

Clean-PE™ Specification

Property	ASTM Test Method	Clean-PE™ UH	HDPE Clean-PE™	Clean-PE™ PPF
Specific Gravity	D792	0.94	0.95	1.23
Tensile Strength [MPa]	D638	37	24	30
Tensile Elongation [%]	D638	365	300~	10
Young's Modulus [10^3 MPa]	D638	0.5	0.5	—
Compressive Strength at 5% strain [MPa]	D695	19	16	—
Flexural Strength [MPa]	D790	26	26	55
Izod Notched Impact Strength (1/2in×1/2in notched, 23°C) [J/m]	D256	non-break	30~50	54
Rockwell Hardness	D785	—	—	R100
Thermal Conductivity [W/(m·K)]	C177	0.38	0.38	—
Specific Heat [J/(kg·K)]	—	2,300	2,300	—
Coefficient of Linear Expansion [$10^{-5}/^{\circ}\text{C}$]	D696	20.0	11.0	—
Continuous Use Temperature [°C]	—	80	70	120
Deflection Temperature [°C]	D648	0.451MPa	96	70
		1.813MPa	—	—
Volume Resistivity (23°C 50% RH) [$\Omega\cdot\text{m}$]	D257	$>10^{11}$	—	10^{12}
Dielectric Strength [kV/mm]	D149	shorttime 3.2mm thickness step 3.2mm thickness	—	—
		—	—	—
Dielectric Constant	D150	60Hz	2.3	—
		10^3 Hz	—	—
		10^6 Hz	—	2.3
Dissipation Factor	D150	60Hz	$1\sim 2\times 10^{-4}$	—
		10^3 Hz	$1\sim 2\times 10^{-4}$	—
		10^6 Hz	$1\sim 2\times 10^{-4}$	—
Arc resistance [sec]	D495	—	—	—
Water Absorption (24 hours 3.2mm Thickness) [%]	D570	<0.01	<0.01	—
Flammability or Rate of Burning	D635/UL94	—	—	—
sunlight resistances (color change)	—	slightly discolor	—	non resistance
Weak acid resistances	D543	resist	resist	resist
Strong acid resistances	D543	non resistance	resist(except Oxidizing acid)	resist(except Oxidizing acid)
Weak alkali resistances	D543	resist	resist	resist
Strong alkali resistances	D543	resist	resist	resist
Organic solvent resistances	D543	resist(under 80 degrees Celsius)	resist(under 80 degrees Celsius)	resist(under 80 degrees Celsius)
Transparency	—	opaque	opaque	opaque
Sand slurry Wear (SS400 =100)	(Original)	15	81	—
Thrust Wear (by S45C P=1,960kPa V=0.25m/sec) [$\times 10^{-6}\text{cm}^3/(\text{P}\cdot\text{V}\cdot\text{h})$]	(Original)	4.6	18	—
Allowable PV [kPa·m/sec]	(Original)	1000	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.