

DuPont™ Delrin®

acetal resin

PRELIMINARY DATA

Delrin® 500AL NC010

Delrin® 500AL is a medium viscosity acetal homopolymer, with an advanced system of lubrication for applications requiring low wear and/or coefficient of friction against steel, itself or other plastics.

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		POM-S
Part Marking Code	ISO 11469		>POM-S<
Mechanical			
Yield Stress	ISO 527	MPa (kpsi)	65 (9.4)
Yield Strain	ISO 527	%	11
Strain at Break	ISO 527	%	
50mm/min			35
Nominal Strain at Break	ISO 527	%	23
Tensile Modulus	ISO 527	MPa (kpsi)	3000 (435)
Flexural Modulus	ISO 178	MPa (kpsi)	2800 (406)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²	
-30°C (-22°F)			6
23°C (73°F)			7
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m ²	
-30°C (-22°F)			140
23°C (73°F)			170

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.

The above data are preliminary and are subject to change as additional data are developed on subsequent lots.

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Property	Test Method	Units	Value
Thermal			
Deflection Temperature	ISO 75-1/-2	°C (°F)	
0.45MPa			164
1.80MPa			97
Melting Temperature	ISO 11357-1/-3	°C (°F)	
10°C/min			178 (352)
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			1.0 (0.56)
23 - 55°C (73 - 130°F)			1.2 (0.66)
55 - 100°C (130 - 212°F)			1.5 (0.83)
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			1.0 (0.56)
23 - 55°C (73 - 130°F)			1.2 (0.64)
55 - 100°C (130 - 212°F)			1.7 (0.94)
Rheological			
Melt Mass-Flow Rate	ISO 1133	g/10 min	
190°C, 2.16kg			14
Flammability			
Flammability Classification	IEC 60695-11-10		
0.75mm			HB
1.5mm			HB
3.0mm			HB

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Property	Test Method	Units	Value
Temperature Index			
RTI, Electrical	UL 746B	°C	
0.75mm			50
1.5mm			110
3.0mm			110
RTI, Impact	UL 746B	°C	
0.75mm			50
1.5mm			85
3.0mm			90
RTI, Strength	UL 746B	°C	
0.75mm			50
1.5mm			90
3.0mm			95
Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1380 (1.38)
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			1.7
Parallel, 2.0mm			1.8
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		%	<0.1
Hold Pressure Range		MPa (kpsi)	80-100 (12-15)

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