

DuPont Performance Polymers Delrin® 300PE NC010A Acetal Homopolymer

Category : Polymer , Thermoplastic , Acetal (POM)

Material Notes:

Delrin® 300PE NC010A is a medium-high viscosity acetal homopolymer, an enhanced version with extremely low VOC emissions. It has improved processing thermal stability, good mechanical properties, and toughness. Information provided by DuPont

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-300PE-NC010A-Acetal-Homopolymer.php

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/in ³	ISO 1183
Water Absorption	0.30 %	0.30 %	Equilibrium 50%RH; ISO 62, Similar to
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.60 %	0.60 %	Immersion 24h; ISO 62, Similar to
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Linear Mold Shrinkage	1.4 %	1.4 %	Saturation, immersed; ISO 62, Similar to
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.019 cm/cm	0.019 in/in	Normal; ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Melt Flow	0.020 cm/cm	0.020 in/in	Parallel; ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	
	7.0 g/10 min	7.0 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 Strength, Yield	70.0 MPa	10200 psi	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	35 %	35 %	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Yield	18 %	18 %	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Modulus	3.00 GPa	435 ksi	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
	2.90 GPa @Temperature 23.0 °C	421 ksi @Temperature 73.4 °F	
Charpy Impact, Notched	0.800 J/cm ² @Temperature -30.0 °C	3.81 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
	1.10 J/cm ² @Temperature 23.0 °C	5.23 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA
Tensile Creep Modulus, 1 hour	2700 MPa @Temperature 23.0 °C	392000 psi @Temperature 73.4 °F	ISO 899
Tensile Creep Modulus, 1000 hours	1500 MPa @Temperature 23.0 °C	218000 psi @Temperature 73.4 °F	ISO 899

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	100 µm/m-°C @Temperature -40.0 - 23.0 °C	55.6 µin/in-°F @Temperature -40.0 - 73.4 °F	ISO 11359-1/-2
	110 µm/m-°C @Temperature 23.0 - 55.0 °C	61.1 µin/in-°F @Temperature 73.4 - 131 °F	ISO 11359-1/-2
	150 µm/m-°C @Temperature 55.0 - 100 °C	83.3 µin/in-°F @Temperature 131 - 212 °F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	100 µm/m-°C @Temperature -40.0 - 23.0 °C	55.6 µin/in-°F @Temperature -40.0 - 73.4 °F	ISO 11359-1/-2
	110 µm/m-°C @Temperature 23.0 - 55.0 °C	61.1 µin/in-°F @Temperature 73.4 - 131 °F	ISO 11359-1/-2
	160 µm/m-°C @Temperature 55.0 - 100 °C	88.9 µin/in-°F @Temperature 131 - 212 °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)	92.0 °C	198 °F	ISO 75-1/-2

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.7	3.7	IEC 60250
	@Frequency 1.00e+6 Hz, Temperature 23.0 °C	@Frequency 1.00e+6 Hz, Temperature 73.4 °F	
	3.8	3.8	IEC 60250
	@Frequency 100 Hz, Temperature 23.0 °C	@Frequency 100 Hz, Temperature 73.4 °F	

Processing Properties	Metric	English	Comments
Melt Temperature	205 °C	401 °F	Optimum; Injection Molding
	200 - 210 °C	392 - 410 °F	Injection Molding
Mold Temperature	90.0 °C	194 °F	Optimum; Injection Molding
	80.0 - 100 °C	176 - 212 °F	Injection Molding
Drying Temperature	80.0 °C	176 °F	Injection Molding
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	Injection Molding
Moisture Content	<= 0.20 %	<= 0.20 %	Injection Molding

Descriptive Properties	Value	Comments
Appearance	Natural Color	
Features	VOC, Low	
Forms	Pellets	
Generic	Acetal (POM) Homopolymer	
Material Status	Preliminary Data	
Part Marking Code	>POM<	ISO 11469
Polymer Family	POM	
Polymer Type	POM Homopolymer	
Processing Method	Injection Molding	
Product Category	Low Emissions Resins	
	Unreinforced Resins	
Region Available - Global	Yes	

Descriptive Properties	Value	Comments
RoHS Compliance	Contact Manufacturer	
Uses	Fasteners	
	Gears	
	Parts, Engineering	

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