

Mechanical properties of selected plastics based on ASTM D 4000 or ISO 1043

Material	Tensile strength		Tensile modulus		Flexural strength		Impact strength		Hardness, Rockwell	Flame rating, UL 94
	MPa	ksi	GPa	10 ⁶ psi	MPa	ksi	J/m	ft•lb/in.		
ABS	41	6.0	2.3	0.33	72.4	10.5	347	6.5	R103	HB
ABS-PC	59	8.5	2.6	0.38	89.6	13.0	560	10.5	R117	HB
DAP	48	7.0	10.3	1.50	117	17.0	37	0.7	E80	HB
POM	69.0	10.0	3.2	0.47	98.6	14.3	133	2.5	R120	HB
PMMA	72.4	10.5	3.0	0.43	110	16.0	21	0.4	M68	HB
PAR	68	9.9	2.1	0.30	82.7	12.0	288	5.4	R122	HB
LCP	110	16.0	11.0	1.60	124	18.0	101	1.9	R80	V0
MF	52	7.5	9.65	1.40	93.1	13.5	16	0.3	M120	V0
Nylon 6	81.4	11.8	2.76	0.40	113	16.4	59	1.1	R119	V2
Nylon 6/6	82.7	12.0	2.83	0.41	110	16.0	53	1.0	R121	V2
Nylon 12	81.4	11.8	2.3	0.34	113	16.4	64	1.2	R122	V2
PAE	121	17.6	8.96	1.30	138	20.0	64	1.2	M85	V0
PBT	52	7.5	2.3	0.34	82.7	12.0	53	1.0	R117	HB
PC	69.0	10.0	2.3	0.34	96.5	14.0	694	13.0	R118	V2
PBT-PC	55	8.0	2.2	0.32	86.2	12.5	800	15.0	R115	HB
PEEK	93.8	13.6	3.5	0.51	110	16.0	59	1.1	—	V0
PEI	105	15.2	3.0	0.43	152	22.0	53	1.0	M109	V0
PES	84.1	12.2	2.6	0.38	129	18.7	75	1.4	M88	V0
PET	159	23.0	8.96	1.30	245	35.5	101	1.9	R120	HB
PF	41	6.0	5.9	0.85	62	9.0	21	0.4	M105	HB
PPO (mod)	54	7.8	2.5	0.36	88.3	12.8	267	5.0	R115	V0
PPS	138	20.0	11.7	1.70	179	26.0	69	1.3	R123	V0
PSU	73.8	10.7	2.5	0.36	106	15.4	64	1.2	M69	HB
SMA	31	4.5	1.9	0.27	55	8.0	133	2.5	R95	HB
UP	41	6.0	5.5	0.80	82.7	12.0	32	0.6	M88	HB

UL: Underwriters Laboratory.

Symbols and corresponding names of selected engineering plastics

Symbol	Name	Symbol	Name
ABS	Acrylonitrile-butadiene-styrene	PEEK	Polyetheretherketone
ABS-PC	ABS-polycarbonate	PEI	Polyether-imide
DAP	Diallyl phthalate	PES	Polyether sulfone
POM	Poly-oxy methylene	PET	Polyethylene terephthalate
PMMA	Poly-methyl-methacrylate	PF	Phenol formaldehyde
PAR	Polyarylate	PPO	Polyphenylene oxide
LCP	Liquid crystal polymer	PPS	Polyphenylene sulfide
MF	Methyl fluoride	PSU	Polysulfone
PAE	Polyarylether	SMA	Styrene-maleic anhydride
PBT	Polybutylene terephthalate	UP	Unfilled polyester
PC	Polycarbonate		