



## Accelerate production.

Discover efficiencies  
with the Stratasys®  
Fortus 450mc™ 3D printer.

Minimize cost, increase uptime  
and improve quality on your  
factory floor. The Fortus  
450mc builds parts using the  
FDM® materials you're familiar  
with, but with the advanced  
complexity, high requirements  
and data security needed by  
today's manufacturers.



# Built for streamlined manufacturing.

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To help you get to market faster, the Fortus 450mc 3D printer provides a multi-application manufacturing solution that reduces design and build times, optimizes manufacturing workflows, decreases overall costs and promotes factory innovation.

## Capacity for complex parts.

Produce custom tools, prototypes and low-volume parts with complex geometries in days versus weeks, without sacrificing quality. The Fortus 450mc's generously-sized build platform provides capabilities to meet industrial application needs while its hands-free, soluble support materials aid in creating complex geometries as well as reducing labor.

## Materials for many applications.

From standard to high-performance, the Fortus 450mc features a large portfolio of materials that cover a range of mechanical properties and support a broad number of applications. Leverage the stiffness of carbon fiber nylon for strong but lightweight tools, functional prototypes and end-use parts. Open up new applications using the superior strength, chemical resistance and ESD performance of Antero™ PEKK-based thermoplastics. All materials are specifically tuned to the printer to deliver optimal print results with consistent repeatability while support materials allow for successful builds of complex parts.

## Industry-leading performance.

### Near-Isotropic Parts

Fortus 450mc parts exhibit more than 80% strength in the vertical (ZX) plane compared with in-plane (XZ) performance for certain materials.<sup>1 2</sup> This gives you greater flexibility to orient the part in the build chamber for optimal print results while achieving more consistent mechanical properties throughout the part.

## High-Strength Material Capability

Stratasys FDM technology is the standard in carbon fiber printing for tools and end-use parts that demand high strength and stiffness. FDM Nylon 12CF (carbon fiber) printed on the Fortus 450mc offers superior mechanical properties, with an ultimate tensile strength exceeding 10,000 psi. And with a measured production variance of less than 4%, the Fortus 450mc delivers these properties print after print.<sup>1</sup>

## Unmatched Consistency

The Fortus 450mc provides unequalled consistency when it comes to part properties. Tests on the ultimate tensile strength of ASA material across multiple Fortus 450mc printers in all areas of the build platform demonstrate a variance of less than 6%. Combined with a 93% print success rate, you get consistent, repeatable results coupled with maximum yield.<sup>1</sup>

## Unwavering Precision

Along with repeatable print results, the Fortus 450mc produces parts with a high degree of dimensional accuracy and precision. This has been demonstrated by tests performed on multiple printers and numerous builds over months of print operations.<sup>1</sup> When you need reliable print performance that meets your tolerance specifications, the Fortus 450mc delivers.

## Simplified workflow.

Designed for an efficient workflow, the Fortus 450mc is compatible with the CAD-to-print GrabCAD Print™ software and features an intuitive touchscreen interface that requires little to no training to navigate. It also includes easy-to-replace build sheets and loading options.

## Smart-factory integration.

Companies embracing Industry 4.0 concepts of automation, on-demand manufacturing and data safeguards need connected 3D printing solutions that securely integrate with their smart factory infrastructure. The Fortus 450mc uses Stratasys ProtectAM™ technology to provide a variety of secure connectivity solutions, including STIG compliance that satisfies U.S. government DOD requirements.

<sup>1</sup> Stratasys 2020 Repeatability and Reliability study for F370, Fortus 450mc and F900 printers.

<sup>2</sup> Results are based on tests using ASA material. Test coupons were printed on multiple printers across the build platen. High-performance thermoplastics like FDM Nylon 12CF and ULTEM resins provide a lower (approximately 50%) Z-strength in comparison to XZ due to factors such as carbon fiber alignment and thermal bonding.



