



## **UHMW**

### **Physical Properties**

<b>Property</b>	<b>Method</b>	<b>SI Unit</b>	<b>SI Value</b>	<b>English Unit</b>	<b>English Value</b>
Density	ASTM D-792	kg/m <sup>3</sup>	930	lbs/ft <sup>3</sup>	58.01
Yield Point	ASTM D-638	MPa	21	psi	3050
Elongation at Yield	ASTM D-638	%	15	%	15
Ten sile Break	ASTM D-638	MPa	40	psi	5800
Elongation at Break	ASTM D-638	%	250	%	250
Ten sile Modulus	ASTM D-638	MPa	820	psi	120000
Flexural Modulus	ASTM D-790	MPa	760	psi	110000
Izod Impact	ASTM D-4020	kJ/m <sup>2</sup>	70	ft-lbs/in <sup>2</sup>	34
Ten sile Impact	DIN 53448	kJ/m <sup>2</sup>	2200	ft-lbs/in <sup>2</sup>	1050
Sand Wheel Wear	ASTM G-65,	AR-01 Steel=100	90	AR-01 Steel=100	90
Hardness	ASTM D-2240	Shore D	68	Shore D	68
Static Friction	ASTM D-1894	Unitless	0.15	Unitless	0.15
Dynamic Friction	ASTM D-1894	Unitless	0.12	Unitless	0.12
Coefficient of Thermal Exp.	ASTM D-696	<sup>0</sup> C <sup>-1</sup>	0.0002	<sup>0</sup> F <sup>-1</sup>	0.00011
Melt Point	ASTM D-3417	<sup>0</sup> C	137-143	<sup>0</sup> F	278-289
Maximum Operating Temp.		<sup>0</sup> C	82	<sup>0</sup> F	180
Compressive Modulus	ASTM D-695	MPa	536	psi	77750
Compressive Deformation	ASTM D-621	% at 454.5 kg	'6-8	% at 1000 psi	6-8
Volume Resistivity	ASTM D-257	Ohm-cm	>10 <sup>15</sup>	Ohm-cm	>10 <sup>15</sup>
Surface Resistivity	ASTM D-257	Ohm	>10 <sup>15</sup>	Ohm	>10 <sup>15</sup>
Water Absorption	ASTM D-570	%	nil	%	nil

\* Values are averages and are not specifications.

\*\* ASTM test methods are under current procedures.

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