

## HDPE Tubing (High-Density Polyethylene)

High density tubing is less flexible than LDPE, but has better physical and chemical properties, and withstands sterilization by boiling. It is widely used in transporting air, water and chemicals. It is produced from raw materials which meet FDA requirements of 21 CFR 177.1521.

ASTM or UL test	Property	HDPE
D792	Density (lb/in <sup>3</sup> )	0.035
	(g/cm <sup>3</sup> )	0.96
D570	Water Absorption, 24 hrs (%)	<0.01
D638	Tensile Strength (psi) at 72°F	4,600
D638	Tensile Strength (psi) at 150°F	400
D638	Tensile Modulus (psi)	200,000
D638	Tensile Elongation at Break (%)	400
D790	Flexural Strength at Yield (psi)	4,600
D790	Flexural Modulus (psi)	174,000
D695	Compressive Strength (psi)	4,600
D695	Compressive Modulus (psi)	100,000
D732	Shear Strength (psi)	-
D785	Hardness, Shore D	D69
D256	IZOD Notched Impact (ft-lb/in)	1.3
D696	Coefficient of Linear Thermal Expansion (x 10 <sup>-5</sup> in./in./°F)	6
	Heat Deflection Temp (°F / °C) at 66 psi at 264 psi	170 / 76 176 / 80
D3418	Approx. Melting Temperature (°F / °C)	260 / 125
-	Max Operating Temp (°F / °C)	180 / 82
C177	Thermal Conductivity (BTU-in/ft <sup>2</sup> -hr-°F)	-
	(x 10 <sup>-4</sup> cal/cm-sec-°C)	-
UL94	Flammability Rating	HB<
D149	Dielectric Strength (V/mil) short time, 1/8" thick	450-500
D150	Dielectric Constant at 1 MHz	2.30-2.35
D150	Dissipation Factor at 1 kHz	0.0002
D257	Surface Resistivity (ohm/square) at 50% RH	> 10 <sup>15</sup>
D495	Arc Resistance (sec)	200-250

The properties listed above are typical values intended for reference and comparison purposes only. This data should not be used as the sole basis of design specifications or quality control. It is the customer's responsibility to determine the suitability of each material in their specific application through actual testing. Professional Plastics assumes no liability for any inaccuracy or the results of improper design specification. All values at 73°F (23°C) unless otherwise noted.

**ECT MFG., INC.**  
 11 BLACK FOREST RD • HAMILTON, NJ • 08691  
 PHONE: (609)631-8939 • FAX: (609)631-0993

## Chemical Resistance Properties

Complies with the relevant section of Title 21 of the Code of Fed. Reg.  
 Not good in hydrochloric, sulfuric and phosphoric acids.  
 Typical data obtained from tests on raw material under ASTM procedures.

	<b>Outdoor Exposure</b>	<b>Strong Acids</b>	<b>Weak Acids</b>	<b>Strong Alkalies</b>	<b>Weak Alkalies</b>
<b>HDPE</b>	<b>Fair</b>	<b>Good</b>	<b>Excellent</b>	<b>Excellent</b>	<b>Excellent</b>

## HDPE Tubing Sizes & Specifications

I.D. Size	O.D. Size	Wall Thickness	LBS./C'	PSI @ 70° F
1/8	1/4	1/16	1.5	456
.170	.250	.040	1.2	260
3/16	5/16	1/16	2.1	340
¼	3/8	1/16	2.6	272
5/16	7/16	1/16	3.1	228
3/8	1/2	1/16	3.6	194
½	5/8	1/16	4.6	151
.600	.750	.075	6.7	152
5/8	3/4	1/16	5.7	123
¾	7/8	1/16	6.7	105
¾	1	1/8	14.4	195
.814	1	.093	11.0	140
7/8	1	1/16	7.7	90
1	1-1/4	1/8	18.5	152
1-1/4	1-1/2	1/8	22.6	124
1-1/2	1-3/4	1/8	26.7	105
1-3/4	2	1/8	30.8	91
2	2-1/4	1/8	34.9	80

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