

Filament type	mechanical load capacity	Stiffness	Wear resistance	Properties	Versions	Price	Density [g/cm3]	Young's Modulus [MPa]	Elogation at Break	Ultimate Tensile Strenth [MPa]	Heat Deflection Temperature [°C]	Resistance to acids	Resistance to alkalis	Resistance to oils and grease	Resistance to UV	FDA Conform
PLA (Polylactic Acid)	low	high	low	Biodegradable, light	Pure, CF	€	1,23	3570	0,036	58	53	No	No	No	No	No
PETG	medium	medium	low	Robust, flexible, good impact resistance	Pure, CF	€	1,25	1986	0,072	44,3	70	No	No	No	No	No
TPU (Thermoplastic Polyurethane)	low	none	low	Elastic, shock absorbing, flexible	80A, 85A, 90A, 95A, 100A	€	1,21	-	-	40	90	Yes	Yes	Yes	Yes	Yes
ABS	medium	medium	low	Strong, tough, high temperature resistance	Pure, CF, ABS-ESD7, ABS-M30	€€	1,04	2140	0,22	43	85	No	No	No	No	Yes
GreenTec	medium	medium	low	FDA-Safe, Biodegradable	Pure, CF	€€	1,2	3200	0,025	46	115	Yes	No	No	Yes	Yes
Nylon PA6/612	high	high	very high	Strong, light, high abrasion resistance, high temperature resistance	Pure, CF, GF	€€€	1,17	7453	0,03	105	200	No	No	Yes	Yes	No
Nylon PA12	high	high	very high	Strong, light, high abrasion resistance, high temperature resistance	Pure, CF, GF	€€€	1,01	1800	0,05	45	150	No	No	Yes	Yes	Yes
HIPS (High-Impact Polystyrene)	high	medium	high	Good toughness, good impact strength	Pure	€€	1,05	2280	0,55	27	75	No	No	No	Yes	No
ASA (Acrylonitrile Styrene Acrylate)	high	medium	high	UV-resistant, weatherproof, low temperature distortion	Pure	€€€	1,13	2379	0,067	43,8	100,2	Yes	Yes	Yes	Yes	Yes
PC (Polycarbonat)	high	high	high	High temperature resistance, impact resistant, UV-resistant, electrically insulating	Pure	€€€	1,19	2048	0,1224	59,7	130	No	No	Yes	No	No
PC-FR (Polycarbonat-Flame Resistant)	high	high	high	High temperature resistance, impact resistant, UV-resistant, electrically insulating, non-flammable	Pure	€€€	1,2	2634	0,0349	67	107	No	No	No	Yes	No
PC-PBT	high	high	high	High temperature resistance, suitable for low temperatures (-80°C), impact resistant, UV resistant, electrically insulating,	Pure	€€€	1,2	1849	0,046	43,2	91	Yes	No	No	Yes	No
PP (Polypropylen)	high	high	high	Low weight, chemically resistant, mechanically resilient	Pure, CF, GF	€€€€	1,05	1200	0,3	21	65	Yes	Yes	Yes	No	Yes
PPS	high	high	high	Low weight, chemically resistant, mechanically resilient	Pure, CF	€€€€	1,29	2790	0,014	59	253	Yes	Yes	Yes	No	No
PPA (Polyphthalamide)	very high	very high	very high	High Temp Nylon, strong, heat resistant, chemical resistant	Pure, CF, GF	€€€€	1,16	4850	0,022	89	153	Yes	Yes	Yes	Yes	No
PEI (Polyetherimide, Ultem)	very high	high	high	High temperature resistant, robust	Pure, ESD, CF, GF	€€€€€	1,27	2500	0,03	56	208	Yes	Yes	Yes	Yes	No
PEEK (Polyetheretherketon)	very high	very high	very high	Extremely heat-resistant, mechanically stable	Pure, CF, GF	€€€€€	1,29	3200	0,1	105	300	Yes	Yes	Yes	Yes	No
PEKK (Polyetherketonketon)	very high	very high	very high	Extremely heat-resistant, mechanically stable	Pure, ESD, CF	€€€€€	1,33	9125	0,0315	126	285	Yes	Yes	Yes	Yes	No
TPI (Theromplastic Polyimide)	very high	very high	very high	Robust, rigid, dimensionally stable, resistant to high temperatures, chemically resistant, electrically insulating, wear-resistant	Pure	€€€€€	1,3	2950	0,06	74	237	Yes	Yes	Yes	Yes	No