Augment Machining With Composite 3D Printing

F370®CR FDM® Composite Printer

Supplement your fixture and part fabrication with FDM composite 3D printing to gain speed, throughput, and cost benefits.
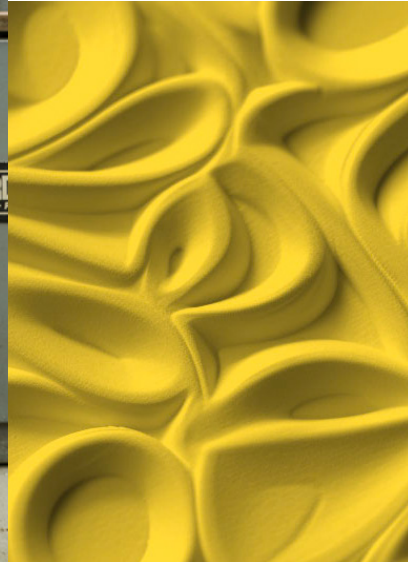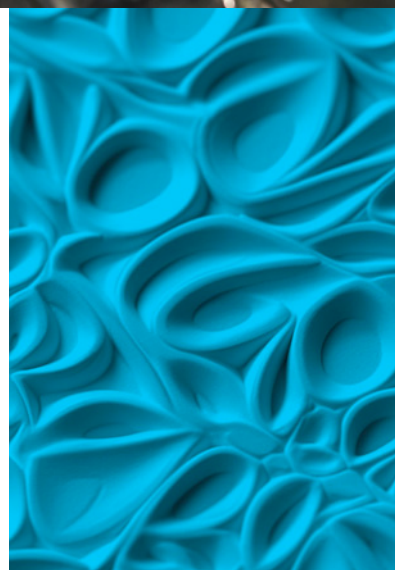
Meet deadlines and stay on budget with high-strength composite printing.

Make workholding fixtures, soft jaws, and component parts with composite 3D printing in a fraction of the time and cost it takes to machine a metal equivalent. The F370CR printer supplements traditional fabrication technologies, allowing industrial manufacturers to replace metal components with high-strength 3D printed composite parts. This accelerates throughput while avoiding the opportunity cost of using production resources or the lead time of outsourcing.

The F370CR uses ABS-CF10 and FDM® Nylon-CF10 composite materials, both reinforced with chopped carbon fiber, 10% by weight, for strength and stiffness. Soluble support material enables complex designs that cannot be made with conventional machining or other 3D printers that don't have this capability. Up to four layer resolutions give you flexibility on part quality and print speed. Variable part density gives you the freedom to make fully-dense, solid parts or adjust the infill to save weight and material use.

Protect your production.

The F370CR composite printer is built on the same platform as the proven F170/F370 platform, with a verified 99% uptime and a 99% dimensional repeatability performance.* Material tuning – optimizing print parameters using over 220 measurements – ensures consistent material performance across all resolutions and successful print results.

Built-in durability starts with hardened components and print heads to ensure longevity using abrasive composite materials. Sealed filament bays reduce material moisture exposure to maintain stable material mechanical properties, so printed parts meet strength specifications. A fully heated build chamber enables higher strength between layers than other printers in this class that use only a heated build platen.

Together, these features offer unmatched reliability in an additive manufacturing system, with repeatable performance, print after print.

* Stratasys 2020 Repeatability and Reliability study for F370, Fortus 450mc and F900 printers.

Simple setup and unattended operation.

You don't need special training or highly skilled technicians to operate the F370CR. Job setup simply involves importing the part's CAD file using GrabCAD Print™ software (or the upgraded version GrabCAD Print Pro™) and initiating the print. The printer requires no further oversight until the job is done. GrabCAD Print software provides a simple and intuitive CAD-to-print workflow. With this advanced 3D slicer software, you can refine details and initiate high-level geometrical changes. Access in-depth views of your model, tray, and slice preview before parts are printed.

GrabCAD Print's upgraded version, GrabCAD Print Pro, is inclusive of enhanced features that support high-performance end-use parts or prototypes utilized in process-controlled conditions. This includes labeling for traceability, automation, templates, part cost estimation, a sustainability calculator, and automatic model correction.

For users who want deeper control of print options, Insight™ software is also included. MTConnect capabilities make it easy to integrate the F370CR printer into a connected factory floor. This industry-standard communication API lets you collect, analyze and display machine data in a useful way.

Application versatility enhanced by versatile materials.

