

**Product Texts**

Common features of Delrin® acetal resins include mechanical and physical properties such as high mechanical strength and rigidity, excellent fatigue and impact resistance, as well as resistance to moisture, gasoline, lubricants, solvents, and many other neutral chemicals. Delrin® acetal resins also have excellent dimensional stability and good electrical insulating characteristics. They are naturally resilient, self-lubricating, and available in a variety of colors and speciality grades.

Delrin® acetal resin typically is used in demanding applications in the automotive, domestic appliances, sports, industrial engineering, electronics, and consumer goods industries.

**Delrin® 500P is a general purpose medium viscosity acetal homopolymer for injection molding. It has improved processing thermal stability, a good combination of mechanical properties, and low VOC emissions.**

Processing/Physical Characteristics	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melt volume-flow rate, MVR	13	cm <sup>3</sup> /10min	ISO 1133
Temperature	190	°C	-
Load	2.16	kg	-
<sup>[C]</sup> Molding shrinkage, parallel	2.0	%	ISO 294-4, 2577
<sup>[C]</sup> Molding shrinkage, normal	1.9	%	ISO 294-4, 2577
<b>ASTM Data</b>			
Melt Flow Index, MFI	7	g/10min	ASTM D 1238
Temperature	190	°C	-
Load	1.05	kg	-
Mold Shrinkage, MD	0.0195	mm/mm	ASTM D 955
Mold Shrinkage, TD	0.0195	mm/mm	ASTM D 955

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Tensile Modulus	3100	MPa	ISO 527
<sup>[C]</sup> Yield stress	71	MPa	ISO 527
<sup>[C]</sup> Yield strain	17	%	ISO 527
<sup>[C]</sup> Nominal strain at break	30	%	ISO 527
<sup>[C]</sup> Tensile creep modulus, 1h	2800	MPa	ISO 899-1
<sup>[C]</sup> Tensile creep modulus, 1000h	1600	MPa	ISO 899-1
<sup>[C]</sup> Charpy impact strength, +23°C	300	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy impact strength, -30°C	280	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	9	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	8	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Puncture - maximum force, +23°C	2000	N	ISO 6603-2
<sup>[C]</sup> Puncture energy, +23°C	3	J	ISO 6603-2
<b>ASTM Data</b>			
Tensile Modulus	3250	MPa	ASTM D 638
Tensile Strength	68	MPa	ASTM D 638
Tensile Strength at Yield	68	MPa	ASTM D 638
Elongation at Yield	15	%	ASTM D 638
Elongation at Break	40	%	ASTM D 638
Flexural Modulus	3100	MPa	ASTM D 790
Rockwell Hardness	R 120	-	ASTM D 785
Izod Impact notched, 1/8 in	75	J/m	ASTM D 256

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melting temperature, 10°C/min	178	°C	ISO 11357-1/-3
<sup>[C]</sup> Temp. of deflection under load, 1.80 MPa	93	°C	ISO 75-1/-2
<sup>[C]</sup> Temp. of deflection under load, 0.45 MPa	160	°C	ISO 75-1/-2
<sup>[C]</sup> Vicat softening temperature, B	155	°C	ISO 306
<sup>[C]</sup> Coeff. of linear therm. expansion, parallel	100	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, normal	100	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Burning Behav. at 1.5 mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	-

**Delrin® 500P NC010**

POM

Delrin

Yellow Card available	<b>yes</b>	-	-
<sup>[C]</sup> Burning Behav. at thickness h	<b>HB</b>	class	IEC 60695-11-10
Thickness tested	<b>0.8</b>	mm	-
Yellow Card available	<b>yes</b>	-	-
<sup>[C]</sup> Oxygen index	<b>22</b>	%	ISO 4589-1/-2
<b>ASTM Data</b>			
UL 94 Flame rating	<b>HB</b>	-	UL 94
Thickness tested	<b>1.5</b>	mm	-
Coefficient of Thermal Expansion, MD	<b>113</b>	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	<b>109</b>	E-6/K	ASTM D 696
DTUL @ 66 psi	<b>167</b>	°C	ASTM D 648
DTUL @ 264 psi	<b>102</b>	°C	ASTM D 648
Melting Temperature	<b>178</b>	°C	ASTM D 3418

[C]: CAMPUS

<b>Electrical properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
<b>ISO Data</b>			
<sup>[C]</sup> Relative permittivity, 100Hz	<b>3.8</b>	-	IEC 62631-2-1
<sup>[C]</sup> Relative permittivity, 1MHz	<b>3.8</b>	-	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 100Hz	<b>90</b>	E-4	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 1MHz	<b>90</b>	E-4	IEC 62631-2-1
<sup>[C]</sup> Volume resistivity	<b>2E12</b>	Ohm*m	IEC 62631-3-1
<sup>[C]</sup> Surface resistivity	<b>4E14</b>	Ohm	IEC 62631-3-2
<sup>[C]</sup> Electric strength	<b>44</b>	kV/mm	IEC 60243-1
<sup>[C]</sup> Comparative tracking index	<b>600</b>	-	IEC 60112
<b>ASTM Data</b>			
Dielectric Strength, Short Time	<b>17.3</b>	kV/mm	ASTM D 149
Dissipation Factor, 1 MHz	<b>0.005</b>	-	ASTM D 150
Dielectric Constant, 1 MHz	<b>3.7</b>	-	ASTM D 150
Surface Resistivity	<b>2E14</b>	Ohm	ASTM D 257
Volume Resistivity	<b>1E14</b>	Ohm*cm	ASTM D 257

[C]: CAMPUS

<b>Other properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
<sup>[C]</sup> Water absorption	<b>1.3</b>	%	Sim. to ISO 62
<sup>[C]</sup> Humidity absorption	<b>0.2</b>	%	Sim. to ISO 62
<sup>[C]</sup> Density	<b>1420</b>	kg/m <sup>3</sup>	ISO 1183
Water Absorption, 24hr	<b>0.4</b>	%	ASTM D 570
Water Absorption, Equilibrium	<b>0.28</b>	%	ASTM D 570
Density	<b>1420</b>	kg/m <sup>3</sup>	ASTM D 792

[C]: CAMPUS

**Characteristics****Processing**

Injection Molding, Film Extrusion, Pipe/Tube Extrusion, Profile Extrusion, Sheet Extrusion, Wire/Cable Extrusion, Other Extrusion

**Delivery form**

Pellets, Natural Color

**Additives**

Lubricants, Release agent

**Special Characteristics**

High impact or impact modified

**Features**

Creep Resistance, Fatigue Resistance, Low Emission, Thermal Stability, Weldable, Homopolymer

**Applications**

General Purpose

**Regional Availability**

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

**Other text information****Injection molding**

Drying is recommended, but not necessary for newly opened packaging stored in a dry location.

Follow the drying guidelines above in the following cases:

- If moisture is above the Processing Moisture Content recommendation,
- When a resin container is damaged,
- When the material is not properly stored in a dry place at room temperature, or
- When packaging stays open for a significant time.