## Meet industry demands.

Tackle applications that require tight tolerances, toughness and environmental stability as well as specialized properties like V-0 flammability or FST ratings. The Fortus 450mc is also compatible with GrabCAD Shop™ and other Software Partner solutions to help manage the full 3D printing workflow. The Fortus 450mc uses production-grade thermoplastics to build strong, durable and dimensionally stable parts suitable for demanding applications in aerospace, automotive, rail, military, industrial equipment and consumer products.

# Simplify your factory workflow.

To help you manage your printing projects more efficiently, the Fortus 450mc comes with integrated GrabCAD Print and Insight™ software. GrabCAD Print enables you to print directly from CAD formats using smart default settings and tooltips as well as access detailed views of models, trays and slice previews. And with Insight, you can fine-tune part performance and material use for greater cost efficiency.





# Get global service and support.

To help eliminate production downtime, our support team offers priority service, quick response times, fast delivery of replacement parts and scheduled preventative maintenance. We also provide expert technical training, predictable maintenance expenditures for easy budgeting, and scheduled software and hardware updates — giving you access to the most recent developments.



# See the specs.

Product Specifications						
Material	Layer Thickness				Support Structure	Available Colors
	0.330 mm (0.013 in.)	0.254 mm (0.010 in.)	0.178 mm (0.007 in.)	0.127 mm (0.005 in.)		
ABS-ESD7™	○	●	●	○	Soluble	■ Black
ABS-M30™	●	●	○	●	Soluble	■ Ivory ■ Black ■ Blue □ White ■ Red ■ Dark Gray
ABS-M30j™	●	●	●	●	Soluble	■ Ivory
Antero™ 800NA	○	●	○	○	Breakaway	■ Natural
Antero 840CN03	○	●	○	○	Breakaway	■ Natural
ASA	●	●	●	●	Soluble	■ Black ■ Dark Gray ■ Light Gray □ White ■ Ivory ■ Dark Blue ■ Green ■ Yellow ■ Orange ■ Red
FDM Nylon 12™	●	●	●	○	Soluble	■ Black
FDM Nylon 12CF™	○	●	○	○	Soluble	■ Black
PC	●	●	●	●	Breakaway, Soluble	□ White
PC-ABS	●	●	●	●	Soluble	■ Black
PC-ISO™	●	●	●	○	Breakaway	■ Translucent Natural □ White
ULTEM™ 9085 resin	●	●	○	○	Breakaway	■ Tan ■ Black
ULTEM™ 1010 resin	●	●	○	○	Breakaway	■ Natural
ST-130	●	○	○	○	Breakaway	■ Tan

## Product Specifications

<b>System Size and Weight</b>	129.5 cm x 90.2 cm x 198.4 cm (51 x 35.5 x 78.1 in.) 601 kg (1325 lbs.)
<b>Achievable Accuracy</b>	Parts are produced within an accuracy of $\pm .127$ mm ( $\pm .005$ in.) or $\pm .0015$ mm/mm ( $\pm .0015$ in./in.), whichever is greater). Z part accuracy includes an additional tolerance of -0.000/+slice height. Note: Accuracy is geometry dependent. Achievable accuracy specification derived from statistical data at 95% dimensional yield.
<b>Network Communication</b>	10/100 base T connection. Ethernet protocol.
<b>Operator Attendance</b>	Limited attendance for job start and stop required.
<b>Power Requirements</b>	208 VAC (3 phase), 50/60 Hz, consumes 18 Amps
<b>Regulatory Compliance</b>	CE, cTUVus, RCM, EAC, FCC Part B
<b>Software</b>	All Fortus® systems include Insight and Control Center™ job processing and management software. Compatible with GrabCAD Print for use with job reports, scheduling and remote monitoring. U.S. government agency STIG compliance via Stratasys ProtectAM technology is powered by Red Hat® Enterprise Linux® software.
<b>Operating System</b>	Windows 10 and newer, Windows Server 2016 and newer. Only 64-bit versions of Windows are supported.



# Ready to accelerate production?

Learn more about the Fortus 450mc  
3D printer at [Stratasys.com](http://Stratasys.com).



## RIVENDITORE AUTORIZZATO

### **Energy** Group

3D Printing Solutions for Industry

a SolidWorld Group company

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ISO 9001:2015 Certified

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