

3. Clean-PE series

3-1 Clean-PE series

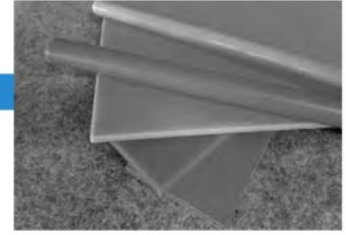
Clean-PE series is the polyolefin which was designed with antibacterial and antifungal properties. The antibacterial and antifungal properties are based on JIS Z2801 and JIS Z2911.

■ Clean-PE Sky Blue

Clean-PE is high density polyethylene that was designed with antibacterial and antifungal properties. The mechanical property of Clean-PE is as same as high density polyethylene.

■ Clean-PE UH Blue

Clean-PE is ultra high molecular weight polyethylene that was designed with antibacterial and antifungal properties. Clean-PE UH is more excellent than Clean-PE with respect to mechanical property and friction.



3-2 Applications

Food machinery parts

3-3 Properties of Clean-PE

Property	Test Method	Unit	Clean-PE	Clean-PE UH
Specific Gravity	ASTM D792	—	0.95	0.94
Tensile Strength	ASTM D638	MPa	24	37
Tensile Elongation	ASTM D638	%	300~	365
Young's Modulus	ASTM D638	10 ³ MPa	0.5	0.5
Compressive Strength at 5% strain	ASTM D695	MPa	16	19
Flexural Strength	ASTM D790	MPa	26	26
Izod Notched Impact Strength	ASTM D256	J/m	30~50	n.b.
Rockwell Hardness	ASTM D785	—	—	—
Thermal Conductivity	ASTM C177	W/(m·K)	0.38	0.38
Specific Heat	—	J/(kg·K)	2,300	2,300
Coefficient of Linear Expansion	ASTM D696	10 ⁻⁵ /°C	11.0	20.0
Continuous Use Temperature	—	°C	70	80
Deflection Temperature	ASTM D648	1.813MPa	—	—
		0.451MPa	70	96
Volume Resistivity (23°C 50% RH)	ASTM D257	Ω·m	—	>10 ¹¹
Dielectric Strength	ASTM D149	Short Time 3.2mm Thickness	—	—
		60Hz	—	2.3
Dielectric Constant	ASTM D150	10 ³ Hz	—	—
		10 ⁴ Hz	—	—
		60Hz	2.3	—
Dissipation Factor	ASTM D150	60Hz	—	1~2×10 ⁻⁴
		10 ³ Hz	—	1~2×10 ⁻⁴
		10 ⁴ Hz	—	1~2×10 ⁻⁴
Water Absorption (24 hours 3.2mm Thickness)	ASTM D570	%	<0.01	<0.01
Sand slurry Wear (SS400 =100)	—	—	81	15
Thrust Wear (by S45C P=1,960kPa V=0.25m/sec)	—	×10 ⁻⁶ cm ³ /(P·V·h)	18	4.6
Allowable PV	—	kPa·m/sec	160	490

The material properties in above table are only for reference, measured by each test methods, and do not guarantee minimum value.