Materials

Fortus 3D Production Systems use durable, production-grade materials. Create concept models, functional prototypes, manufacturing tools or end-use parts. Real production thermoplastics are stable and have no appreciable warping, shrinkage, or moisture absorption, like resins and powders.

FDM Material Overview FDM Material Comparison

FORTUS FDM Thermoplastics Material Comparison

Fortus 3D Production Systems manufacture parts in real, durable thermoplastic materials. Parts can be used in a wide range of applications such as conceptual modeling and prototyping, functional testing or producing manufacturing tools and end-use parts.

	ABS*plus*-P430	ABSi	ABS-ESD7	ABS-M30	ABS-M30i	PC-ABS	PC-ISO	PC	ULTEM-9085	PPSF PPSU
FORTUS 250mc	X	----------	----------	----------	----------	----------	----------	----------	----------	----------
FORTUS 360mc	----------	----------	----------	X	----------	X	----------	X	----------	----------
FORTUS 400mc	----------	X	X	X	X	X	X	X	X	X
FORTUS 900mc	----------	----------	X	X	X	X	X	X	X	X
Layer Thickness										
0.013 inch	X	X	----------	X	X	X	X	X	X	X
0.010 inch	X	X	X	X	X	X	X	X	X	X
0.007 inch	X	X	X	X	X	X	X	X	----------	----------
0.005 inch	----------	X	----------	X	X	X	----------	----------	----------	----------
Support Structure	Soluble	Soluble	Soluble	Soluble	Soluble	Soluble	BASS	BASS	BASS	BASS
Available Colors	Ivory White Black Dark Gray Red Blue Olive Green Nectarine Fluorescent Yellow Custom Colors	Translucent Natural Translucent Amber Translucent Red	Black	Natural White Black Dark Gray Red Blue	Ivory	Black	White Translucent Natural	White	Tan	Tan
Tensile Strength	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)
Elongation Strength	3.0 %	4.4 %	3.0 %	4.0 %	4.0%	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)	2.1 ft-lb/in (111 J/m)	2.6 ft-lb/in (139 J/m)	2.6 ft-lb/in (139 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)	307°F (153°C)	372°F (189°C)
Unique Properties	Variety of color options	Translucent material	Static dissipative with a target surface resistance of 10^7 ohms.*	Variety of color options	ISO-10993 certified	Highest impact resistance	ISO 10993 certified	Highest tensile strength	FST (flame, smoke, toxicity) certified material	Highest heat and chemical resistance

* Actual surface resistance (and volume resistance) may vary from 10^9 to 10^6, based upon part geometry, build style, and finishing techniques.