



PC-ABS

MATERIAL DATA SHEET

PC-ABS (polycarbonate-ABS) is one of the most widely used industrial thermoplastics. PC-ABS offers the most desirable properties of both materials — the superior strength and heat resistance of polycarbonate and the flexibility of ABS.

PC-ABS blends are commonly used in automotive, electronics and telecommunications applications. Additionally, a PC-ABS part manufactured on a Fortus® 3D Production System is 5-60% stronger than a part made on previous FDM systems. PC-ABS gives you conceptual modeling, functional prototyping, manufacturing tools and end-use-parts.

Color options:

Black

Quick Facts:

- The best of both PC and ABS
- Stronger when printed on Fortus printer
- Widely used for auto and electronic applications



| MECHANICAL PROPERTIES | TEST METHOD | ENGLISH | METRIC |
|---|-------------|--------------|-----------|
| Tensile Strength (Type 1, 0.125", 0.2"/min) | ASTM D638 | 5,900 psi | 41 MPa |
| Tensile Modulus (Type 1, 0.125", 0.2"/min) | ASTM D638 | 278,000 psi | 1,900 MPa |
| Tensile Elongation (Type 1, 0.125", 0.2"/min) | ASTM D638 | 6% | 6% |
| Flexural Strength (Method 1, 0.05"/min) | ASTM D790 | 9,800 psi | 68 MPa |
| Flexural Modulus (Method 1, 0.05"/min) | ASTM D790 | 280,000 psi | 1,900 MPa |
| IZOD Impact, notched (Method A, 23°C) | ASTM D256 | 3.7 ft-lb/in | 196 J/m |
| IZOD Impact, un-notched (Method A, 23°C) | ASTM D256 | 9 ft-lb/in | 481 J/m |

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| THERMAL PROPERTIES | TEST METHOD | ENGLISH | METRIC |
|-----------------------------------|-------------|---------------------|----------------|
| Heat Deflection (HDT) @ 66 psi | ASTM D648 | 230°F | 110°C |
| Heat Deflection (HDT) @ 264 psi | ASTM D648 | 205°F | 96°C |
| Vicat Softening Temperature | ASTM D1525 | 234°F | 112°C |
| Glass Transition Temperature (Tg) | DMA (SSYS) | 257°F | 125°C |
| Coefficient of Thermal Expansion | ----- | 4.10 E -05 in/in/°F | ----- |
| Melt Point | ----- | Not Applicable | Not Applicable |

| ELECTRICAL PROPERTIES | TEST METHOD | VALUE RANGE |
|-----------------------|------------------------|------------------------------|
| Volume Resistivity | ASTM D257 | 2.0x10e14 - 4.4x10e13 ohm-cm |
| Dielectric Constant | ASTM D150-98 | 2.9 - 2.7 |
| Dissipation Factor | ASTM D150-98 | .0035 - .0032 |
| Dielectric Strength | ASTM D149-09, Method A | 340 - 90 V/mil |

| OTHER | TEST METHOD | VALUE |
|----------------------|-------------|---------------|
| Specific Gravity | ASTM D792 | 1.10 |
| Density | ASTM D792 | 0.0397 lb/in3 |
| Flame Classification | UL94 | HB |
| Rockwell Hardness | ASTM D785 | R110 |
| UL File Number | ----- | E345258 |

System Availability:

- Fortus 380mc™
- Fortus 450m™
- Fortus 900mc™
- Stratasys F370

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Materials and data based on Stratasys FDM material product testing reports.