

Polycarbonate-ABS



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 mechanical properties and heat resistance of PC and the excellent features of ABS. PC-ABS blends are commonly used in automotive, electronics and telecommunications applications. When combined with Stratasys FDM (Fused Deposition Modeling) systems, PC-ABS gives you Real PartsTM for conceptual prototyping through design verification through direct digital manufacturing. Refer to the FDM System Material Availability spec sheet for system availability and color options.

| Mechanical Properties ¹ | Test Method | Imperial | Metric |
|------------------------------------|-------------|--------------|-----------|
| Tensile Strength, Type 1, 0.125 | ASTM D638 | 5,040 psi | 34.8 MPa |
| Tensile Modulus, Type 1, 0.125 | ASTM D638 | 265,000 psi | 1,827 MPa |
| Tensile Elongation, Type 1, 0.125 | ASTM D638 | 4.3 % | 4.3 % |
| Flexural Strength | ASTM D790 | 8,600 psi | 50 MPa |
| Flexural Modulus | ASTM D790 | 270,000 psi | 1,863 MPa |
| IZOD Impact, notched | ASTM D256 | 2.3 ft-lb/in | 123 J/a |
| IZOD Impact, un-notched | ASTM D256 | 6.1 ft-lb/in | 326 J/a |

| Thermal Properties | Test Method | Imperial | Metric |
|---------------------------------------|-------------|-----------------------------|-----------------------------|
| Heat Deflection Temperature @ 66 psi | ASTM D648 | 230° F | 110° C |
| Heat Deflection Temperature @ 264 psi | ASTM D648 | 205° F | 96° C |
| Glass Transition Temperature (Tg) | DMA (SSYS) | 257° F | 125° C |
| Vicat Softening | ASTM D1525 | 234° F | 112° C |
| Coefficient of Thermal Expansion | | 4.10E-5 in/in F | |
| Melt Point | | Not Applicable ² | Not Applicable ² |

| Other | Test Method | Value |
|-----------------------------|-------------|------------------------------|
| Specific Gravity | ASTM D792 | 1.20 |
| Density | ASTM D792 | 0.0397 lb/in^3 (1.1 gr/cm^3) |
| Flame Classification | UL 94 | HB 0.85mm |
| Rockwell Hardness | ASTM D785 | R110 |
| Dielectric Strength kV/mm | IEC 60112 | 35 |
| Dielectric Constant @ 100Hz | IEC 60250 | 3.1 |
| Dielectric Constant @ 1Mhz | IEC 60250 | 3.0 |

The information presented are typical values intended for reference and comparison purposes only. They should not be used for design specifications 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. Tested parts were built on Titan Ti, 0.010 inch slice (0.245mm).

¹ Build orientation is on side edge. ² Do to amorphous nature, material does not display a melting point.

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