The F370CR offers application versatility by operating with a range of thermoplastic materials. In addition to high-strength composites, F370CR printers give you the flexibility to print with other engineering thermoplastics to cover more use cases. This multi-material capability offers the convenience of printing different jobs in different materials. There's no need for separate printers dedicated to composite and non-composite materials.

Keep your options open. With an F370CR printer, you buy one printer but get the versatility of multiple materials, including soluble support, which offers the freedom to print any geometry without restriction.

Unparalleled support, when you need it.

Stratasys invented FDM Technology, and we've been perfecting it for over 30 years. Our technicians and application engineers know how to maximize your printer investment and address problems when they occur.

When you need help, our worldwide support staff is here to assist, from professional installations to application guidance to on-site troubleshooting. Whether optimizing your print results, solving a problem, or providing training, Stratasys service and support have the experience and global reach to keep you operational.

To learn more about the Stratasys F370CR printer, or to speak with a Stratasys representative, contact us at Stratasys.com/contact or call 1-800-801-6491.

Certified Safety where it matters most.

The F370CR, under new part number 123-80010, is GREENGUARD Certified per UL 2904 when using ABS, ASA, and FDM Nylon-CF10 with SUP4000B and QSR Support™ materials. GREENGUARD Certification validates that the printer and material combination meet low chemical emission limits.

System Specifications

F370CR Printer and Material Specifications

System Size/Weight	1,626 x 864 x 711 mm (64 x 34 x 28 in.) 227 kg (500 lbs)
Build Tray Dimensions	355 mm x 254 mm x 355 mm (14 x 10 x 14 in.)
Material Delivery	4 material spool bays, 2 for model, 2 for support located in a drawer on the front of the unit
Achievable Accuracy[1]	Parts are produced within an accuracy of +/- .200 mm (.008 in.), or +/- .002 mm/mm (.002 in./in.), whichever is greater.
Network Connectivity	Wired: TCP/IPv6 protocols at 100 Mbps minimum 100 base T, Ethernet protocol, RJ45 connector Wireless-ready: IEEE 802.11n, g, or b; Authentication: WPA2-PSK, 802.1x EAP Encryption: CCMP, TKIP; MTConnect enabled
Operator Attendance	Limited attendance for job start and stop required
Software	GrabCAD Print, GrabCAD Print Pro[2] and Insight software
Operating Environment	Operating: Temperature: 15 – 30 ºC (59 – 86 ºF), Humidity: 30 – 70% RH Storage: Temperature: 0 – 35 ºC (32 – 95 ºF), Humidity: 20 – 90% RH
Power Requirements	100-132V/15A or 200–240V/7A. 50/60 Hz
Regulatory Compliance	CE (low-voltage and EMC directive), FCC, EAC, cTUVus, FCC, KC, RoHs, WEEE, Reach, RCM
Operating System	Windows 10 and 11 (64 bit only) with a minimum of 8GB RAM (16GB or more recommended)
Certifications[3]	GREENGUARD Certified per UL 2904 when using ABS, ASA, and FDM Nylon-CF10 with SUP4000B and QSR Support™ materials.

Layer Thickness - Stratasys Preferred Materials

Material	0.013 in. (0.330 mm)	0.010 in. (0.254 mm)	0.007 in. (0.178 mm)	0.005 in. (0.127 mm)[4]
ABS-M30	●	●	●	●
ASA	●	●	●	●
FDM TPU 92A Black		●	●	
ABS-CF10[5]	●	●	●	●
FDM Nylon-CF10[6]	●	●	●	

Layer Thickness - Stratasys Validated Materials

Material	0.013 in. (0.330 mm)	0.010 in. (0.254 mm)	0.007 in. (0.178 mm)	0.005 in. (0.127 mm)
FDM TPU 92A Red		●		

[1] Accuracy is geometry-dependent. Achievable accuracy specification derived from statistical data at 95% dimensional yield. Z part accuracy includes an additional tolerance of -0.000/+layer height.

[2] GrabCAD Print Pro is available on a subscription basis.

[3] GREENGUARD Certification is available on new F370CR systems under part number 123-80010.

[4] F123 T14H Head (123-00603-S) is the only approved head for 0.005 in. (0.127 mm) with ABS-CF10.

[5] Hardened print head is recommended for extended head life but will also operate using standard F123 and ABS-CF10 print heads.

[6] Dedicated FDM Nylon-CF10 hardened print head required.

Ready to transform
your manufacturing?

Learn more about FDM 3D printers at Stratasys.com.

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