

DuPont Performance Polymers Delrin® 527UV NC010 Acetal (POM) (Unverified Data**)

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

Material Notes:

UV Stabilized Medium Viscosity Acetal Homopolymer Delrin 527UV NC010 is a medium viscosity acetal homopolymer resin with UV stabilizers developed for automotive interior applications. It has improvements in UV aging characteristics and thermal stability. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-527UV-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	1.2 % @Thickness 2.00 mm	1.2 % @Thickness 0.0787 in	Sim. to ISO 62
Moisture Absorption	0.170 % @Thickness 2.00 mm	0.170 % @Thickness 0.0787 in	Sim. to ISO 62
Viscosity	84000 cP @Shear Rate 5000 1/s, Temperature 230 °C	84000 cP @Shear Rate 5000 1/s, Temperature 446 °F	ISO 11403-1 -2
	90000 cP @Shear Rate 5000 1/s, Temperature 215 °C	90000 cP @Shear Rate 5000 1/s, Temperature 419 °F	ISO 11403-1 -2
	97000 cP @Shear Rate 5000 1/s, Temperature 200 °C	97000 cP @Shear Rate 5000 1/s, Temperature 392 °F	ISO 11403-1 -2
	268000 cP @Shear Rate 500 1/s, Temperature 230 °C	268000 cP @Shear Rate 500 1/s, Temperature 446 °F	ISO 11403-1 -2
	306000 cP @Shear Rate 500 1/s, Temperature 215 °C	306000 cP @Shear Rate 500 1/s, Temperature 419 °F	ISO 11403-1 -2
	351000 cP @Shear Rate 500 1/s, Temperature 200 °C	351000 cP @Shear Rate 500 1/s, Temperature 392 °F	ISO 11403-1 -2
	Linear Mold Shrinkage, Flow	0.020 cm/cm	0.020 in/in
Linear Mold Shrinkage, Transverse	0.019 cm/cm	0.019 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
	15 g/10 min	15 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	11.4 MPa	1650 psi	ISO 11403-1 -2
	@Strain 1.20 %, Temperature 90.0 °C	@Strain 1.20 %, Temperature 194 °F	
	28.0 MPa	4060 psi	ISO 11403-1 -2
	@Strain 4.80 %, Temperature 90.0 °C	@Strain 4.80 %, Temperature 194 °F	
	28.0 MPa	4060 psi	ISO 11403-1 -2
	@Strain 1.30 %, Temperature 40.0 °C	@Strain 1.30 %, Temperature 104 °F	
	31.4 MPa	4550 psi	ISO 11403-1 -2
	@Strain 1.20 %, Temperature 23.0 °C	@Strain 1.20 %, Temperature 73.4 °F	
	32.0 MPa	4640 psi	ISO 11403-1 -2
	@Strain 8.50 %, Temperature 90.0 °C	@Strain 8.50 %, Temperature 194 °F	
	32.5 MPa	4710 psi	ISO 11403-1 -2
	@Strain 12.1 %, Temperature 90.0 °C	@Strain 12.1 %, Temperature 194 °F	
	35.1 MPa	5090 psi	ISO 11403-1 -2
	@Strain 1.00 %, Temperature -40.0 °C	@Strain 1.00 %, Temperature -40.0 °F	
	42.6 MPa	6180 psi	ISO 11403-1 -2
	@Strain 1.20 %, Temperature 0.000 °C	@Strain 1.20 %, Temperature 32.0 °F	
	48.2 MPa	6990 psi	ISO 11403-1 -2
	@Strain 1.30 %, Temperature -20.0 °C	@Strain 1.30 %, Temperature -4.00 °F	

Mechanical Properties	Metric	English	Comments
	@Strain 5.00 %, Temperature 40.0 °C	@Strain 5.00 %, Temperature 104 °F	ISO 11403-1 -2
	57.8 MPa	8380 psi	
	@Strain 8.80 %, Temperature 40.0 °C	@Strain 8.80 %, Temperature 104 °F	ISO 11403-1 -2
	58.5 MPa	8480 psi	
	@Strain 11.5 %, Temperature 40.0 °C	@Strain 11.5 %, Temperature 104 °F	ISO 11403-1 -2
	61.1 MPa	8860 psi	
	@Strain 4.90 %, Temperature 23.0 °C	@Strain 4.90 %, Temperature 73.4 °F	ISO 11403-1 -2
	66.4 MPa	9630 psi	
	@Strain 8.60 %, Temperature 23.0 °C	@Strain 8.60 %, Temperature 73.4 °F	ISO 11403-1 -2
	67.5 MPa	9790 psi	
	@Strain 12.3 %, Temperature 23.0 °C	@Strain 12.3 %, Temperature 73.4 °F	ISO 11403-1 -2
	68.8 MPa	9980 psi	
	@Strain 4.80 %, Temperature 0.000 °C	@Strain 4.80 %, Temperature 32.0 °F	ISO 11403-1 -2
	72.7 MPa	10500 psi	
	@Strain 8.40 %, Temperature 0.000 °C	@Strain 8.40 %, Temperature 32.0 °F	ISO 11403-1 -2
	73.5 MPa	10700 psi	
	@Strain 12.0 %, Temperature 0.000 °C	@Strain 12.0 %, Temperature 32.0 °F	ISO 11403-1 -2
	79.5 MPa	11500 psi	
	@Strain 5.20 %, Temperature -20.0 °C	@Strain 5.20 %, Temperature -4.00 °F	ISO 11403-1 -2
	83.1 MPa	12100 psi	
	@Strain 9.10 %, Temperature -20.0 °C	@Strain 9.10 %, Temperature -4.00 °F	ISO 11403-1 -2
	84.0 MPa	12200 psi	
	@Strain 13.0 %, Temperature -20.0 °C	@Strain 13.0 %, Temperature -4.00 °F	ISO 11403-1 -2
	87.3 MPa	12700 psi	
	@Strain 4.00 %,	@Strain 4.00 %,	ISO 11403-1 -2

