

POLYETHYLENE (PE)

PROPERTY	TEST METHOD	NOTES	METRIC	UNITS	IMPERIAL	UNITS
GENERAL						
Colour	-	-	-	White	-	White
Density	ISO 1183:1997	Test Method A	g/cm ³	0.95	lb/inchE3	0.052
Moisture Absorption (Equilibrium)	ISO 62:1999	50% RH, 23°C	%	0.1	%	0.1
Water Absorption @24 hrs	ISO 62:1999 (modified)	Immersion @ 23°C	%	0.01	%	0.01
Water Absorption @24 hrs Saturation	ISO 62:1999	Immersion @ 23°C	%	0.01	%	0.01
MECHANICAL						
Tensile Strength at Yield	ISO 527-1/2:1993	Sample Type 1B, 50mm/min	MPa	36	psi	14058
E-modulus	ISO 527-1/2:1993	Sample Type 1B, 50mm/min	MPa	2700	psi	391603
Elongation at Break	ISO 527-1/2:1993	Sample Type 1B, 50mm/min	%	1000	%	1000
Compressive Strength	ISO 604:2002	Sample Type B, 5mm/min	MPa	110	psi	15954
Compressive Modulus	ISO 604:2002	Sample Type A, 1mm/min	MPa	2600	psi	377099
Flexural Strength	ISO 178:2001	1.5mm/min	MPa	36	psi	14058
Flexural Modulus	ISO 178:2001	1.5mm/min	MPa	1400	psi	5221
Izod Impact Strength	ISO 180:2000	Sample Type A (notched)	kJ/m ²	7.20	ft.lb/in*2	3.43
Charpy Notched Impact Strength	ISO 180:2000	Notched(23C)	kJ/m ²	12	ft.lb/in*2	5.88
Dynamic Coefficient of Friction	-	31.4m/min, 1.75MPa	-	0.18	-	0.18
Limiting PV	-	-	MPa/m	6	psi.ft/min	2712
Hardness (Shore D)	ISO 868:2003	-	-	65	-	65
THERMAL						
Melting Temperature, Tg	-	-	°C	133	°F	271
Glass Transition Temperature	ISO 11359:1999	-	°C	-60	°F	158
Heat Deflection Temperature, HDT/A	ISO 75	1.80MPa	°C	110	°F	185
Maximum/Minimum Continuous Service Temperatures	-	-	°C	68/-	°F	154/-
Maximum/Minimum Intermittent Service Temperatures	-	-	°C	140/-	°F	338/-
Coefficient of Linear Thermal Expansion	ISO 11359-2:1999	23-55°C	°C ⁻¹	20x10 ⁻⁵	°F	11.1x10 ⁻⁵
Thermal Conductivity	ISO 8301:1991	Mean T = 20°C	W/moC	0.31	°F	0.18
Flammability	IEC 60695-11-10:2003-08	-	-	HB	-	HB
ELECTRICAL						
Dielectric Constant	IEC 60250:1969-01	1MHz	-	2.18	-	2.18
Dissipation Factor	IEC 60250:1969-01	100 Hz	Hz	0.005	Hz	0.005
Dielectric Strength	IEC 60243:-1:1998-01	-	kV/m	16.5	kV/in	419.1
Volume Resistivity	IEC 60093:1980-01	-	ohm.m	1x10 ^{*13}	ohm.m	3.93x10 ^{*14}
Surface Resistivity	IEC 60093:1980-01	-	ohm.m	1x10 ^{*13}	ohm.m	1x10 ^{*13}
Comparative Tracking Index	IEC 60112:2003-01	-	CTI	600	CTI	600
FDA COMPATIBILITY						
FDA Compatibility				NO		NO

PRODUCT AVAILABILITY	
Rod	10mm-500mm DIA
Tube	50mm-1000mm OD
Plate	6mm-100mm THICKNESS
Custom Castings	Bespoke
Cut to size	Available upon request

NOTES

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