-1 -2
	@Strain 1.90 %, Temperature 90.0 °C	@Strain 1.90 %, Temperature 194 °F	
	26.6 MPa	3860 psi	ISO 11403-1 -2
	@Strain 0.700 %, Temperature 0.000 °C	@Strain 0.700 %, Temperature 32.0 °F	
	28.1 MPa	4080 psi	ISO 11403-1 -2
	@Strain 3.30 %, Temperature 90.0 °C	@Strain 3.30 %, Temperature 194 °F	
	33.0 MPa	4790 psi	ISO 11403-1 -2
	@Strain 4.80 %, Temperature 90.0 °C	@Strain 4.80 %, Temperature 194 °F	
	33.0 MPa	4790 psi	ISO 11403-1 -2
	@Strain 0.700 %, Temperature -40.0 °C	@Strain 0.700 %, Temperature -40.0 °F	
	52.3 MPa	7590 psi	ISO 11403-1 -2
	@Strain 2.60 %, Temperature 23.0 °C	@Strain 2.60 %, Temperature 73.4 °F	
	61.9 MPa	8980 psi	ISO 11403-1 -2
	@Strain 4.50 %, Temperature 23.0 °C	@Strain 4.50 %, Temperature 73.4 °F	
	65.7 MPa	9530 psi	ISO 11403-1 -2
	@Strain 7.00 %, Temperature 23.0 °C	@Strain 7.00 %, Temperature 73.4 °F	
	68.9 MPa	9990 psi	ISO 11403-1 -2

Mechanical Properties	Metric @Strain 3.00 %, Temperature 0.000 °C	English @Strain 3.00 %, Temperature 32.0 °F	Comments
	79.6 MPa	11500 psi	
	@Strain 5.00 %, Temperature 0.000 °C	@Strain 5.00 %, Temperature 32.0 °F	ISO 11403-1 -2
	83.7 MPa	12100 psi	
	@Strain 8.00 %, Temperature 0.000 °C	@Strain 8.00 %, Temperature 32.0 °F	ISO 11403-1 -2
	88.2 MPa	12800 psi	
	@Strain 2.90 %, Temperature -40.0 °C	@Strain 2.90 %, Temperature -40.0 °F	ISO 11403-1 -2
	95.7 MPa	13900 psi	
	@Strain 5.00 %, Temperature -40.0 °C	@Strain 5.00 %, Temperature -40.0 °F	ISO 11403-1 -2
	98.2 MPa	14200 psi	
	@Strain 8.00 %, Temperature -40.0 °C	@Strain 8.00 %, Temperature -40.0 °F	ISO 11403-1 -2
Tensile Strength, Yield	73.0 MPa	10600 psi	ISO 527-1/-2
Elongation at Break	22 %	22 %	Nominal; ISO 527-1/-2
Elongation at Yield	15 %	15 %	ISO 527-1/-2
Tensile Modulus	3.25 GPa	471 ksi	ISO 527-1/-2
Flexural Modulus	3.05 GPa	442 ksi	ISO 178
Secant Modulus	0.698 GPa	101 ksi	
	@Strain 14.2 %, Temperature -40.0 °C	@Strain 14.2 %, Temperature -40.0 °F	ISO 11403-1 -2
	0.741 GPa	107 ksi	
	@Strain 9.00 %, Temperature 23.0 °C	@Strain 9.00 %, Temperature 73.4 °F	ISO 11403-1 -2
	0.845 GPa	123 ksi	
	@Strain 10.0 %, Temperature 0.000 °C	@Strain 10.0 %, Temperature 32.0 °F	ISO 11403-1 -2
	0.986 GPa	143 ksi	
	@Strain 10.0 %, Temperature -40.0 °C	@Strain 10.0 %, Temperature -40.0 °F	ISO 11403-1 -2
	1.262 GPa	183.0 ksi	
	@Strain 5.00 %, Temperature 23.0 °C	@Strain 5.00 %, Temperature 73.4 °F	ISO 11403-1 -2

Mechanical Properties	Metric	English	Comments
	1.30 GPa	189 ksi	
	@Strain 6.00 %, Temperature 0.000 °C	@Strain 6.00 %, Temperature 32.0 °F	ISO 11403-1 -2
	1.62 GPa	234 ksi	
	@Strain 6.00 %, Temperature -40.0 °C	@Strain 6.00 %, Temperature -40.0 °F	ISO 11403-1 -2
	2.01 GPa	292 ksi	
	@Strain 2.60 %, Temperature 23.0 °C	@Strain 2.60 %, Temperature 73.4 °F	ISO 11403-1 -2
	2.30 GPa	333 ksi	
	@Strain 3.00 %, Temperature 0.000 °C	@Strain 3.00 %, Temperature 32.0 °F	ISO 11403-1 -2
	3.04 GPa	441 ksi	
	@Strain 2.90 %, Temperature -40.0 °C	@Strain 2.90 %, Temperature -40.0 °F	ISO 11403-1 -2
	3.25 GPa	471 ksi	
	@Strain 0.600 %, Temperature 23.0 °C	@Strain 0.600 %, Temperature 73.4 °F	ISO 11403-1 -2
	3.80 GPa	551 ksi	
	@Strain 0.700 %, Temperature 0.000 °C	@Strain 0.700 %, Temperature 32.0 °F	ISO 11403-1 -2
	4.71 GPa	684 ksi	
	@Strain 0.700 %, Temperature -40.0 °C	@Strain 0.700 %, Temperature -40.0 °F	ISO 11403-1 -2
Charpy Impact Unnotched	30.0 J/cm ²	143 ft-lb/in ²	ISO 179/1eU
	25.0 J/cm ²	119 ft-lb/in ²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/1eU
Charpy Impact, Notched	0.950 J/cm ²	4.52 ft-lb/in ²	ISO 179/1eA
	0.900 J/cm ²	4.28 ft-lb/in ²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	110 µm/m-°C	61.1 µin/in-°F	ISO 11359-1/-2
	100 µm/m-°C	55.6 µin/in-°F	
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	ISO 11359-1/-2

Thermal Properties	Metric	English	Comments
CTE, linear, Transverse to Flow	110 µm/m-°C	61.7 µin/in-°F	ISO 11359-1/-2
	90.0 µm/m-°C	50.0 µin/in-°F	
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °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)	158 °C	316 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	93.0 °C	199 °F	ISO 75-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
Surface Resistance	3.00e+14 ohm	3.00e+14 ohm	IEC 60093
Dielectric Constant	3.8	3.8	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	3.8	3.8	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	47.0 kV/mm	1190 kV/in	IEC 60243-1
Dissipation Factor	0.0010	0.0010	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0055	0.0055	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	600 V	600 V	IEC 60112

Descriptive Properties	Value	Comments
Additives	Release agent	
Delivery Form	Pellets	

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