

DELTRIN 511 Series Acetal Homopolymer - Stock Shapes

Chemical Designation

POM-H (Polyacetal (Homopolymer))

Colour

white

Density

1.42 g/cm³

Main features

- good machinability
- high stiffness
- high fatigue strength
- high creep resistance
- good wear properties
- very good abrasion resistance

Target Industries

- automotive industry
- food engineering
- construction industry
- conveyor technology
- mechanical engineering
- electronics
- fixture construction
- home appliances
- gear manufacturing

Mechanical properties	condition	value	test method	comment
Modulus of elasticity (tensile test)		450,000 psi	ASTM D 638	(1) public source data (2) publicly sourced data
Tensile strength at yield		10,000 psi	ASTM D 638	
Elongation at yield	@ 73 °F	18 %	ASTM D 638	
Elongation at break	@ 73 °F	25 %	ASTM D 638	
Flexural strength	@ 73 °F	16,000 psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	520,000 psi	ASTM D 790	
Compression strength	@ 73 °F, 10% strain	16,500 psi	ASTM D 695	
Compression strength	@ 73 °F, 1% strain	2,100 psi	ASTM D 695	
Impact strength (Izod)	@ 73 °F	1.25 ft-lbs/in	ASTM D 256	
Rockwell hardness	@ 73 °F M Scale (R Scale)	95	ASTM D 785	
Coefficient of friction	Static 40 psi	0.20 %	ASTM D 3702	1)
Coefficient of friction	Dynamic 40 psi, 50 fpm	0.35	ASTM D 3702	2)
Wear rate	40 psi, 50 fpm	55*10 ⁻¹⁰ in ³ -min/ft-lbs-hr	ASTM D 3702	
Thermal properties	condition	value	test method	comment
Melting temperature		352 °F	DIN EN ISO 11357	1)
Deflection temperature	@ 66 psi	325 °F	ISO-R 75 Method B	2)
Deflection temperature	@264 psi	225 °F	ISO-R 75 Method A	3)
Service temperature	Intermittent	300 °F	-	
Service temperature	Long Term	185 °F	-	4)
Thermal expansion (CLTE)		6.8*10 ⁻⁵ in/in/°F	ASTM D 696	
Specific heat		0.35 BTU/lb-F°	-	
Electrical properties	condition	value	test method	comment
Volume resistivity		> 10 ¹⁵ Ω*cm	ASTM D257	
Other properties	condition	value	test method	comment
Moisture absorption	@ 24 hrs, 73 °F	0.20 %	ASTM D 570	
Moisture absorption	@ saturation, 73 °F	.90 %	ASTM D 570	

→ Resin specification:
ASTM D6778 POM0113 (ASTM D4181 withdrawn 2005, Replaced by D6778)
Shapes specification:
ASTM D6100 S-POM0112

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