

DuPont™ Delrin®

acetal resin

Delrin® 500AF

Delrin® 500AF is a medium viscosity acetal homopolymer resin containing 20% Teflon® PTFE fibers. It is designed for applications requiring low wear and/or low coefficient of friction against carbon steel, itself, and other plastics.

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		POM-SF20
Part Marking Code	ISO 11469		>POM-SF20<
Mechanical			
Stress at Break	ISO 527	MPa (kpsi)	50 (7.3)
Strain at Break	ISO 527	%	10
Nominal Strain at Break	ISO 527	%	14
Tensile Modulus	ISO 527	MPa (kpsi)	2800 (405)
Flexural Modulus	ISO 178	MPa (kpsi)	2500 (360)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²	
-30°C (-22°F)			3
23°C (73°F)			3
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m ²	
-30°C (-22°F)			35
23°C (73°F)			40

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
 ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.
 Test temperatures are 23°C unless otherwise stated.

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Property	Test Method	Units	Value
Thermal			
Deflection Temperature 0.45MPa	ISO 75-1/-2	°C (°F)	160 (320)
1.80MPa			92 (195)
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	178 (352)
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.9 (0.50)
23 - 55°C (73 - 130°F)			1.1 (0.61)
55 - 100°C (130 - 212°F)			1.3 (0.72)
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.9 (0.50)
23 - 55°C (73 - 130°F)			1.1 (0.61)
55 - 100°C (130 - 212°F)			1.4 (0.78)
Electrical			
Surface Resistivity	IEC 60093	ohm	>1E15
Relative Permittivity	IEC 60250		
1E6 Hz			3.1
Dissipation Factor	IEC 60250	E-4	
1E6 Hz			90
CTI	IEC 60112	V	600
Flammability			
Flammability Classification	IEC 60695-11-10		
1.5mm			HB
3.0mm			HB
Oxygen Index	ISO 4589-1/-2	%	23

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Property	Test Method	Units	Value
Temperature Index			
RTI, Electrical	UL 746B	°C	105
1.5mm			
3.0mm			
RTI, Impact	UL 746B	°C	85
1.5mm			
3.0mm			
RTI, Strength	UL 746B	°C	90
1.5mm			
3.0mm			
Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1530 (1.53)
Water Absorption	ISO 62, Similar to	%	0.2
Equilibrium 50%RH			
Immersion 24h, 2.0mm			
Saturation, immersed			1.0
Molding Shrinkage	ISO 294-4	%	2.1
Normal, 2.0mm			
Parallel, 2.0mm			
Processing			
Melt Temperature Range		°C (°F)	210-220 (410-430)
Melt Temperature Optimum		°C (°F)	215 (420)
Mold Temperature Range		°C (°F)	80-100 (175-210)
Mold Temperature Optimum		°C (°F)	90 (195)
Drying Time, Dehumidified Dryer		h	2-4
Drying Temperature		°C (°F)	80 (175)
Processing Moisture Content		%	<0.2
Hold Pressure Range		MPa (kpsi)	80-100 (12-15)

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