

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® 100ST is a super-toughened, high viscosity acetal homopolymer grade with superior impact resistance. It is designed for highly stressed parts where outstanding toughness is essential.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
^[C] Melt volume-flow rate, MVR	1.7	cm ³ /10min	ISO 1133
Temperature	190	°C	-
Load	2.16	kg	-
^[C] Molding shrinkage, parallel	0.8	%	ISO 294-4, 2577
^[C] Molding shrinkage, normal	1.1	%	ISO 294-4, 2577
ASTM Data			
Melt Flow Index, MFI	0.8	g/10min	ASTM D 1238
Temperature	190	°C	-
Load	2.16	kg	-
Mold Shrinkage, MD	0.0105	mm/mm	ASTM D 955
Mold Shrinkage, TD	0.0115	mm/mm	ASTM D 955

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	1400	MPa	ISO 527
^[C] Yield stress	41	MPa	ISO 527
^[C] Yield strain	30	%	ISO 527
^[C] Nominal strain at break	>50	%	ISO 527
^[C] Tensile creep modulus, 1h	1100	MPa	ISO 899-1
^[C] Tensile creep modulus, 1000h	550	MPa	ISO 899-1
^[C] Charpy impact strength, +23°C	N	kJ/m ²	ISO 179/1eU
^[C] Charpy impact strength, -30°C	N	kJ/m ²	ISO 179/1eU
^[C] Charpy notched impact strength, +23°C	90	kJ/m ²	ISO 179/1eA
^[C] Charpy notched impact strength, -30°C	18	kJ/m ²	ISO 179/1eA
^[C] Shore D hardness	70	-	ISO 7619-1
ASTM Data			
Tensile Modulus	1300	MPa	ASTM D 638
Tensile Strength	32	MPa	ASTM D 638
Tensile Strength at Yield	45	MPa	ASTM D 638
Elongation at Yield	35	%	ASTM D 638
Elongation at Break	150	%	ASTM D 638
Flexural Modulus	1130	MPa	ASTM D 790
Rockwell Hardness	R 105	-	ASTM D 785
Izod Impact notched, 1/8 in	N	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	250	J/m	ASTM D 256
Temperature	-40	°C	-

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Thermal properties	Value	Unit	Test Standard
ISO Data			
^[C] Melting temperature, 10°C/min	178	°C	ISO 11357-1/-3
^[C] Glass transition temperature, 10°C/min	-35	°C	ISO 11357-1/-2
^[C] Temp. of deflection under load, 1.80 MPa	60	°C	ISO 75-1/-2
^[C] Temp. of deflection under load, 0.45 MPa	100	°C	ISO 75-1/-2
^[C] Coeff. of linear therm. expansion, parallel	130	E-6/K	ISO 11359-1/-2
^[C] Coeff. of linear therm. expansion, normal	140	E-6/K	ISO 11359-1/-2
^[C] Burning Behav. at 1.5 mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	-

Delrin® 100ST NC010

POM

Delrin

Yellow Card available

yes

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ASTM Data

UL 94 Flame rating	HB	-	UL 94
Thickness tested	1.5	mm	-
Coefficient of Thermal Expansion, MD	126	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	136	E-6/K	ASTM D 696
DTUL @ 66 psi	124	°C	ASTM D 648
DTUL @ 264 psi	61	°C	ASTM D 648
Melting Temperature	178	°C	ASTM D 3418

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Electrical properties**Value****Unit****Test Standard****ISO Data**

^[C] Relative permittivity, 100Hz	4.4	-	IEC 62631-2-1
^[C] Relative permittivity, 1MHz	3.8	-	IEC 62631-2-1
^[C] Volume resistivity	1E12	Ohm*m	IEC 62631-3-1
^[C] Surface resistivity	1E14	Ohm	IEC 62631-3-2
^[C] Comparative tracking index	600	-	IEC 60112

ASTM Data

Dielectric Strength, Short Time	20	kV/mm	ASTM D 149
Dissipation Factor, 1 MHz	0.027	-	ASTM D 150
Dielectric Constant, 1 MHz	4.2	-	ASTM D 150
Surface Resistivity	2E14	Ohm	ASTM D 257
Volume Resistivity	4E14	Ohm*cm	ASTM D 257

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Other properties**Value****Unit****Test Standard**

^[C] Water absorption	0.9	%	Sim. to ISO 62
^[C] Humidity absorption	0.35	%	Sim. to ISO 62
^[C] Density	1340	kg/m ³	ISO 1183
Water Absorption, 24hr	0.44	%	ASTM D 570
Water Absorption, Equilibrium	0.35	%	ASTM D 570
Density	1340	kg/m ³	ASTM D 792

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Characteristics**Processing**

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

Delivery form

Pellets, Natural Color

Additives

Lubricants, Release agent

Special Characteristics

High impact or impact modified

Features

Weldable, Homopolymer

Regional Availability

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