



## Physical Properties of UHMW PE

Property	Method	Unit	5M	MP	AR	ARS	AR Glass
			Virgin	Repro	Cross Linked	Silicone/AR	Glass/AR
Density	ASTM D 792	g/cm <sup>3</sup>	0.93	0.94	0.93	0.93	0.96
Tensile Break	ASTM D 638	psi	6,000	4,200	5,200	5,200	5,000
Elongation at Break	ASTM D 638	%	400	300	350	340	300
Flexural Modulus	ASTM D 790B	psi	120,000	111,000	120,000	120,000	140,000
Abrasion	Internal	Steel = 100	16	14	7	10	7
IZOD Impact							
Notched	ASTM D 256A	ft.-lbs./in.	No Break	No Break	No Break	No Break	No Break
Double-notched	Internal	ft.-lbs./in.	26	21	23	23	24
Linear Coefficient of Thermal Expansion	ASTM D 696	°K <sup>-1</sup>	2 x 10 <sup>-4</sup>	2 x 10 <sup>-4</sup>	0.9 x 10 <sup>-4</sup>	0.9 x 10 <sup>-4</sup>	0.9 x 10 <sup>-4</sup>
Coefficient of Friction							
Static	ASTM D 1894	Unitless	0.2	0.2	0.2	0.14	0.2
Dynamic	ASTM D 1894	Unitless	0.15	0.15	0.15	0.09	0.15

### UHMW Highlights

- UHMW is 6 times more abrasion resistant than steel.
- Virtually unbreakable with no notch sensitivity.
- Non-marking and nonabrasive.
- Available with a non-skid surface where traction is needed.
- Low friction coefficient makes it slick in any weather.
- Lightweight. Floats in water. 1" x 12" x 12" = 5 pounds.
- No cold embrittlement, works from -115°F to + 200°F.
- Can be cold or heat bent to meet required shapes
- Simple to install and requires virtually no maintenance.
- Nonconductive, nonmagnetic, and non-fibrous.
- We can make UHMW that is conductive or magnetic and we can add fiber.
- Absorbs no water and is impervious to most chemicals.
- Doesn't chip, peel, crack or rot.
- Impervious to marine borers and barnacle resistant.
- Environmentally friendly, contains no harsh chemicals.
- Custom colors available.

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