

HDPE stands for High-Density Polyethylene. It is a versatile thermoplastic material known for its high strength, durability, and chemical resistance. HDPE has a high-density molecular structure, resulting in a rigid and tough material with excellent impact resistance. It is commonly used in various industries for applications such as packaging, pipes, containers, automotive parts, toys, and construction materials.

**Chemical Description**

Description	Value
Material Type	Semi-Crystalline Thermoplastic
Chemical Name	HDPE High Density Polyethylene
Additives	Unfilled
Color	Natural White
UV Resistant	No

**Physical Properties**

Property	Maximum Unless Range is Specified
Density,lbs/in <sup>3</sup>	0.035
Water Absorption, 24 hrs, Immersion,% by wt.	<0.01
Coefficient of Linear Thermal Expansion, x10-5 in./in./°F	6
Heat Deflection Temp,°F at 263psi	180
Melting Point Temp,°F	260
Max Continuous Operating Temp,°F	180
Minimum Operating Temp,°F	-76
Flammability Rating,UL94	HB
Dielectric Strength,V/mil	450
Dielectric Constant at 1 MHz	2.3
Surface Resistivity,ohm/square	>10 <sup>15</sup>

**Mechanical Properties**

Property	Maximum Unless Range is Specified
Tensile Strength,ksi	4.6
Tensile Modulus,ksi	200
Compressive Strength,ksi	4.6
Compressive Modulus,ksi	100
Flexural Strength,ksi	4.6
Flexural Modulus,ksi	174
Elongation at Break	400%
Hardness, Shore D	69
Notched Izod Impact Strength,ft-lb/in	1.3

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.