Delrin® 500AF

(POM+PTFE)-Z20 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® 500AF is a medium viscosity acetal homopolymer containing 20% PTFE fibers. It is designed for applications requiring low wear and/or low friction against steel, itself, or other plastics.

Due to the color of the PTFE fibers, the natural color of this material is brown.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
[C] Molding shrinkage, parallel	**2.0**	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**1.4**	%	ISO 294-4, 2577
ASTM Data			
Melt Flow Index, MFI	**2**	g/10min	ASTM D 1238
Temperature	**190**	°C	-
Load	**1.05**	kg	-
Mold Shrinkage, MD	**0.019**	mm/mm	ASTM D 955
Mold Shrinkage, TD	**0.016**	mm/mm	ASTM D 955

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**2800**	MPa	ISO 527
[C] Stress at break	**50**	MPa	ISO 527
[C] Strain at break	**10**	%	ISO 527
[C] Charpy impact strength, +23°C	**40**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**35**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**3**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**3**	kJ/m²	ISO 179/1eA
ASTM Data			
Tensile Modulus	**2910**	MPa	ASTM D 638
Tensile Strength	**50**	MPa	ASTM D 638
Elongation at Break	**11**	%	ASTM D 638
Flexural Modulus	**2710**	MPa	ASTM D 790
Izod Impact notched, 1/8 in	**31**	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	**92**	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**160**	°C	ISO 75-1/-2
[C] Coeff. of linear therm. expansion, parallel	**110**	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**100**	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	**3.0**	mm	-
Yellow Card available	**yes**	-	-
ASTM Data			
UL 94 Flame rating	**HB**	-	UL 94
Thickness tested	**1.5**	mm	-
Coefficient of Thermal Expansion, MD	**104**	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	**100**	E-6/K	ASTM D 696
DTUL @ 66 psi	**163**	°C	ASTM D 648

DTUL @ 264 psi	**95**	°C	ASTM D 648
Melting Temperature	**178**	°C	ASTM D 3418

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 1MHz	**3.1**	-	IEC 62631-2-1
[C] Dissipation factor, 1MHz	**90**	E-4	IEC 62631-2-1
[C] Surface resistivity	**>1E15**	Ohm	IEC 62631-3-2
[C] Comparative tracking index	**600**	-	IEC 60112

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
[C] Water absorption	**1**	%	Sim. to ISO 62
[C] Humidity absorption	**0.2**	%	Sim. to ISO 62
[C] Density	**1530**	kg/m³	ISO 1183
Water Absorption, 24hr	**0.2**	%	ASTM D 570
Water Absorption, Equilibrium	**0.18**	%	ASTM D 570
Density	**1530**	kg/m³	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

Additives
Lubricants, Release agent

Features
Tribologic Grade, Homopolymer

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