

## DuPont Performance Polymers Delrin® 510GR NC000 Acetal Homopolymer (Unverified Data\*\*)

Category : Polymer , Thermoplastic , Acetal (POM)

### Material Notes:

Delrin® 510GR is a 10% glass reinforced acetal homopolymer for injection molding. It has high strength, stiffness, and high deflection temperature and excellent creep resistance. Information provided by DuPont Performance Polymers

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_DuPont-Performance-Polymers-Delrin-510GR-NC000-Acetal-Homopolymer-nbspUnverified-Data.php](http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-510GR-NC000-Acetal-Homopolymer-nbspUnverified-Data.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.47 g/cc	1.47 g/cc	ASTM D792
Density	1.49 g/cc	0.0538 lb/in <sup>3</sup>	ISO 1183
Filler Content	10 %	10 %	
Water Absorption	0.16 %	0.16 %	Equilibrium 50%RH; ISO 62, Similar to
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.1 %	1.1 %	Saturation, immersed; ISO 62, Similar to
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Linear Mold Shrinkage	0.0090 - 0.011 cm/cm	0.0090 - 0.011 in/in	Flow, 24h; ASTM D955
	@Thickness 3.20 mm	@Thickness 0.126 in	
	0.012 - 0.015 cm/cm	0.012 - 0.015 in/in	Transverse, 24h; ASTM D955
	@Thickness 3.20 mm	@Thickness 0.126 in	
Linear Mold Shrinkage, Flow	0.010 cm/cm	0.010 in/in	ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Linear Mold Shrinkage, Transverse	0.014 cm/cm	0.014 in/in	ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Melt Flow	7.0 g/10 min	7.0 g/10 min	ASTM D1238
	@Load 1.05 kg, Temperature 190 °C	@Load 2.31 lb, Temperature 374 °F	
Melt Index of Compound	12 g/10 min	12 g/10 min	cm <sup>3</sup> /10 min; ISO 1133
	@Load 2.16 kg, Temperature 190 °C	@Load 4.76 lb, Temperature 374 °F	

Mechanical Properties	Metric	English	Comments
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Mechanical Properties	95.0 MPa Metric	13800 psi English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength	100 MPa	14500 psi	5mm/min (0.2in/min); ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Stress	9.60 MPa	1390 psi	ISO 527
	@Strain 0.54861 %, Temperature 120 °C	@Strain 0.54861 %, Temperature 248 °F	
	12.1 MPa	1750 psi	ISO 527
	@Strain 0.48467 %, Temperature 100 °C	@Strain 0.48467 %, Temperature 212 °F	
	14.7 MPa	2130 psi	ISO 527
	@Strain 0.48973 %, Temperature 80.0 °C	@Strain 0.48973 %, Temperature 176 °F	
	15.2 MPa	2200 psi	ISO 527
	@Strain 0.46478 %, Temperature 60.0 °C	@Strain 0.46478 %, Temperature 140 °F	
	16.384 MPa	2376.3 psi	ISO 527
	@Strain 1.0972 %, Temperature 120 °C	@Strain 1.0972 %, Temperature 248 °F	
	21.074 MPa	3056.5 psi	ISO 527
	@Strain 0.96934 %, Temperature 100 °C	@Strain 0.96934 %, Temperature 212 °F	
	21.7 MPa	3150 psi	ISO 527
	@Strain 0.42991 %, Temperature 23.0 °C	@Strain 0.42991 %, Temperature 73.4 °F	
	23.239 MPa	3370.5 psi	ISO 527
	@Strain 1.6458 %, Temperature 120 °C	@Strain 1.6458 %, Temperature 248 °F	
	24.2 MPa	3510 psi	ISO 527
	@Strain 0.43188 %, Temperature 0.000 °C	@Strain 0.43188 %, Temperature 32.0 °F	
	25.996 MPa	3770.4 psi	ISO 527
	@Strain 0.92956 %, Temperature 60.0 °C	@Strain 0.92956 %, Temperature 140 °F	
	26.606 MPa	3858.9 psi	ISO 527
	@Strain 0.97947 %, Temperature 80.0 °C	@Strain 0.97947 %, Temperature 176 °F	

