



stratasys
direct



MEDICAL MATERIALS

3D PRINTING & ADVANCED MANUFACTURING | NOVEMBER 2025

	Description	Elongation @ Break	Tensile Strength	Heat Deflection Temperature @ 264 psi	Certification	Sterilization
<u>Agilus 30 A (Flexible)</u>	A rubber-like photopolymer material that simulates the look, feel and function of rubber products and human anatomy. Capable of withstanding repeated flexing and bending.	220 – 240%	348 – 450 psi (2.4 – 3.1 MPa)	—	—	—
<u>TissueMatrix</u>	A material with mechanical properties similar to any type of human tissue. Great for surgical preparation, research, education and training, and medical device development.	140 – 170%	101 – 130 psi 0.7-0.9 MPa	—	—	—
<u>BoneMatrix</u>	Rigid translucent material is used to mimic bone structures. This material is stiff and stable, and can be drilled into to practice procedures like total knee replacement	60.0±6.9%	28.7±1.6 MPa	40.9±0.7°C	—	—
<u>GelMatrix</u>	Mimics soft and damp tissues and as an easy-to-remove support material for small cavities like in blood vessels for instance.	—	—	—	—	—
<u>RadioMatrix</u>	A radiopaque 3D printing material that delivers realistic X-ray and CT visibility of anatomy, implants, and devices, enabling advanced surgical planning, navigation, training and testing with true 3D freedom.	—	—	—	—	—
<u>MED610</u>	High-clarity, rigid biocompatible material for accurate medical and dental models and surgical guides. Certified for long-term skin contact and 24-hour mucosal, tissue, bone and dentin contact, supporting safe, patient-specific device production	10 – 25%	50 – 65 MPa	45 – 50C	ISO 10993-5,-10,-3	EtO, VhP
<u>MED615</u>	Ivory, biocompatible material for durable, accurate medical parts and surgical guides. Suitable for skin, mucosal, and bone contact, with ongoing sterilization validation supporting safe, reliable use in regulated medical applications.	10 – 25%	55 – 65 MPa	45 – 50C	ISO 10993-5,-10,-3	EtO, VhP
<u>Digital ABS Plus</u>	A photopolymer material that simulates ABS plastic by combining strength with high-temperature resistance.	25 – 40%	8,000 – 8,700 psi (55 – 60 Mpa)	124 – 131°F (51 – 55°C)	—	—
<u>ToughONE™</u>	A high-impact strength photopolymer that bridges visual and functional prototyping. Ideal for medical device development, durable jigs and fixtures, and realistic form-fit parts that transition into reliable functional components.	45 – 55%	7,000 - 7,700 psi (48 – 53 MPa)	138.2-143.6 °F (59-62 °C)	—	—

Stereolithography (SLA)

(Biocompatible grade material in blue) Somos® BioClear™ Somos® Evolve 128 Somos® Taurus™ Somos® WaterClear Ultra 10122 Somos WaterShed XC11122 Somos® 9120	Description	Elongation @ Break	Tensile Strength	Heat Deflection Temperature @ 264 psi	Certification	Sterilization
	A clear, biocompatible material with ABS-like strength and smooth finish. Ideal for accurate surgical guides, medical and dental models with limited body contact.	15.5%	7,300 psi (50.4 MPa)	120°F (49°C)	—	—
	A durable and high strength SLA material suited for form, fit and functional testing of snap-fit components. Commonly used for quick iteration prototyping with a high rigidity need.	4% – 8%	7,758 psi (53 MPa)	122°F (50°C)	ISO 10993-5,-10,-11	EtO, Gamma
	A tough and durable resin with high heat resistance and strong mechanical properties. Allows both prototyping and low-volume production with a smooth finish, consistent performance and a dark charcoal aesthetic.	24%	6,800 psi (46.9 MPa)	122°F (50°C)	—	—
		17%	7,000 psi (49 MPa)	163°F (73°C)	—	—
	A SLA material that simulates an acrylic appearance, with minimized finishing requirements. Ideal for applications that require optical clarity, like fluid flow analysis, master patterns and concept and functional models. Provides refractive values similar to those of the engineered	7.5%	8,100 psi (56 MPa)	109°F (43°C)	—	—
	ABS like material creates detailed parts with superior clarity and water resistance, well-suited to fluid flow analysis. The durable, clear parts look and feel similar to an engineered plastic, with a smooth finish that accelerates testing time.	15.5%	7,300 psi (50.4 MPa)	120°F (49°C)	—	—
	A transparent, high-performance SLA resin that combines durability, flexibility, and visual clarity. Its polypropylene-like behavior offers strong memory retention and a balance of rigidity and functionality for advanced prototyping and functional parts.	25%	4,350 - 4,600 psi (30 - 32 MPa)	126°F (52°C)	—	—

