

Physical Properties Table for General Engineering Plastics

Item	Test Method	Unit	PA6	POM-C	PC	PTFE	ABS	PP	PE	PMMA
Colour			White	White	Transparent	White	Yellow	White/Gray	White	Transparent
Specific gravity	1183	g/cm ³	1.14	1.41	1.2	2.2	1.1	0.92	0.96	1.2
Max service temperature (long term)		°C	85	115	125	260	70	95	90	70
Max service temperature (short term)		°C	160	140	135	285	85	120	110	90
Melting point		°C	220	165	230	330	170	170	120	240
Glass transition temperature		°C	48	65	140		115	60	70	100
Linear expansion coefficient		K ⁻¹ ×10 ⁻⁴	90×10 ⁻⁶	110×10 ⁻⁶	65×10 ⁻⁶	120×10 ⁻⁶	100×10 ⁻⁶	150×10 ⁻⁶	155×10 ⁻⁶	70×10 ⁻⁶
Combustion performance (UL94)	4589		HB	HB	HB	HB	HB	HB	HB	HB
Water absorption (24-hour in water 23 °C)	62	Mg	86	20	13					
— (in water 23°C)	62	%	9	0.85	0.35		0.4	0.01	0.01	0.3
Bending strength	527	MPa	76/-	68/-	70/-	70/-	70/-		30	125
Breaking tensile strain	527	%	>50	35	>50	>50		>50		
Elastic modulus	527	MPa	3250	3100	2400	700	2100	1450	900	3300
—The compression stress of 1%2% normal strain	604	MPa	24/46	19/35	18/35		17/-	4/-	3/-	
Charpy notched impact test	179/1eU	kJ/m ²	5.5	7	9					
Friction coefficient				0.32	0.55	0.1	0.5	0.3	0.3	0.55
Rockwell Hardness	2039—1	-	M85	M84	M75	40	70	70	62	90
Dielectric strength	60243	kV/mm	25	20	28	48	>20	>40	>50	>40
Volume resistivity	(60093)	Ω×cm	10 ¹⁴	10 ⁺¹⁴	10 ⁺¹⁵	10 ⁺¹⁶	10 ⁺¹⁴	10 ⁺¹⁴	10 ⁺¹⁵	10 ⁺¹⁵
Surface resistivity	(60093)	Ω	10 ⁺¹³	10 ⁺¹³	10 ⁺¹⁵	10 ⁺¹⁶	10 ⁺¹³	10 ⁺¹³	10 ⁺¹⁶	10 ⁺¹⁵
Relative permittivity-100Hz-1MHz	(60250)	-	3.9/3.3	3.8/3.8	3.0/3.0	2.1/-	3.3/-	2.3/-	2.4/-	3.4/-
Arc resistance	(60112)	-	600	600	600					
Adhesiveness			+	+	+	-	+	0	0	+
Food contact			+	+	+	+	-	+	+	+
Acid resistance			-	+	+	+	+	+	+	+
Alkaline resistance			+	+	-	+	0	+	+	+
Carbonated water resistance			+/0	+	0	+	+	+	+	+
Aromatic compounds resistance			+/0	+	-		-	-	0	-
Ketone resistance			+	+	-		-	+	+	-

Remarks: +=Yes 0=It Depends -=No