
Markforged
MANUFACTURING
REINVENTED
MARKFORGED.COM

ABOUT

MARKFORGED

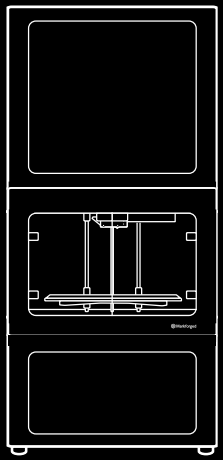
Markforged was founded to change the way products are made. At the intersection of traditional manufacturing and cutting-edge material science, we believe in a future where going from your design to finished parts is easy, simple, safe and affordable. That's why we've created the world's only ecosystem of plastic, metal and composite 3D printers— so you can focus on building products that change the world.

COMPLETE METAL SOLUTION

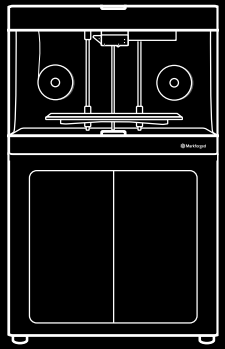
SINTER-1, METAL X, WASH-1

MARKFORGED

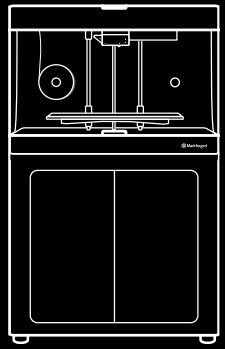
PRODUCTS



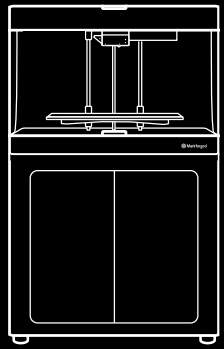
METAL X
Metal Printer



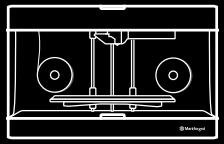
X7
Industrial Precision



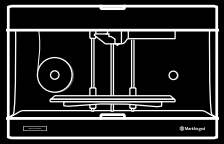
X5
Industrial Composite



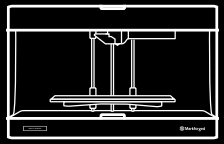
X3
Industrial Onyx



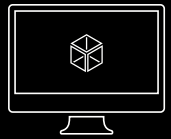
MARK TWO
Professional Composite



ONYX PRO
Onyx Composite



ONYX ONE
Onyx Desktop



EIGER
Markforged Software

HARDWARE

BUILD QUALITY

Featuring an all-aluminum unibody and kinematic bed coupling, Markforged sets the standard in build quality and industrial design. With a fully enclosed build chamber, ultra-quiet motion system and humidity controlled material storage, our printers are equally at home whether in the office or on the factory floor.

INDUSTRIAL SERIES

Industrial Precision

HARDWARE

USABILITY

Cloud-connected software and a 4.3" touchscreen comes standard with every printer, washer and furnace. Regular over-the-air updates mean that your Markforged products keep getting better. Material usage tracking and out-of-material detection help monitor your printers and reduce waste. Just a few of the ways we're working to reduce the distance from design to part.


CAMBRIDGE ONE
Material
Fiberglass
Onyx

SOFTWARE

EIGER

With automatic version control, real-time fleet management and cloud-based collaboration, Eiger is the world's most advanced 3D printing software. Designed from the ground up to make manufacturing simpler, Eiger enables you to print plastic, metal and composite parts straight from your browser. Our internet-connected architecture ensures the latest features and performance enhancements are always available.

SOFTWARE

OPTIMIZATION

Our cloud software platform gives you an incredibly high degree of control over the final properties of your finished part. By automatically analyzing your parts we enable you to optimize for strength, weight and print time without changing your design.