Multi Jet Fusion (MJF)

Description	Elongation @ Break	Tensile Strength	Heat Deflection Temperature @ 264 psi	Certification	Sterilization
	XY Axis	XY Axis	XY Axis		
Nylon 12 PA	20%	6,960 psi (48 MPa)	203°F (95°C)	ISO 10993 -3,-4,-5,-10,-11, UPS-88	—

Programmable Photopolymerization (P3™ DLP)

(Biocompatible grade material in blue)	Description	Elongation @ Break	Ultimate tensile strength	HDT	Certification	Sterilization
Stretch 80	A durable elastomer for flexible prototypes and end-use parts. It provides molded-rubber performance with strong tear resistance, long fatigue life, and high elongation. A reliable polyurethane and TPU alternative for demanding applications like seals, gaskets, and grips.	107%	11 MPa	—	—	—
LOCTITE® 3D 3172	A high-stiffness, impact-resistant material with polypropylene-like performance. Ideal for tooling, fixtures, housings and durable functional parts with good surface finish and moderate flexibility.	105%	39 MPa	51 C	—	—
LOCTITE® 3D 3843	A high-strength, versatile polymer with ABS-like performance and excellent surface finish. Ideal for production tools, enclosures, and medical device housings.	43%	53 MPa	60 C	—	—
LOCTITE® 3D 3955 FST	A high-performance, high-modulus material with excellent strength, high heat resistance and UL94 V-0 flame rating. Ideal for medical device housings, fixtures, clips and brackets.	2%	65 MPa	213 C	UL94V0	—
LOCTITE® 3D IND402	A single-component elastomer with high resilience, rebound, and strong tensile strength. Comparable to TPU with Shore A 75 hardness. Great for lattices, midsoles, and soft inserts, offering good tear strength and elongation.	230%	5.5 MPa	—	—	—
LOCTITE® 3D MED413™	A biocompatible, high-modulus material with excellent strength, heat resistance, and detail. Ideal for durable, impact-resistant medical devices requiring stiffness, toughness, and a smooth surface finish.	50%	40 MPa	52 C	ISO 10993-5,-10,-11, -23, -18	EtO, Gamma, Autoclave
LOCTITE® 3D IND 403	A rigid, accurate resin with thermoplastic-like strength, heat resistance and smooth finish. Ideal for durable medical, industrial and consumer production parts with fine detail.	7%	64 MPa	64 C	—	—
LOCTITE® 3D IND 3380	An SD-safe resin with strong mechanical performance and dimensional stability. Ideal for protecting sensitive electronics in functional prototypes, production tools and low-volume end-use medical and industrial parts.	1%	40 MPa	100 C	—	—

Selective Laser Sintering (SLS)

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	Description	Elongation @ Break	Tensile Strength	Heat Deflection Temperature @ 264 psi	Certification	Sterilization
		XY Axis	XY Axis	XY Axis		
<u>Nylon 11 EX</u>	A high-strength, flexible Nylon 11 ideal for medical housings, fixtures, and ergonomic components. Combines durability, impact resistance, and smooth surface finish for reliable parts in medical device development.	47%	6,981 psi (48 MPa)	118°F (48°C)	—	—
<u>Nylon 12 CF</u>	A carbon-filled nylon with high strength-to-weight ratio and ESD properties. Combines stiffness, heat resistance, and durability, making it ideal for medical tooling, housings, fixtures, and high-performance components requiring dimensional stability and conductivity.	5.7%	8,750 psi (60 MPa)	341°F (172°C)	—	—
<u>Nylon 12 GF</u>	A glass-filled Nylon 12 with high stiffness, strength and heat resistance. Delivers stable, accurate parts for medical housings, fixtures, load-bearing components, and prototypes requiring durability, dimensional stability and repeated use in clinical or lab environments.	3%	6,400 psi (44 MPa)	273°F (134°C)	—	—
<u>Nylon 12 PA</u>	A high-strength, stiff Nylon 12 with excellent chemical resistance, dimensional stability, and consistent performance. Biocompatible per ISO 10993-1 and USP Class VI, ideal for durable medical parts, prototypes, and components requiring precision and reliability.	15%	6,815 psi (46 MPa)	187°F (86°C)	EN ISO 10993-1 and USP/level VI/121°C	—

Selective Absorption Fusion (SAF®)