Mechanical Properties	28.593 MPa Metric	4147.1 psi English	Comments
	@Strain 1.454 %, Temperature 100 °C	@Strain 1.454 %, Temperature 212 °F	ISO 527
	<b>28.882 MPa</b>	<b>4189.0 psi</b>	
	@Strain 2.1944 %, Temperature 120 °C	@Strain 2.1944 %, Temperature 248 °F	ISO 527
	<b>29.5 MPa</b>	<b>4280 psi</b>	
	@Strain 0.47291 %, Temperature -40.0 °C	@Strain 0.47291 %, Temperature -40.0 °F	ISO 527
	<b>33.12 MPa</b>	<b>4804 psi</b>	
	@Strain 2.743 %, Temperature 120 °C	@Strain 2.743 %, Temperature 248 °F	ISO 527
	<b>35.12 MPa</b>	<b>5094 psi</b>	
	@Strain 1.9387 %, Temperature 100 °C	@Strain 1.9387 %, Temperature 212 °F	ISO 527
	<b>36.092 MPa</b>	<b>5234.7 psi</b>	
	@Strain 3.2917 %, Temperature 120 °C	@Strain 3.2917 %, Temperature 248 °F	ISO 527
	<b>36.37 MPa</b>	<b>5275 psi</b>	
	@Strain 1.4692 %, Temperature 80.0 °C	@Strain 1.4692 %, Temperature 176 °F	ISO 527
	<b>36.788 MPa</b>	<b>5335.7 psi</b>	
	@Strain 1.3943 %, Temperature 60.0 °C	@Strain 1.3943 %, Temperature 140 °F	ISO 527
	<b>38.166 MPa</b>	<b>5535.5 psi</b>	
	@Strain 3.8403 %, Temperature 120 °C	@Strain 3.8403 %, Temperature 248 °F	ISO 527
	<b>38.773 MPa</b>	<b>5623.6 psi</b>	
	@Strain 0.85983 %, Temperature 23.0 °C	@Strain 0.85983 %, Temperature 73.4 °F	ISO 527
	<b>39.505 MPa</b>	<b>5729.7 psi</b>	
	@Strain 4.3889 %, Temperature 120 °C	@Strain 4.3889 %, Temperature 248 °F	ISO 527
	<b>40.236 MPa</b>	<b>5835.7 psi</b>	
	@Strain 4.9375 %, Temperature 120 °C	@Strain 4.9375 %, Temperature 248 °F	ISO 527
	<b>40.458 MPa</b>	<b>5867.9 psi</b>	
			ISO 527

Mechanical Properties	Metric @Strain 2.4233 %, Temperature 100 °C	English @Strain 2.4233 %, Temperature 212 °F	Comments
	40.763 MPa	5912.2 psi	ISO 527
	@Strain 5.4861 %, Temperature 120 °C	@Strain 5.4861 %, Temperature 248 °F	
	42.383 MPa	6147.1 psi	ISO 527
	@Strain 0.86376 %, Temperature 0.000 °C	@Strain 0.86376 %, Temperature 32.0 °F	
	44.193 MPa	6409.7 psi	ISO 527
	@Strain 1.9589 %, Temperature 80.0 °C	@Strain 1.9589 %, Temperature 176 °F	
	44.729 MPa	6487.4 psi	ISO 527
	@Strain 2.908 %, Temperature 100 °C	@Strain 2.908 %, Temperature 212 °F	
	46.286 MPa	6713.2 psi	ISO 527
	@Strain 1.8591 %, Temperature 60.0 °C	@Strain 1.8591 %, Temperature 140 °F	
	47.928 MPa	6951.4 psi	ISO 527
	@Strain 3.3927 %, Temperature 100 °C	@Strain 3.3927 %, Temperature 212 °F	
	50.101 MPa	7266.5 psi	ISO 527
	@Strain 3.8774 %, Temperature 100 °C	@Strain 3.8774 %, Temperature 212 °F	
	50.504 MPa	7325.0 psi	ISO 527
	@Strain 2.4487 %, Temperature 80.0 °C	@Strain 2.4487 %, Temperature 176 °F	
	51.257 MPa	7434.2 psi	ISO 527
	@Strain 0.94582 %, Temperature -40.0 °C	@Strain 0.94582 %, Temperature -40.0 °F	
	51.292 MPa	7439.3 psi	ISO 527
	@Strain 4.362 %, Temperature 100 °C	@Strain 4.362 %, Temperature 212 °F	
	51.962 MPa	7536.5 psi	ISO 527
	@Strain 4.8467 %, Temperature 100 °C	@Strain 4.8467 %, Temperature 212 °F	
	53.401 MPa	7745.2 psi	ISO 527
	@Strain 1.2897 %, Temperature 23.0 °C	@Strain 1.2897 %, Temperature 73.4 °F	

