Quadrant EPP Delrin® AF Blend

Acetal (POM) Homopolymer

Quadrant Engineering Plastic Products

Message:

Delrin* AF Blend acetal is a unique thermoplastic material for use in moving parts in which low friction and long wear are important. It is a combination of Teflon* fibers uniformly dispersed in Delrin acetal resin. This combination produces a material that has strength, toughness, dimensional stability and good machinability, plus improved wear characteristics over unfilled Delrin. Delrin AF Blend, most commonly supplied as a 2:1 blend of Delrin AF100 and Delrin 150 resins, has excellent sliding/friction properties. Bearings made of Delrin AF Blend sustain high loads when operating at high speeds and show reduced wear. These bearings are also essentially free of slip-stick behavior because the static and dynamic coefficient of friction are closer than with most plastics. Delrin AF Blend retains much of the strength that is inherent in unmodified Delrin acetal. Some properties are changed due to the addition of the softer Teflon fiber. The natural color of Delrin AF Blend is dark brown.
Data provided by Quadrant Engineering Plastic Products from tests on stock shapes and parts produced by Quadrant EPP.

General Information			
Filler / Reinforcement	Teflon® PTFE		
Features	Alcohol Resistant Alkali Resistant Good Dimensional Stability Good Strength Good Toughness Good Wear Resistance Hydrocarbon Resistant Low Friction Low Slip Machinable		
Uses	Bearings		
Appearance	Brown		
Processing Method	Extrusion		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.50	g/cm³	ASTM D792
Water Absorption			ASTM D570
24 hr	0.20	%	
Saturation	1.0	%	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness			ASTM D785
M-Scale	85		
R-Scale	115		
Durometer Hardness (Shore D)	83		ASTM D2240
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	3000	MPa	ASTM D638
Tensile Strength (Ultimate)	55.2	MPa	ASTM D638

Tensile Elongation (Break)	15	%	ASTM D638
Flexural Modulus	3070	MPa	ASTM D790
Flexural Strength (Yield)	82.7	MPa	ASTM D790
Compressive Modulus	2410	MPa	ASTM D695
Compressive Strength (10% Strain)	110	MPa	ASTM D695
Shear Strength	52.4	MPa	ASTM D732
Coefficient of Friction (vs. Steel - Static)	0.19		Internal Method
Wear Factor	120	10^-8 mm^3/N·m	ASTM D3702
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	37	J/m	ASTM D256A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	118	°C	ASTM D648
Maximum Use Temperature - Long Term, Air	82	°C	
Limiting Pressure Velocity [1]	0.291	MPa·m/s	Internal Method
Peak Crystallization Temperature (DSC)	175	°C	ASTM D3418
CLTE - Flow [2] (-40 to 149°C)	9.0E-5	cm/cm/°C	ASTM E831
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity [3]	> 1.0E+13	ohms	Internal Method
Dielectric Strength [4]	16	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	3.10		ASTM D150
Dissipation Factor (1 MHz)	0.010		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (3.18 mm, Estimated Rating)	HB		UL 94
NOTE			
1.	4:1 safety factor		
2.	68°F		
3.	EOS/ESD S11.11		
4.	Method A (Short-Time)		

Recommended distributors for this material

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