

# MACH 6

## 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. Mach6 UHMPE is an impact resistant product for extreme sliding abrasion applications. Mimicking the abrasion resistance effect of ceramic, Mach6 UHMPE is effective for high load, high speed and severe sliding abrasion applications. It retains the self-lubricating properties of UHMPE for a low-friction surface and is an excellent choice as a noise dampening wear plate. Mach6 reduces parts wear and machine maintenance downtime. This resin is UV protected for outdoor applications. Mach 6 is a non-FDA formulation.

## TECHNICAL INFORMATION

Property	Method	Unit	Nominal Value*
Density	ASTM D-792	g/cm <sup>3</sup>	0.958
Tensile strength	ASTM D-638	psi	2,750
Tensile modulus	ASTM D-638	psi	116,000
Elongation at break	ASTM D-638	%	300
Flexural modulus	ASTM D-790	psi	121,000
Flexural strength	ASTM D-790	psi	n/a
Izod impact	ASTM D-4020	ft-lbs/in <sup>2</sup>	no break
Izod impact - notched	ASTM D-4020	ft-lbs/in <sup>2</sup>	n/a
Compressive modulus	ASTM D-695	psi	94,000
Hardness	ASTM D-2240	Shore D	66
Coefficient of Friction - Dynamic	1018 Steel = 100	-	0.12
Coefficient of Friction - Static	1018 Steel = 100	-	0.17
Coefficient of linear thermal expansion	ASTM D-696	in/in/°F	4.7 x 10 <sup>-5</sup>
Heat deflection temperature, 66 psi	ASTM D-648	°F	169
Volume resistivity	ASTM D-257	Ohm-cm	>10 <sup>9</sup>
Surface resistivity	ASTM D-257	Ohm	>10 <sup>9</sup>
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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