



HDPE / LDPE (Polyethylene)

General Material Properties

Property	Metric	units	English	units
General				
Density	952 - 965	kg/m ³	00.344 - 0.0349	lb/ft ³
Mechanical				
Yield Strength	2.62e7 - 3.1e7	Pa	3.8 - 4.5	ksi
Tensile Strength	2.21e7 - 3.1e7	Pa	3.21 - 4.5	ksi
Elongation	11.2 - 12.9	% strain	1.12e3 - 1.29e3	% strain
Hardness (Vickers)	7.75e7 - 9.71e7	Pa	7.9 - 9.9	HV
Impact Strength (unnotched)	1.9e5 - 2e5	J/m ²	90.4 - 95.2	ft.lbf/in ²
Fracture Toughness	1.52e6 - 1.82e6	Pa/m ^{0.5}	1.38 - 1.66	ksi/in ^{0.5}
Young's Modulus	1.07e9 - 1.09e9	Pa	0.155 - 0.158	10 ⁶ psi
Thermal				
Max Service Temperature	113 - 129	°C	235 - 264	°F
Melting Temperature	130 - 137	°C	266 - 279	°F
Insulator or Conductor	Insulator		Insulator	
Specific Heat Capability	1.75e3 - 1.81e3	J/kg °C	0.418 - 0.432	BTU/lb. °F
Thermal Expansion Coefficient	1.06e-4 - 1.98e-4	strain/°C	59 - 110	μstrain/°F
Eco				
CO2 Footprint	1.95 - 2.15	kg/kg	1.95 - 2.15	lb/lb
Recycleable	Yes		Yes	

The information on this page is intended as general guidance only and is only accurate at the time of posting (7-30-12). Specific material properties vary by manufacturer. Please contact a Dielectric application engineer for help in choosing the optimal material for your application and budget.