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.

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.

FDM Material Overview

<table>
<thead>
<tr>
<th>Layer Thickness</th>
<th>Support Structure</th>
<th>Available Colors</th>
<th>Tensile Strength</th>
<th>Elongation Strength</th>
<th>Flexural Stress</th>
<th>IZOD Impact, notched</th>
<th>Heat Deflection</th>
<th>Unique Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.013 inch</td>
<td>Soluble</td>
<td>Ivory, White, Red, Blue, Olive, Green, Nectarine, Fluorescent Yellow, Custom Colors</td>
<td>5,300 psi (37 MPa)</td>
<td>3.0 %</td>
<td>7,600 psi (53 MPa)</td>
<td>2.0 ft-lb/in (106 J/m)</td>
<td>204°F (96°C)</td>
<td>Variety of color options</td>
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<tr>
<td>0.010 inch</td>
<td>Soluble</td>
<td>Black, Translucent Amber, Natural</td>
<td>5,400 psi (37 MPa)</td>
<td>4.4 %</td>
<td>8,980 psi (62 MPa)</td>
<td>1.8 ft-lb/in (96 J/m)</td>
<td>188°F (87°C)</td>
<td>Translucent material</td>
</tr>
<tr>
<td>0.005 inch</td>
<td>Soluble</td>
<td>Red, Blue</td>
<td>5,200 psi (36 MPa)</td>
<td>3.0 %</td>
<td>8,800 psi (61 MPa)</td>
<td>2.1 ft-lb/in (111 J/m)</td>
<td>204°F (96°C)</td>
<td>Static dissipative with a target surface resistance of 10^9 ohms.*</td>
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* Actual surface resistance (and volume resistance) may vary from 10^9 to 10^12, based upon part geometry, build style, and finishing techniques.

FDM Material Comparison

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<tr>
<td>FORTUS 250mc</td>
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<td>FORTUS 360mc</td>
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<td>FORTUS 400mc</td>
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<td>FORTUS 900mc</td>
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Available Colors:
- ABSplus-P430: Ivory, White, Red, Blue, Olive, Green, Nectarine, Fluorescent Yellow, Custom Colors
- ABSi: Black, Translucent Amber, Natural
- ABS-ESD7: Red, Blue
- ABS-M30: Black, Translucent Amber, Natural
- ABS-M30i: Red, Blue
- PC-ABS: Natural
- PC-ISO: White, Tan
- PC: White, Translucent Natural
- ULTEM-9085: White, Tan
- PPSF: Translucent Natural

Unique Properties:
- ABSplus-P430: Variety of color options, Translucent material
- ABSi: Static dissipative with a target surface resistance of 10^9 ohms.*
- ABS-ESD7: Variety of color options
- PC: Variety of color options, ISO 10993 certified, Highest impact resistance, ISO 10993 certified, Highest tensile strength, Highest heat and chemical resistance
- ULTEM-9085: Variety of color options, ISO 10993 certified, Highest impact resistance, ISO 10993 certified, Highest tensile strength, Highest heat and chemical resistance
- PPSF: Variety of color options, ISO 10993 certified, Highest impact resistance, ISO 10993 certified, Highest tensile strength, Highest heat and chemical resistance

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