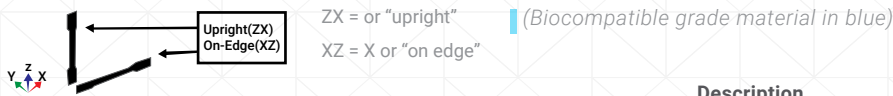
	Description	Elongation @ Break	Tensile Strength	Heat Deflection Temperature @ 264 psi	Certification	Sterilization
		XY Axis	XY Axis	XY Axis		
High Yield PA11	A high-ductility, high-impact Nylon 11 for production-grade end-use parts. Supports high nesting density and consistent yields, making it ideal for high-volume medical and industrial applications. A bio-based material from sustainable castor oil.	30%	7,397 psi (51 MPa)	117°F (47°C)	—	—
Nylon PA12	A tough, durable PA12 with good strength and feature detail. Delivers accurate, consistent parts and high nesting efficiency for production volumes. Ideal for functional medical components and tooling with a UL94-HB flammability rating.	20%	6,960 psi (48 MPa)	203°F (95°C)	ISO 10993-5,-10,-11, -23, -18, UL94-HB	EtO, Gamma
Nylon PA12 GF	A glass-filled Nylon 12 with high stiffness, heat resistance, and dimensional stability. Produces lightweight, durable parts ideal for medical housings, fixtures, and functional prototypes requiring strength, accuracy, and reduced thermal expansion.	4%	5300 psi (36 MPa)	232°F (111°C)	—	—
Polypropylene (PP)	An airtight, ductile, chemically resistant polypropylene with low warpage and high accuracy. Delivers molded-like performance and competitive part costs, enabling flexible, reliable medical components for production.	22%	3,740 psi (26 MPa)	132°F (56°C)	—	—

Fused Deposition Modeling (FDM®)

	Description	Tensile Strength	Tensile Elongation @ Break	Heat Deflection Temperature @ 264 psi	Certification	Sterilization
		XZ Axis	XZ Axis			
ABS CF-10	A reinforced ABS with carbon fiber for increased stiffness and strength with reduced weight. Low-moisture material ideal for durable medical jigs, fixtures, positioning tools and functional components requiring stability and repeatable performance.	120°F (49°C)	2.70%	210°F (90°C)	—	—
ABS-ESD7	A static-dissipative ABS designed to prevent electrostatic buildup. Ideal for jigs, fixtures, handling tools, and components used around sensitive medical electronics or environments where static discharge could damage equipment or components.	5,200 psi (36 MPa)	3%	180°F (82°C)	—	—
ABS-M30	A general use “go-to” material that is up to 70% stronger than ABS with a variety of color options. Good for small parts to parts larger than 5’.	4,650 psi (32 MPa)	7%	180°F (82°C)	—	—
ABS-M30i	A bio-compatible (ISO 10993; USP Class VI) FDM material with a NSF 51 food-contact certification. Good tensile, flexural, & impact strength. Gamma and EtO sterilizable.	5,200 psi (36 MPa)	4%	180°F (82°C)	ISO 10993-5, -10, -11, -4, -17, -18, USP Class VI, ISO 18562	EtO, Gamma, Autoclave

Fused Deposition Modeling (FDM®) Cont.

