

Prototype & Production Materials Comparison Chart*

Material	THERMOPLASTICS										PHOTOPOLYMERS									Digital Materials
	ABS	ABSi	ABS-M30	ABS-M30i	ABS-EDS7	PC	PC-ISO	PC/ABS	ULTEM	PPSF	Transparent Polyjet (FC720)	Clear (FC810)	DurusWhite	VERO			TANGO			
Unique Properties	Variety of Colors	Semi-translucent	Stronger than ABS	ISO 10993 Certified	Static dissipative, target surface resistance of 10 ⁷ ohms ⁺	High Tensile Strength	ISO 10993-1 Certified, USP Class VI Classification 1, Medical Applications	Highest Impact Resistance	Flame, Smoke, Toxicity (FST) Certified	Highest Heat & Chemical Resistance	Smooth Surface, Fine Feature Detail, Transparent	Rigid, Clear, Transparent	Polypropylene like appearance	Fine Feature Detail	Higher flexural stress & heat deflection than VERO White	Most durable of all VERO materials	Fine feature detail and fine surface finish	Maximum elasticity, Semi-translucent	Controlled flexibility and elasticity	Flexible
Available Colors	<input type="checkbox"/> White <input type="checkbox"/> Blue <input type="checkbox"/> Yellow <input type="checkbox"/> Red <input type="checkbox"/> Steel Gray <input type="checkbox"/> Green <input type="checkbox"/> Black <input type="checkbox"/> Gray	<input type="checkbox"/> Semi-translucent Natural <input type="checkbox"/> Semi-translucent Red <input type="checkbox"/> Semi-translucent Amber	<input type="checkbox"/> White <input type="checkbox"/> Natural (off-white) <input type="checkbox"/> Black <input type="checkbox"/> Dark Gray <input type="checkbox"/> Blue <input type="checkbox"/> Red	<input type="checkbox"/> Natural (off-white)	<input type="checkbox"/> Black	<input type="checkbox"/> White	<input type="checkbox"/> White <input type="checkbox"/> Translucent Natural	<input type="checkbox"/> Black	<input type="checkbox"/> Tan	<input type="checkbox"/> Tan	<input type="checkbox"/> Semi-Clear	<input type="checkbox"/> Clear	<input type="checkbox"/> White	<input type="checkbox"/> White	<input type="checkbox"/> Black	<input type="checkbox"/> Blue	<input type="checkbox"/> Gray	<input type="checkbox"/> Semi-translucent Natural	<input type="checkbox"/> Gray	<input type="checkbox"/> Black
Tensile Strength ^{1,2}	3,200 psi ¹ (22 MPa)	5,400 psi ¹ (37 MPa)	5,200 psi ¹ (36 MPa)	5,200 psi ¹ (36 MPa)	5,200 psi ¹ (36 MPa)	9,800 psi ¹ (68 MPa)	8,265 psi ¹ (57 MPa)	5,900 psi ¹ (41 MPa)	10,390 psi ¹ (71.64 MPa)	8,000 psi ¹ (55 MPa)	8,744 psi ¹ (60.3 MPa)	7,250-9450 psi ¹ (50-65 MPa)	3,089 psi ¹ (21.3 MPa)	7,221 psi ¹ (49.8 MPa)	7,352 psi ¹ (50.7 MPa)	7,990 psi ¹ (55.1 MPa)	8,700 psi ¹ (60 MPa)	211 psi ² (1.455 MPa)	632 psi ² (4.36 MPa)	290 psi ² (2.00 MPa)
Tensile Elongation	6.0%	4.4%	4.0%	4.0%	3.0%	4.8%	4.3%	6.0%	5.9%	3.0%	20.0%	10-25%	44%	20.0%	18.0%	20.0%	15%	218% ²	47% ²	47.7% ²
Flexural Stress	6,000 psi (41 MPa)	8,980 psi (62 MPa)	8,800 psi (61 MPa)	8,800 psi (61 MPa)	8,800 psi (61 MPa)	15,100 psi (104 MPa)	13,089 psi (90 MPa)	9,800 psi (68 MPa)	16,700 psi (115.1 MPa)	15,900 psi (110 MPa)	10,991 psi (75.8 MPa)	11,000-16,000 psi (75-110 MPa)	4,814 psi (33.2 MPa)	10,817 psi (74.6 MPa)	11,542 psi (79.6 MPa)	12,122 psi (83.6 MPa)	13,775 psi (85.5 MPa)			
IZOD Impact, notched	2ft-lb/in (106.78 J/a)	1.8 ft-lb/in (96 J/m)	2.6 ft-lb/in (139 J/m)	2.6 ft-lb/in (139 J/m)	2.1 ft-lb/in (111 J/m)	1.0 ft-lb/in (53 J/m)	1.6 ft-lb/in (86 J/m)	3.7 ft-lb/in (196 J/m)	2.0 ft-lb/in (106 J/m)	1.1 ft-lb/in (58.73 J/m)	0.44 ft-lb/in (23.6 J/m)	0.375-0.562 ft-lb/in (20-30 J/m)	0.83 ft-lb/in (44.22 J/m)	0.45 ft-lb/in (24.1 J/m)	0.45 ft-lb/in (23.9 J/m)	0.44 ft-lb/in (23.6 J/m)	0.47 ft-lb/in (25 J/m)			
Shore Hardness	-	-	-	-	-	-	-	-	-	-	Scale D (83)		Scale D (76)	Scale D (83)	Scale D (83)	Scale D (83)	Scale D (86)	Scale A (27)	Scale A (75)	Scale A (61)
Heat Deflection <small>(Thermoplastics @ 66 psi) (Photopolymers @ 0.45 MPa)</small>	195°F (90°C)	188°F (87°C)	204°F (96°C)	204°F (96°C)	204°F (96°C)	280°F (138°C)	271°F (133°C)	230°F (110°C)	307°F (153°C)	372°F (189°C)	119°F (48.4°C)	113-122°F (45-50°C)	98°F (36/3°C)	109°F (43°C)	117°F (47°C)	120°F (48.8°C)	120°F (48.8°C)			
Flame Classification	-	-	-	-	-	-	-	-	VØ 0.118/in 3.0 mm	VØ 0.126/in 3.2 mm			-	-	-	-	-	-	-	-
ReadyPart™	•		•		•															
Maximum Build Dimensions ³	23.6" x 19.7" x 23.6" (600 x 500 x 600 mm)		36" x 24" x 36" (914 x 610 x 914 mm)								19.7" x 15.7" x 7.9" (500 x 399 x 200 mm)					12" x 12" x 4" (305 x 605 x 102 mm)				

+ Actual surface resistance may range from 10⁶ to 10⁸ ohms, depending upon geometry, build style and finishing techniques.

* The data presented above are typical values intended for reference and comparison purposes only. It should not be used for design specific cations or quality control purposes. End-use material performance can be impacted (+/-) by, but not limited to, part design, end-use conditions, test conditions, etc. Actual values will vary with build conditions. Product specifications are subject to change without notice. In the online world, potential color variances can occur between what's seen onscreen and your prototyping / direct digital manufacturing project.

¹ Tensile strength data is based on ASTM standard D-638. ² Tango Photopolymer tensile strength data is based on ASTM standard D-412. ³ Larger parts can be built in pieces and bonded together.

For more information call **866-882-6934** or visit www.RedEyeOnDemand.com

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