



Plastic Physical Properties

Material	PHYSICAL PROPERTIES		
	SPECIFIC GRAVITY	WATER ABSORPTION	FLAMMABILITY
	TEST METHOD	20° 50%RH	UL 94
	DIN 53479		
	g / cm ³	% in 24hr	
NYLON 6 EXTRUDED PA6	1.14	2.5-4.0	V-2
NYLON 6 CAST PA6	1.15	2.0-3.0	V-2
NYLON66 PA66	1.15	2.0-3.0	V-2
NYLON 12 PA12	1.03	1	HB
ACETAL HOMO POM	0.42	0.25	HB
ACETAL COPOL POM	1.41	0.25	HB
ACRYLIC PMMA	1.19	0.3	HB
PC	1.2	0.2	V-2
PVC	1.4	0.03	V-0/5V
ABS	1.07	0.4	HB
PET	1.37	0.2	HB
PTFE	2.15	NONE	V-0
PVDF	1.78	0.04	V-0
UHMW PE	0.93	0.01	HB
HDPE	0.95	0.01	HB
POLYPROPYLENE	0.91	0.01	HB
PPO MODIFIED	1.1	0.08	V-1
PSU	1.24	0.25	V-0
PES	1.37	0.22	V-0
PEI	1.27	0.25	V-0
PEEK	1.32	0.15	V-0
PPS 40% GLASS FILLED	1.64	0.01	V-0



Plastic Mechanical Properties

Material	MECHANICAL PROPERTIES													
	TENSILE STRENGTH @ YEILD		ELONGATION @ BREAK		MODULUS OF ELASTICITY		IMPACT STRENGTH		NOTCHED IMPACT STRENGTH		BALL INDENTATION HARDNESS		CO-EFFICIENT OF FRICTION	
TEST METHOD	DIN 53455		DIN53455		DIN 53457		DIN 53453		DIN 53453		DIN 53456		DIN 53375	
UNITS	N/mm ²		%		N/mm ²		kJ/ m ²		kJ/ m ²		N/mm ²			
	Dry	Humid	Dry	Humid	Dry	Humid	Dry	Humid	Dry	Humid	Dry	Humid	Dry	Humid
NYLON 6 EXTRUDED PA6	80	60	50	160	3000	1500	NB		>3	NB	170	120	0.38	0.42
NYLON 6 CAST PA6	85	60	100		3300	2000	NB		>4	>4	180	140	0.20-0.35	
NYLON66 PA66	90	70	30	150	3300	2000	NB		>3	>15	180	140	0.35	0.45
NYLON 12 PA12	55	45	>200		1800		NB		>10	>20	100		0.32	0.38
ACETAL HOMO POM	70		>30		3200		NB		>8		160		0.32	
ACETAL COPOL POM	70		>35		3100		NB		>10		160		0.32	
ACRYLIC PMMA	80		5.5		3300		20		2		185		0.45	
PC	65		80		2300		NB		25		110		0.52-0.58	
PVC	55		33		3100		NB		>4		120		0.6	
ABS	40		30		2300		NB		14		90		0.5	
PET	80		>60		3000		NB		>4		180		0.22	
PTFE	25		250		360		NB		16		300		0.1	
PVDF	55		50		2100		NB		6		110		0.3	
UHMW PE	25		>350		680		NB		NB		36		0.25	
HDPE	23		>600		100		NB		NB		40		0.3	
POLYPROPYLENE	27		>800		800		NB		20		45		0.35	
PPO MODIFIED	45		>50		2400		NB		>15		85		0.3	
PSU	75		>15		2500		NB		7		150		0.29	
PES	85		>40		2900		NB		>7		150		-	
PEI	105		60		3000		NB		10		M109		-	
PEEK	90		45		3500		NB		30		-		0.30-0.38	
PPS 40% GLASS FILLED	160		1.5		14500		35		9		-		-	



Plastic Thermal Properties

Material	THERMAL PROPERTIES		
	CRYSTALLINE MELTING POINT	CO-EFFICIENT THERMAL CONDUCTIVITY	CO-EFFICIENT LINEAR EXPANSION
TEST METHOD	DIN 53736	DIN 52612	DIN 53752
UNITS	°C	W/m °C	10 ⁻⁶ °C
NYLON 6 EXTRUDED PA6	220	0.23	50-70
NYLON 6 CAST PA6	222	0.28	50-60
NYLON66 PA66	255	0.23	60-70
NYLON 12 PA12	178	0.23	30-70
ACETAL HOMO POM	175	0.31	80-100
ACETAL COPOL POM	165	0.31	80-100
ACRYLIC PMMA	-	0.19	7
PC	230	0.21	60-70
PVC	110	0.16	8.2
ABS	120	0.15	95
PET	255	0.21	70-80
PTFE	320	-	12.3
PVDF	178	0.15	120
UHMW PE	138	0.42	20
HDPE	130	0.43	21
POLYPROPYLENE	168	0.22	21
PPO MODIFIED	164	0.16	70
PSU	190	0.25	56
PES	230	0.18	54
PEI	215	0.22	56
PEEK	340	0.5	47
PPS 40% GLASS FILLED	280	0.28	14-40



Plastic Electrical Properties

Material	ELECTRICAL PROPERTIES					
	DIELECTRIC CONSTANT		CRYSTALLINE MELTING POINT		CO-EFFICIENT THERMAL CONDUCTIVITY	CO-EFFICIENT LINEAR EXPANSION
TEST METHOD	DIN 53483		DIN 53482		DIN 53480	DIN 53481
UNITS	.@ 50 Hz		Ω cm			
	Dry	Humid	Dry	Humid		Kv/mm
NYLON 6 EXTRUDED PA6	3.7	7	10 ¹⁵	10 ¹²	>600	12
NYLON 6 CAST PA6	3.7		10 ¹⁵	10 ¹²	>600	20
NYLON66 PA66	3.6	5	10 ¹⁵	10 ¹²	>600	30
NYLON 12 PA12	3.6		2 x 10 ¹⁵	>10 ¹⁵	>600	33
ACETAL HOMO POM	3.7		10 ¹⁵		>600	>50
ACETAL COPOL POM	3.4		10 ¹⁵		>600	>50
ACRYLIC PMMA	3.6		>10 ¹⁵		>600	30
PC	3		10 ¹⁶		KC/F300	35
PVC	3		>10 ¹⁵		450	20-40
ABS	2.4		>10 ¹⁶		KA3b	>20
PET	3.4		4 x 10 ¹⁶		KC325	>70
PTFE	2.1		10 ¹⁸		-	40-80
PVDF	8		10 ¹⁵		KC125	22
UHMW PE	2.3		5 x 10 ¹⁶		>600	90
HDPE	2.5		>10 ¹⁶		>600	70
POLYPROPYLENE	2.3		>10 ¹⁶		>600	350
PPO MODIFIED	2.6		10 ¹⁵		KC300	35
PSU	2.7		5 x 10 ¹⁶		-	>40
PES	3.5		10 ¹⁷		KC150	63
PEI	3.2		>10 ¹⁵		-	33
PEEK	3.4		4.7 x 10 ¹⁶		KC175	21
PPS 40% GLASS FILLED	4		10 ¹⁶		KC180	22