

MACH 4

UHMPE Polymer Sheet

Physical Properties

Ultra High Mechanical Polyethylene (UHMPE) is a superior resin engineered to operate in demanding applications combining low co-efficient of friction, excellent abrasion resistance and high impact. Mach4 UHMPE is engineered as a premium lining material for bulk material handling. Its amazing performance in promoting bulk solids flow of cohesive or non-free flowing materials is a life-saver for high production manufacturers. Controlling and promoting flow of bulk material is the key reason production facilities choose Mach4 lining grade sheets. This resin is UV protected for outdoor applications. Mach 4 is a non-FDA formulation.

TECHNICAL INFORMATION

Property	Method	Unit	Nominal Value*
Density	ASTM D-792	g/cm ³	0.929
Tensile strength	ASTM D-638	psi	2,900
Tensile modulus	ASTM D-638	psi	94,000
Elongation at break	ASTM D-638	%	325
Flexural modulus	ASTM D-790	psi	118,000
Flexural strength	ASTM D-790	psi	n/a
Izod impact	ASTM D-4020	ft-lbs/in ²	no break
Izod impact - notched	ASTM D-4020	ft-lbs/in ²	n/a
Compressive modulus	ASTM D-695	psi	80,000
Compressive strength (10% Def.)	ASTM D-695	psi	2,900
Hardness	ASTM D-2240	Shore D	66
Coefficient of Friction - Dynamic	1018 Steel = 100	-	0.13
Coefficient of Friction - Static	1018 Steel = 100	-	0.16
Coefficient of linear thermal expansion	ASTM D-696	in/in/°F	4.8 x 10 ⁻⁵
Heat deflection temperature, 66 psi	ASTM D-648	°F	169
Volume resistivity	ASTM D-257	Ohm-cm	>10 ¹⁰
Surface resistivity	ASTM D-257	Ohm	>10 ¹⁰
Brittleness Temperature	ASTM D746	°F	< - 103
Vicat softening temperature	ASTM D-1525	°F	248
Max. operating / service temp (air)		°F	175
Water absorption 24hrs.	ASTM D-570	%	0.01

*All values are determined on specimens prepared according to ASTM 1248-84 "Standard Specifications for Polyethylene Plastic Molding and Extrusion Materials". Nominal values should NOT be interpreted as specifications.

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