

UHMW

Ultra High Molecular Weight Polyethylene provides a unique combination of wear and corrosion resistance, low friction surface, and impact strength. It is resistant to chemical attack and moisture absorption and retains key physical properties in cold temperatures. It is also a cost-effective solution for food handling applications as it meets FDA and USDA guidelines.

Applications

UMHW is great for food processing, bulk material handling, packaging, and conveyor technology. Some applications include chute and hopper liners, wear strips, guide rails and rollers, bearings, bushings, chain guides, sprockets, gears, vent and filter plates, paddles, and scrapers.

Key Product Benefits

- High Abrasion and Wear Resistance
- Chemical and Corrosion Resistance
- High Impact Strength
- Low Coefficient of Friction

Properties

Property	Test Method	Value
Specific Gravity	ASTM D792	0.93
Water Absorption	ASTM D570	<0.10%
Shore Hardness (D Scale)	ASTM D2240	62-66
Tensile Strength @ Yield	ASTM D638	3,000-3,100 psi
Tensile Strength @ Break	ASTM D638	5,800 psi
Tensile Modulus	ASTM D638	80,000-100,000 psi
Elongation @ Break	ASTM D638	>300%
Flexural Strength	ASTM D790	3,500 psi
Compressive Strength	ASTM D695	3,000 psi
Dynamic Coefficient of Friction		0.10-0.22
Static Coefficient of Friction		0.15-0.20
Izod Impact Strength	ASTM D4020	59.5 ft-lb/in ²
Coefficient of Linear Thermal Expansion	ASTM D696	1.1 × 10 ⁻⁴ in/in/°F

Property (Continued)	Test Method (Continued)	Value (Continued)
Melting Point	ASTM D3418	266-275°F
Continuous Allowable Service Temperature, Air		180°F
Heat Deflection Temperature @ 264 psi	ASTM D648	108-116°F
Flammability	UL 94	HB
Volume Resistivity	ASTM D257	>10 ¹⁴ ohm-cm
Surface Resistivity	ASTM D257	>10 ¹² ohm
Dielectric Constant, @ 1 MHz	ASTM D150	2.3
Dielectric Strength	ASTM D149	45 kV/mm