

■High Density Polyethylene HDPE

Property	ASTM Test Method	Standard	
Specific Gravity	D792	0.95	
Tensile Strength [MPa]	D638	24	
Tensile Elongation [%]	D638	300~	
Young's Modulus [10^3 MPa]	D638	0.5	
Compressive Strength at 5% strain [MPa]	D695	16	
Flexural Strength [MPa]	D790	26	
Izod Notched Impact Strength (1/2in×1/2in notched, 23°C) [J/m]	D256	30~50	
Rockwell Hardness	D785	—	
Thermal Conductivity [W/(m·K)]	C177	0.38	
Specific Heat [J/(kg·K)]	—	2,300	
Coefficient of Linear Expansion [$10^{-5}/^{\circ}\text{C}$]	D696	11.0	
Continuous Use Temperature [°C]	—	70	
Deflection Temperature [°C]	D648	0.451MPa	70
		1.813MPa	—
Volume Resistivity (23°C 50% RH) [$\Omega\cdot\text{m}$]	D257	—	
Dielectric Strength [kV/mm]	D149	shorttime 3.2mm thickness step	—
		3.2mm thickness	—
Dielectric Constant	D150	60Hz	—
		10^3 Hz	—
		10^6 Hz	2.3
Dissipation Factor	D150	60Hz	—
		10^3 Hz	—
		10^6 Hz	—
Arc resistance [sec]	D495	—	
Water Absorption (24 hours 3.2mm Thickness) [%]	D570	<0.01	
Flammability or Rate of Burning	D635/UL94	—	
sunlight resistances (color change)	—	—	
Weak acid resistances	D543	resist	
Strong acid resistances	D543	resist(except Oxidizing acid)	
Weak alkali resistances	D543	resist	
Strong alkali resistances	D543	resist	
Organic solvent resistances	D543	resist(under 80 degrees Celsius)	
Transparency	—	opaque	
Sand slurry Wear (SS400 =100)	(Original)	81	
Thrust Wear (by S45C P=1,960kPa V=0.25m/sec [$\times 10^{-6}\text{cm}^3/(P\cdot V\cdot h)$])	(Original)	18	
Allowable PV [kPa·m/sec]	(Original)	160	

The material properties in above table are only for reference, measured by each test methods, and do not guarantee minimum value. And these properties might be changed without notice, so it is recommended to refer the data in the newest catalogues.