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	Description	Tensile Strength	Tensile Elongation @ Break	Heat Deflection Temperature @ 264 psi	Certification	Sterilization
		XZ Axis	XZ Axis			
Antero 800NA (PEKK)	A PEKK-based material with high wear, heat & chemical resistance and low outgassing. FST certified per 14 CFR/FAR 25.853 & ASTM F814/E662.	13,504 psi (93 MPa)	6.4%	296°F (147°C)	—	—
Antero 840CN03	A high-performance PEKK-based electrostatic discharge (ESD) thermoplastic material with high heat and chemical resistance, ultra-low outgassing.	13,600 psi (93.9 MPa)	12%	303.4°F (150.8 C)	—	—
ASA	A general use “go-to” material with great aesthetics, matte finish, and a variety of color-fast colors. UV-stable and resists significant mechanical degradation from UV exposure.	4,750 psi (33 MPa)	9%	196°F (91°C)	—	—
Nylon 12	A high-fatigue resistant nylon with resistance to moderate solvents, alcohols, chemicals, exposure to shock, repeat load cycles, stress or vibration.	6,650 psi (46 MPa)	30%	180°F (82°C)	—	—
Nylon 12CF™	A highly rigid chopped Carbon Fiber filled Nylon 12 with electrostatic discharge (ESD) properties. Aluminum replacement capable.	10,960 psi (76 MPa)	1.9%	289°F (143°C)	—	—
PC	An FDM material with high tensile, flexural strength, and higher heat resistance. Durable, strong, and RF transparent.	8,300 psi (57 MPa)	4.80%	261°F (127°C)	—	—
PC-ABS	A superior strength and heat resistant PC material with the flexibility of ABS. High impact and heat resistance.	5,900 psi (41 MPa)	6%	205°F (96°C)	—	—
PC-IS0	A PC material with high tensile and flexural strength, higher heat resistance, and durability. RF transparent; Gamma & EtO sterilizable; Bio-compatible (ISO 10993; USP Class VI).	8,300 psi (57 MPa)	4%	260°F (127°C)	ISO 10993-5, -10, -11, -4, -17, -18, USP Class VI, ISO 18562	EtO, Gamma, Autoclave
TPU 92A	A very durable elastomer with a Shore A value of 92. Exhibits high elongation, superior toughness, abrasion resistance, and memory/recovery.	2,519 psi (17.4 MPa)	482%	@ 66 psi 100.4°F (38°C)	—	—
ULTEM™1010 resin	A rigid, heat resistant, steam autoclavable resin that is NSF-51 food contact rated, Bio-compatible ISO 10993/USP Class VI, and FST certified per 14 CFR/FAR 25.853 & ASTM F814/E662.	11,700 psi (81 MPa)	3.30%	415°F (213°C)	ISO 10993-5, -10, -11, -4, -17, -18, -3 USP Class VI, ISO 18562, NSF 51	Autoclave
ULTEM™ 9085 resin	A high strength to weight ratio, high thermal and chemical resistant resin. FST certified per 14 CFR/FAR 25.853 & ASTM F814/E662.	9,950 psi (69 MPa)	5.80%	307°F (153°C)	14 CFR 25.853, BSS 7238 and 7239, and AITM 2.0007B and 3.0005, ASTM E595, NFPA 130	—
ULTEM™ 9085 CG resin	A resin with increased mechanical properties, and the leading lowest coefficient of variation. FST certified per 14 CFR/FAR 25.853 & ASTM F814/E662.	11,200 psi (77MPa)	6.21%	307°F (153°C)	—	—

Expert Finishing and Inspection

Stratasys Direct offers you a wide range of post-processing and finishing options for your 3D printed parts. Our skilled team of experts uses proven techniques to transform raw prints into polished, high-performing parts. Whether it's sanding, plating, bonding, painting, or assembly, we ensure your components meet the strictest tolerances and aesthetic requirements. Additionally, our comprehensive assembly services bridge the gap between production and performance, delivering fully integrated, ready-to-use components. With a focus on quality, accuracy, and efficiency, we ensure every product is deployment-ready upon delivery.

	Description
Sanding & Support Removal	Because 3D printing is a layer-by-layer additive process, lines can appear on the surface of the part. Removing the layers generally requires sanding or media blasting to smooth.
Clear Coating	For a finished look, a clear coat can be applied to parts printed in color or to those that have been sanded, providing either a glossy or matte finish.
Painting & Coating	We offer a wide array of color options, as well as color matching to achieve a consistent color between the part and any additional painted surfaces or coatings that are applied.
Electroplating & Metal Plating	Application of a layer of metal onto the surface of a 3D printed part to enhance the appearance, mechanical properties, or functionality of the printed part.
EMI/RFI Shielding	Shielding can be applied to protect sensitive electronic components from external electromagnetic radiation, and conversely, prevents their own emissions from interfering with nearby devices.
Assembly & Inserts	Our skilled team excels at assembling complex parts into functional systems—whether it's precision-fit subassemblies or integrating 3D printed parts into larger builds.
Decaling	Our team ensures perfect alignment and adhesion every time of branding, labeling, or component identification.
Pad Printing	We can enhance concept models or prepare your product to market by applying detailed graphics, logos, text, or other designs onto your 3D printed parts, even the curved, concave, or textured surfaces.
Ink Stamping & Marking	Ink stamping is the process of applying identification marks, logos, or serial numbers directly onto the surface of the printed object using ink-based methods.
Vaper Smoothing	Our team uses a controlled chemical vapor to seal and smooth parts to a near injection mold finish.
Standard 6 Point Inspection	This process includes measuring X, Y, and Z dimensions, conducting a visual inspection to ensure surface finish and overall aesthetics meet standards, checking for flatness by assessing if the part rocks on a granite block, and conducting a FOD check to inspect for foreign objects or debris.



Stratasys Direct Locations

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ISO 13485

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