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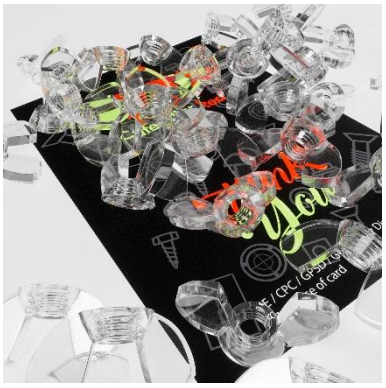
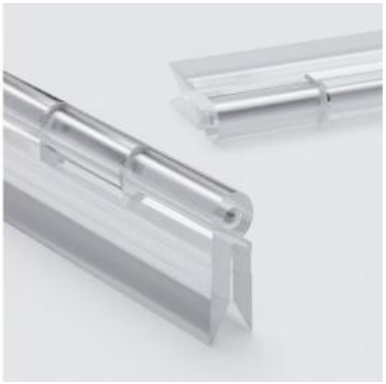
Acrylic (PMMA) & Polycarbonate (PC) — Screws & Bolts — Material Datasheet






This combined datasheet presents validated fastener data for Acrylic (PMMA) and Polycarbonate (PC). All torque/tensile values are per material using ISO thread geometry; torque tables include Pan Head.

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Polycarbonate (PC)

Polycarbonate is a strong, tough thermoplastic with high impact strength, good fatigue resistance, and excellent electrical insulation. Use within the stated service temperatures; prolonged high heat can reduce performance.

Continuous Use Temperature	Flame Retardant Rating	Impact/Fatigue	Notes
105 °C / 221 °F	UL 94 V-2	High impact; strong fatigue resistance	Self-extinguishing behaviour; good insulation

Torsional fracture torque (Nm) — PC

Head type	M2	M3	M4	M5	M6	M8	M10	M12
Hex Socket Head	0.15	0.35	0.78	1.38	2.95	7.50	13.25	23.81
Hexagon Head	0.20	0.30	0.70	1.30	3.30	5.73	12.03	21.08
Crosshead Countersunk Head	0.15	0.30	0.83	1.30	3.00	6.86	13.67	23.94
Slotted Countersunk Head	0.15	0.38	0.76	1.18	2.78	3.25	7.68	13.45
Pan Head	0.09	0.35	0.80	1.65	2.79	6.84	13.63	23.88

Tensile fracture load (N) — PC (head-agnostic)

Head type	M2	M3	M4	M5	M6	M8	M10	M12
Head-agnostic	424	760	1176	2134	3361	4772	8120	11810

Acrylic (PMMA)

Acrylic (PMMA) provides excellent optical clarity and electrical insulation with good stiffness. Use within the stated service temperatures and protect from shock/impact loading.

Continuous Use Temperature	Flame Retardant Rating	Optical clarity	Notes
75 °C / 167 °F	UL 94 HB	Excellent (transparent grades)	Good insulation; avoid high-impact/shock loading

Torsional fracture torque (Nm) — PMMA

Head type	M2	M3	M4	M5	M6	M8	M10	M12
Hex Socket Head	0.01	0.04	0.10	0.20	0.40	0.83	1.70	2.97
Hexagon Head	0.01	0.04	0.14	0.20	0.45	0.75	1.61	2.82
Crosshead Countersunk Head	0.01	0.03	0.07	0.09	0.15	0.65	1.19	2.09
Slotted Countersunk Head	0.01	0.02	0.08	0.10	0.18	0.38	0.78	1.37
Pan Head	0.01	0.04	0.09	0.17	0.30	0.72	1.44	2.53

Tensile fracture load (N) — PMMA (head-agnostic)

Head type	M2	M3	M4	M5	M6	M8	M10	M12
Head-agnostic	121	208	306	430	660	1200	1900	2760