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Plastic Material Selection Guide for Medical Devices

Acronym	Common Name	Trade Name	Chemical Resistance	Creep Resistance	Dielectric Strength	Dimensional Stability	Fatigue Resistance	Flexibility	Flexural Modulus (Stiffness)	Heat Resistance	Impact Strength (Toughness)	Stress Crack Resistance	Tensile Strength	Warp Resistance	Wear Resistance	USP Calss VI	ISO 10993	Implantable	Bonding	High Flow into Thin Walls	Laser Friendly	Micromachining Friendly	Metal Replacement	Vapor Polishing	Weld Line Strength	Autoclave	EtO	Radiation (gamma, e-beam)
Amorphous Plastics																												
ABS	Acrylonitrile Butadiene Styrene	Lustran®			+	+					+			+		+	+		+			+		+	+		+	+
PC	Polycarbonate	Lexan®, CALIBRE™, Makrolon®		+	+	+			+		+		+	+		+	+		+			+		+	+		+	+
PEI	Polyetherimide	Ultem®, Duratron®		+	+	+			+	+			+	+		+	+		+		+	+	+	+	+	+	+	+
PES	Polyethersulfone	Radel® A, Ultrason® E		+		+				+				+			+		+		+	+	+	+	+	+	+	+
PMMA	Polymethyl Methacrylate (Acrylic)	Plexiglas®			+	+			+				+	+			+		+			+		+	+		+	
PPSU	Polyphenylsulfone	Radel® R, Veriva™, Ultrason® P		+		+				+	+		+	+		+	+	+	+		+	+	+	+	+	+	+	+
PSU	Polysulfone	Udel®, Eviva®, Ultrason® S		+	+	+				+			+	+		+	+	+	+		+	+	+	+	+	+	+	+
TPU	Thermoplastic Urethane	ChronoThane™, Tecothane™ Pellethane™ Tecoflex™				+		+						+		+	+	+	+	+					+		+	+
	Thermoplastic Silicone Polycarbonate Urethane	Carbosil®				+		+						+		+	+	+	+	+					+		+	+
	Thermoplastic Polycarbonate Urethane	Bionate™, Chronoflex®, Carbothane™				+		+						+		+	+	+	+	+					+		+	+
	Engineered Thermoplastic Urethane	Isoplast®	+			+					+	+		+		+	+	+	+						+		+	+
Semi-Crystalinne Plastics																												
LCP	Liquid Crystal Polymer	Vectra®	+	+	+	+	+		+	+	+	+	+	+	+	+				+		+	+			+	+	+
PA	Nylon	Grilamid®, Rilsamid®, Rilsan®	+	+			+		+		+	+	+		+											+	+	+
PARA	Polyarylamide	Ixef®	+	+	+		+					+	+		+		+			+			+				+	+
PAEK	Polyaryletherketone	AvaSpire®	+	+		+	+		+	+		+	+		+	+	+					+	+			+	+	+
PEEK	Polyetheretherketone	Victrex®, KetaSpire®, Invibio® Zeniva®, Ketron®	+	+			+		+	+		+	+		+	+	+	+				+	+			+	+	+
PMP	Polymethylpentene	TPX®	+		+		+					+			+	+		+		+						+	+	+
PP	Polypropylene	ExxonMobil™, TECAPRO™ MT	+		+		+					+			+	+	+									+	+	+
PPS	Polyphenyl Sulfide	Ryton®	+			+	+		+	+		+	+		+	+						+	+			+	+	+
TPE	Thermoplastic Elastomer	Versaflex™	+		+		+	+				+			+	+	+		+	+					+	+	+	+
	Thermoplastic Nylon Elastomer	Pebax®	+				+	+				+			+	+				+						+	+	+

*Blue text denotes suitable for implantable devices

contact us: info@principiamed.com