

FORTUS MATERIALS OVERVIEW

FORTUS
3D PRODUCTION SYSTEMS

Fortus 3D Production Systems use a variety of production-grade thermoplastics to manufacture Real Parts™ direct from digital data. Fortus thermoplastics are environmentally stable, so overall shape and part accuracy don't change with ambient conditions over time, unlike the resins and powders in competitive processes. Materials are easy to change on Fortus systems, with no mess or complicated processes. When combined with Fortus systems, Fortus thermoplastics give you production quality thermoplastic parts that are ideal for concept modeling, functional prototyping, manufacturing tools, or end-use parts.



Material:	ABSplus-P430	ABSi	ABS-M30	ABS-M30i	ABS-ESD7	PC-ABS	PC-ISO	PC	ULTEM* 9085	PPSF
System Availability	Fortus 250mc	Fortus 400mc	Fortus 360mc Fortus 400mc Fortus 900mc	Fortus 400mc Fortus 900mc	Fortus 400mc Fortus 900mc	Fortus 360mc Fortus 400mc Fortus 900mc	Fortus 400mc Fortus 900mc	Fortus 360mc Fortus 400mc Fortus 900mc	Fortus 400mc Fortus 900mc	Fortus 400mc Fortus 900mc
Layer Thickness:										
0.013 inch (0.330 mm)	X	X	X	X		X	X	X	X ³	X ⁴
0.010 inch (0.254 mm)	X	X	X	X	X	X	X	X	X	X
0.007 inch (0.178 mm)	X	X	X	X	X	X	X	X	X	X
0.005 inch (0.127 mm)		X	X ¹	X ¹		X ¹	X			
Support Structure	Soluble	Soluble	Soluble	Soluble	Soluble	Soluble	BASS	BASS	BASS	BASS
Available Colors	<input type="checkbox"/> Ivory <input type="checkbox"/> White <input checked="" type="checkbox"/> Black <input checked="" type="checkbox"/> Dark Grey <input checked="" type="checkbox"/> Red <input checked="" type="checkbox"/> Blue <input checked="" type="checkbox"/> Olive Green <input checked="" type="checkbox"/> Nectarine <input checked="" type="checkbox"/> Fluorescent Yellow <input type="checkbox"/> Custom Colors	<input type="checkbox"/> Translucent Natural <input checked="" type="checkbox"/> Translucent Amber <input checked="" type="checkbox"/> Translucent Red	<input type="checkbox"/> Ivory <input type="checkbox"/> White <input checked="" type="checkbox"/> Black <input checked="" type="checkbox"/> Dark Grey <input checked="" type="checkbox"/> Red <input checked="" type="checkbox"/> Blue	<input type="checkbox"/> Ivory	<input checked="" type="checkbox"/> Black	<input checked="" type="checkbox"/> Black	<input type="checkbox"/> White <input type="checkbox"/> Translucent Natural	<input type="checkbox"/> White	<input checked="" type="checkbox"/> Tan	<input checked="" type="checkbox"/> Tan
Tensile Strength²	5,300 psi (37 MPa)	5,400 psi (37 MPa)	5,200 psi (36 MPa)	5,200 psi (36 MPa)	5,200 psi (36 MPa)	5,900 psi (41 MPa)	8,265 psi (57 MPa)	9,800 psi (68 MPa)	10,390 psi (71.64 MPa)	8,000 psi (55 MPa)
Tensile Elongation²	3.0%	4.4%	4.0%	4.0%	3.0%	6.0%	4.3%	4.8%	5.9%	3.0%
Flexural Stress	7,600 psi (53 MPa)	8,980 psi (62 MPa)	8,800 psi (61 MPa)	8,800 psi (61 MPa)	8,800 psi (61 MPa)	9,800 psi (68 MPa)	13,089 psi (90 MPa)	15,100 psi (104 MPa)	16,700 psi (115.1 MPa)	15,900 psi (110 MPa)
IZOD Impact, notched	2.0 ft-lb/in (106 J/m)	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)	3.7 ft-lb/in (196 J/m)	1.6 ft-lb/in (86 J/m)	1.0 ft-lb/in (53 J/m)	2.0 ft-lb/in (106 J/m)	1.1 ft-lb/in (58.73 J/m)
Heat Deflection	204°F (96°C)	188°F (87°C)	204°F (96°C)	204°F (96°C)	204°F (96°C)	230°F (110°C)	271°F (133°C)	280°F (138°C)	333°F (167°C)	372°F (189°C)
Unique Properties	Variety of color options	Translucent material	Variety of color options	ISO 10993 USP Class VI ⁵	Static dissipative, target surface resistance of 10 ⁷ ohms*	Highest impact resistance	ISO 10993 USP Class VI ⁵	Highest tensile strength	Flame, smoke, toxicity (FST) certified	Highest heat and chemical resistance

*Actual surface resistance may range from 10⁹ to 10⁶ ohms, depending upon geometry, build style and finishing techniques.

¹0.005 inch (0.127 mm) layer thickness not available for ABS-M30, ABS-M30i, and PC-ABS for Fortus 900mc.

²See individual material spec sheets for testing details.

³0.013 inch (0.330 mm) layer thickness for ULTEM not available on Fortus 400mc.

⁴0.013 inch (0.330 mm) layer thickness for PPSF not available on Fortus 900mc.

⁵It is the responsibility of the finished device manufacturer to determine the suitability of all the component parts and materials used in their finished products.