Mechanical Properties	Temperature -40.0 °C Metric	Temperature -40.0 °F English	Comments
	97.7 MPa	14200 psi	
	@Strain 7.00 %, Temperature -40.0 °C	@Strain 7.00 %, Temperature -40.0 °F	ISO 11403-1 -2
	99.1 MPa	14400 psi	
	@Strain 10.0 %, Temperature -40.0 °C	@Strain 10.0 %, Temperature -40.0 °F	ISO 11403-1 -2
Tensile Strength, Yield	70.0 MPa	10200 psi	ISO 527-1/-2
Elongation at Break	30 %	30 %	Nominal; ISO 527-1/-2
Elongation at Yield	17 %	17 %	ISO 527-1/-2
Tensile Modulus	3.10 GPa	450 ksi	ISO 527-1/-2
Flexural Modulus	3.00 GPa	435 ksi	ISO 178
Shear Modulus	0.2554 GPa	37.04 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 120 °C	@Temperature 248 °F	
	0.5689 GPa	82.51 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 70.0 °C	@Temperature 158 °F	
	0.9834 GPa	142.6 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	1.2147 GPa	176.18 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	1.3839 GPa	200.72 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -50.0 °C	@Temperature -58.0 °F	
Secant Modulus	0.357 GPa	51.8 ksi	ISO 11403-1 -2
	@Strain 8.40 %, Temperature 100 °C	@Strain 8.40 %, Temperature 212 °F	
	0.450 GPa	65.3 ksi	ISO 11403-1 -2
	@Strain 8.40 %, Temperature 80.0 °C	@Strain 8.40 %, Temperature 176 °F	
	0.588 GPa	85.3 ksi	ISO 11403-1 -2
	@Strain 4.20 %, Temperature 100 °C	@Strain 4.20 %, Temperature 212 °F	
	0.644 GPa	93.5 ksi	ISO 11403-1 -2
	@Strain 9.00 %, Temperature 40.0 °C	@Strain 9.00 %, Temperature 104 °F	

Mechanical Properties	Metric GPa	English	Comments
	@Strain 9.80 %, Temperature 23.0 °C	@Strain 9.80 %, Temperature 73.4 °F	ISO 11403-1 -2
	0.750 GPa	109 ksi	
	@Strain 4.20 %, Temperature 80.0 °C	@Strain 4.20 %, Temperature 176 °F	ISO 11403-1 -2
	0.760 GPa	110 ksi	
	@Strain 9.60 %, Temperature 0.000 °C	@Strain 9.60 %, Temperature 32.0 °F	ISO 11403-1 -2
	0.803 GPa	116 ksi	
	@Strain 10.4 %, Temperature -20.0 °C	@Strain 10.4 %, Temperature -4.00 °F	ISO 11403-1 -2
	0.980 GPa	142 ksi	
	@Strain 1.00 %, Temperature 100 °C	@Strain 1.00 %, Temperature 212 °F	ISO 11403-1 -2
	1.08 GPa	157 ksi	
	@Strain 5.00 %, Temperature 40.0 °C	@Strain 5.00 %, Temperature 104 °F	ISO 11403-1 -2
	1.10 GPa	160 ksi	
	@Strain 1.10 %, Temperature 80.0 °C	@Strain 1.10 %, Temperature 176 °F	ISO 11403-1 -2
	1.23 GPa	178 ksi	
	@Strain 8.00 %, Temperature -40.0 °C	@Strain 8.00 %, Temperature -40.0 °F	ISO 11403-1 -2
	1.25 GPa	181 ksi	
	@Strain 4.90 %, Temperature 23.0 °C	@Strain 4.90 %, Temperature 73.4 °F	ISO 11403-1 -2
	1.43 GPa	208 ksi	
	@Strain 4.80 %, Temperature 0.000 °C	@Strain 4.80 %, Temperature 32.0 °F	ISO 11403-1 -2
	1.53 GPa	222 ksi	
	@Strain 5.20 %, Temperature -20.0 °C	@Strain 5.20 %, Temperature -4.00 °F	ISO 11403-1 -2
	2.15 GPa	312 ksi	
	@Strain 1.30 %, Temperature 40.0 °C	@Strain 1.30 %, Temperature 104 °F	ISO 11403-1 -2
	2.1825 GPa	316.55 ksi	

Mechanical Properties	@Strain 4.00 %, Metric Temperature -40.0 °C	@Strain 4.00 %, English Temperature -40.0 °F	ISO 11403-1 -2 Comments
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