FDM Materials //

FATHOM
DIGITAL MANUFACTURING. **REIMAGINED.**

MATERIAL	ADVANTAGES & CONSIDERATIONS
TPU 92A (thermoplastic polyurethane elastomer)	• 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)	• High heat & chemical resistance • Low outgassing & high dimensional stability • Excellent strength, toughness & wear-resistant properties
ULTEM™ 1010 resin (polyetherimide)	• Certified food safety & bio-compatibility • Highest heat resistance, chemical resistance & tensile strength • Outstanding strength & thermal stability
ULTEM 9085 resin (polyetherimide)	• 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)	• 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)	• Carbon-filled thermoplastic with excellent structural characteristics • Highest flexural strength • Highest stiffness-to-weight ratio
PC (polycarbonate)	• 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)	• 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.