

FDM Materials //

MATERIAL	ADVANTAGES & CONSIDERATIONS
TPU 92A (thermoplastic polyurethane elastomer)	<ul style="list-style-type: none">• Accurate elastomer parts with high elongation• Superior toughness & abrasion resistance• Wide variety of applications including flexible hoses, tubes, air ducts & vibration dampeners
Antero™ 800NA (polyetherketoneketone)	<ul style="list-style-type: none">• High heat & chemical resistance• Low outgassing & high dimensional stability• Excellent strength, toughness & wear-resistant properties
ULTEM™ 1010 resin (polyetherimide)	<ul style="list-style-type: none">• Certified food safety & bio-compatibility• Highest heat resistance, chemical resistance & tensile strength• Outstanding strength & thermal stability
ULTEM 9085 resin (polyetherimide)	<ul style="list-style-type: none">• FST (flame, smoke, toxicity)-certified thermoplastic• High heat & chemical resistance; highest flexural strength• Ideal for commercial transportation applications such as airplanes, buses, trains & boats
FDM Nylon 12™ (polyamide 12)	<ul style="list-style-type: none">• Toughest nylon in additive manufacturing• Excellent for repetitive snap fits, press fit inserts & fatigue-resistance applications• Simple, clean process – free of powders
FDM Nylon 12CF™ (polyamide 12CF)	<ul style="list-style-type: none">• Carbon-filled thermoplastic with excellent structural characteristics• Highest flexural strength• Highest stiffness-to-weight ratio
PC (polycarbonate)	<ul style="list-style-type: none">• Most widely used industrial thermoplastic with superior mechanical properties & heat resistance• Accurate, durable and stable for strong parts, patterns for metal bending & composite work• Great for demanding prototyping needs, tooling & fixtures
PC-ISO™ (polycarbonate – ISO 10993 USP Class VI biocompatible)	<ul style="list-style-type: none">• Biocompatible (ISO 10993 USP Class VI) material• Sterilize using gamma radiation or ethylene oxide (EtO) sterilization methods• Best fit for applications requiring higher strength & sterilization

[PC-ABS](#)

(polycarbonate – acrylonitrile butadiene styrene)

- High dimensional stability & colorless transparency
- Five medical approvals including cytotoxicity, genotoxicity, delayed type hypersensitivity, irritation & USP plastic class VI
- Ideal for applications requiring prolonged skin contact of more than 30 days & short-term mucosal membrane contact of up to 24 hours

[ASA](#)

(acrylonitrile styrene acrylate)

- Build UV-stable parts with the best aesthetics of any FDM material
- Ideal for production parts for outdoor infrastructure & commercial use, outdoor functional prototyping, automotive parts & accessory prototypes

[ABS-ESD7™](#)

(acrylonitrile butadiene styrene – static dissipative)

- Static-dissipative with target surface resistance of 10⁴ ohms (typical range 10⁵ – 10³ ohms)**
- Makes great assembly tools for electronic & static-sensitive products
- Widely used for functional prototypes of cases, enclosures & packaging

[ABS-M30™](#)

(acrylonitrile butadiene styrene)

- Versatile material: good for form, fit & functional applications
- Familiar production material for accurate prototyping

See individual material spec sheets for testing details.

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