Mechanical Properties	54.099 MPa Metric	7846.4 psi English	Comments
	@Strain 2.3239 %, Temperature 60.0 °C	@Strain 2.3239 %, Temperature 140 °F	
	<b>55.126 MPa</b>	<b>7995.4 psi</b>	ISO 527
	@Strain 2.9384 %, Temperature 80.0 °C	@Strain 2.9384 %, Temperature 176 °F	
	<b>58.223 MPa</b>	<b>8444.5 psi</b>	ISO 527
	@Strain 3.4281 %, Temperature 80.0 °C	@Strain 3.4281 %, Temperature 176 °F	
	<b>58.653 MPa</b>	<b>8506.9 psi</b>	ISO 527
	@Strain 1.2956 %, Temperature 0.000 °C	@Strain 1.2956 %, Temperature 32.0 °F	
	<b>60.039 MPa</b>	<b>8707.9 psi</b>	ISO 527
	@Strain 3.9179 %, Temperature 80.0 °C	@Strain 3.9179 %, Temperature 176 °F	
	<b>60.581 MPa</b>	<b>8786.5 psi</b>	ISO 527
	@Strain 2.7887 %, Temperature 60.0 °C	@Strain 2.7887 %, Temperature 140 °F	
	<b>60.788 MPa</b>	<b>8816.6 psi</b>	ISO 527
	@Strain 4.4076 %, Temperature 80.0 °C	@Strain 4.4076 %, Temperature 176 °F	
	<b>61.056 MPa</b>	<b>8855.4 psi</b>	ISO 527
	@Strain 4.8973 %, Temperature 80.0 °C	@Strain 4.8973 %, Temperature 176 °F	
	<b>64.901 MPa</b>	<b>9413.1 psi</b>	ISO 527
	@Strain 1.7197 %, Temperature 23.0 °C	@Strain 1.7197 %, Temperature 73.4 °F	
	<b>65.806 MPa</b>	<b>9544.4 psi</b>	ISO 527
	@Strain 3.2535 %, Temperature 60.0 °C	@Strain 3.2535 %, Temperature 140 °F	
	<b>69.369 MPa</b>	<b>10061 psi</b>	ISO 527
	@Strain 3.7182 %, Temperature 60.0 °C	@Strain 3.7182 %, Temperature 140 °F	
	<b>71.407 MPa</b>	<b>10357 psi</b>	ISO 527
	@Strain 1.7275 %, Temperature 0.000 °C	@Strain 1.7275 %, Temperature 32.0 °F	
	<b>71.424 MPa</b>	<b>10359 psi</b>	ISO 527
	@Strain 4.183 %,	@Strain 4.183 %,	

Mechanical Properties	Temperature 60.0 °C Metric	Temperature 140 °F English	Comments
	71.829 MPa	10374 psi	
	@Strain 1.4187 %, Temperature -40.0 °C	@Strain 1.4187 %, Temperature -40.0 °F	ISO 527
	72.353 MPa	10494 psi	
	@Strain 4.6478 %, Temperature 60.0 °C	@Strain 4.6478 %, Temperature 140 °F	ISO 527

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