

# HIGH DENSITY POLYETHYLENE (HDPE)

## KEY FEATURES

- Light Weight
- High Toughness
- Very Good at Electrical and Dielectric Properties
- Very Low Water Absorption
- Low Steam Permeability
- High Chemical Resistance
- Good Protection Against Stress Cracking
- Food Safe
- Soft Surface
- HF Welding is Not Recommended

## DESCRIPTION

High-Density Polyethylene (HDPE) is an extremely versatile material with outstanding properties and economical cost for a wide variety of applications. HDPE can be easily cut, machined, welded and fabricated. This material has good chemical resistance and low moisture resistance. HDPE is light weight with good strength and impact properties.

## TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
<b>Physical</b>	Chemical Designation				
	Filler				
	Density		g/cm <sup>3</sup>	0.95	D792
<b>Mechanical</b>	Tensile Modulus	@ 73 °F	PSI	85,000	D638
	Tensile Strength @ Yld	@ 73 °F	PSI	3,400	D638
	Tensile Strength @ Brk	@ 73 °F	PSI		
	Elongation @ Brk	@ 73 °F	%	>100	D1708
	Flexural Modulus	@ 73 °F	PSI	120,000	D790
	Flexural Strength	@ 73 °F	PSI	3,800	D790
	Compressive Modulus	@ 73 °F	PSI		
	Izod (charpy) Impact Strength	@ 73 °F	ft-lbs/in	1.94	D256
	Rockwell Hardness	@ 73 °F	R Scale	54	D785
	Coefficient of Friction	Static			

### TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
<b>Thermal</b>	Vicat Softening Point		°F	261	
	Melting Temperature		°F		
	Heat Deflection Temperature	@ 66	°F	75	D648
	Heat Deflection Temperature	@ 264	°F		
	Service Temperature	Intermittent	°F		
	Service Temperature	Long Term	°F	248	
	Thermal Expansion (CLTE)			in/in/°F	
<b>Electrical</b>	Surface Resistivity	@50% RH	ohms/square	>10 <sup>15</sup>	D257
	Volume Resistivity		ohm-cm		
	Dielectric Strength		V/mil	450 - 500	D149
	Dielectric Constant	@ 1MHz		2.30 - 2.35	D150
	Dissipation Factor	@ 1kHz		0.0002	D150
<b>Other</b>	Moisture Absorption		%	0.01	D570
	Flammability	UL 94		HB	UL94
	Food Grade			Y	
	Relative Cost			\$	

\*The data stated above are typical values intended for reference and comparison purposes only.

\*The data should not be used as a basis for design specifications or quality control.

\*The information is provided as a guide to the best of our knowledge and given without obligation or liability.

\*Testing under individual application circumstances is recommended.