Delrin® 500AL NC010

POM-Z | Delrin

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® 500AL is a medium viscosity acetal homopolymer containing an advanced system of lubrication designed for low wear, low friction, and low noise against metals and plastics.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
[C] Melt volume-flow rate, MVR	**12**	cm³/10min	ISO 1133
Temperature	**190**	°C	-
Load	**2.16**	kg	-
[C] Molding shrinkage, parallel	**1.8**	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**1.7**	%	ISO 294-4, 2577
ASTM Data			
Melt Flow Index, MFI	**6**	g/10min	ASTM D 1238
Temperature	**190**	°C	-
Load	**1.05**	kg	-
Mold Shrinkage, MD	**0.0185**	mm/mm	ASTM D 955
Mold Shrinkage, TD	**0.0185**	mm/mm	ASTM D 955

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**3100**	MPa	ISO 527
[C] Yield stress	**66**	MPa	ISO 527
[C] Yield strain	**11**	%	ISO 527
[C] Nominal strain at break	**23**	%	ISO 527
[C] Tensile creep modulus, 1h	**2400**	MPa	ISO 899-1
[C] Tensile creep modulus, 1000h	**1600**	MPa	ISO 899-1
[C] Charpy impact strength, +23°C	**160**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**130**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**7**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**6**	kJ/m²	ISO 179/1eA
ASTM Data			
Tensile Modulus	**3170**	MPa	ASTM D 638
Tensile Strength	**66**	MPa	ASTM D 638
Tensile Strength at Yield	**66**	MPa	ASTM D 638
Elongation at Yield	**10**	%	ASTM D 638
Elongation at Break	**30**	%	ASTM D 638
Flexural Modulus	**2970**	MPa	ASTM D 790
Flexural Strength	**88**	MPa	ASTM D 790
Izod Impact notched, 1/8 in	**58**	J/m	ASTM D 256

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
[C] Melting temperature, 10°C/min	**178**	°C	ISO 11357-1/-3
[C] Temp. of deflection under load, 1.80 MPa	**97**	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**164**	°C	ISO 75-1/-2
[C] Coeff. of linear therm. expansion, parallel	**120**	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**120**	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	-
Yellow Card available	**yes**	-	-
[C] Burning Behav. at thickness h	**HB**	class	IEC 60695-11-10
Thickness tested	**0.8**	mm	-
Yellow Card available	**yes**	-	-

ASTM Data			
UL 94 Flame rating	**HB**	-	UL 94
Thickness tested	**1.5**	mm	-
Coefficient of Thermal Expansion, MD	**118**	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	**116**	E-6/K	ASTM D 696
DTUL @ 66 psi	**169**	°C	ASTM D 648
DTUL @ 264 psi	**108**	°C	ASTM D 648
Melting Temperature	**178**	°C	ASTM D 3418

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ASTM Data			
Dielectric Strength, Short Time	**17.7**	kV/mm	ASTM D 149
Dissipation Factor, 1 MHz	**0.006**	-	ASTM D 150
Dielectric Constant, 1 MHz	**3.6**	-	ASTM D 150
Surface Resistivity	**>1E15**	Ohm	ASTM D 257
Volume Resistivity	**7E14**	Ohm*cm	ASTM D 257

Other properties	Value	Unit	Test Standard
[C] Humidity absorption	**0.3**	%	Sim. to ISO 62
[C] Density	**1390**	kg/m³	ISO 1183
Density	**1390**	kg/m³	ASTM D 792

[C]: CAMPUS

Characteristics

Processing
Injection Molding

Delivery form
Pellets, Natural Color

Additives
Lubricants, Release agent

Features
Creep Resistance, Tribologic Grade, Weldable, Homopolymer

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.