

UHMW-PE stands for Ultra-High Molecular Weight Polyethylene. It is a type of thermoplastic material known for its exceptional strength, impact resistance, and low friction properties. UHMW-PE has a very high molecular weight, which contributes to its superior mechanical properties.

Chemical Description

Description	Value
Material Type	Semi-Crystalline Thermoplastic Polyethylene
Chemical Name	UHMW-PE Ultra High Molecular Weight Polyethylene
Additives	Unfilled
Color	Natural White
UV Resistant	No

Physical Properties

Property	Maximum Unless Range is Specified
Density,lbs/in ³	0.034
Water Absorption, 24 hrs, Immersion,% by wt.	<0.01
Coefficient of Linear Thermal Expansion, x10 ⁻⁵ in./in./°F	11
Heat Deflection Temp,°F at 263psi	116
Melting Point Temp,°F	275
Max Continuous Operating Temp,°F	180
Minimum Operating Temp,°F	-328
Flammability Rating,UL94	HB
Dielectric Strength,V/mil	1150
Dielectric Constant at 1 MHz	2.3
Surface Resistivity,ohm/square	>10 ¹⁵
Thermal Conductivity,BTU-in/ft ² -hr-°F	2.84

Mechanical Properties

Property	Maximum Unless Range is Specified
Tensile Strength,ksi	5.8
Tensile Modulus,ksi	800
Compressive Strength,ksi	3.0
Compressive Modulus,ksi	80
Flexural Strength,ksi	3.5
Flexural Modulus,ksi	88
Elongation at Break	300%
Notched Izod Impact Strength,ft-lb/in	No Break

The material properties in this datasheet are provided by one of the manufacturers collaborating with Naxtry. Please note that material properties may slightly vary among different manufacturers. Naxtry can accommodate customer requests for specific materials or brands.