Search

Jaw - Large Coupling

Abraham Parangi

Get Support | Visibility | 2D | 3D

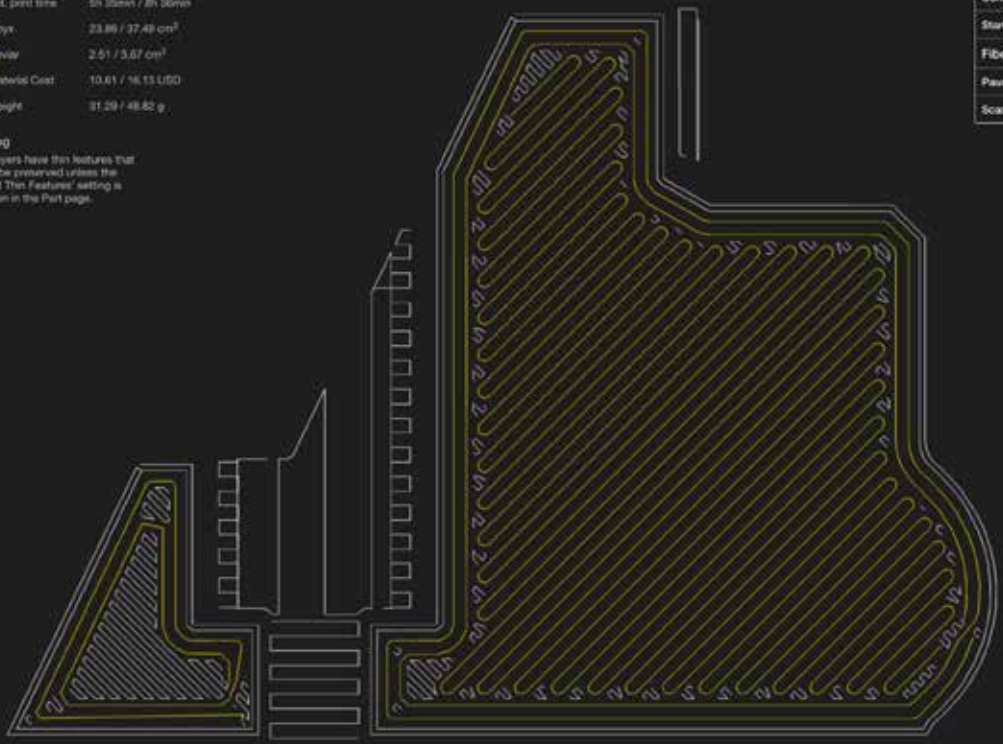
Part Stats (up to layer 232)

Est. print time	5h 35min / 8h 36min
Onyx	23.86 / 37.48 cm³
Kevlar	2.51 / 3.67 cm³
Material Cost	10.61 / 16.13 USD
Weight	31.29 / 48.82 g

Warning

Some layers have thin features that will not be preserved unless the 'Expand Thin Features' setting is turned on in the Part page.

Editing Layer: 232 / 350	
Use Fiber	
Fiber Fill Type	Isotropic Fiber
Concentric Fiber Rings	2
Start Rotation Percent	42
Fiber Angle	135
Pause After Layer	
Scan After Layer	



Revert

Save

Part View

Print

Editing Layer: 232 / 350

23.2mm

Materials

TECHNOLOGY

CFF

Continuous Filament Fabrication

DESIGN

Shape your part in your favorite CAD package, upload the STL file and select from composite materials such as Carbon Fiber, Fiberglass or Kevlar.

REINFORCE

Our cloud-based printing software automatically paths the composite fibers throughout the plastic matrix for optimum strength. Customize reinforcement to meet your design requirements.

Formed from the combination of two materials, composite parts are incredibly strong and versatile. Our unique fabrication process enables you to print parts that are an order of magnitude stiffer and stronger than typical 3D printed objects.

PRINT

The dual material system crafts the composite part one layer at a time. The first nozzle builds the plastic matrix and the second winds the fiber throughout.

FINAL PART

As strong as aircraft grade aluminum and over 40% lighter, Markforged CFF parts are more than capable of replacing machined metal tools, fixtures and prototypes.

TECHNOLOGY

ADAM

Atomic Diffusion Additive Manufacturing

DESIGN

The ADAM process gives you unparalleled design flexibility. Shape your part in your favorite CAD package, upload the STL file, and select from a wide range of metal materials.

PRINT

Metal powder bound in plastic is printed layer at a time into the shape of your part. Parts are scaled up to compensate for shrinkage during the sintering process.

Atomic Diffusion Additive Manufacturing lives at the intersection of 3D printing and metal injection molding. Building on years of experience printing plastic loaded with carbon fiber, ADAM is an all new way to create metal parts.

SINTER

After washing to remove binding material, parts are then sintered in a furnace at around 85% of their melting temperature, and the metal powder fuses into solid metal.

PART

Complex geometries and captive infills make for isotropically strong lightweight parts. Pure metal and over 99% dense, the final part is now ready for use.

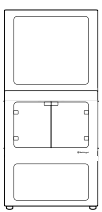
METAL

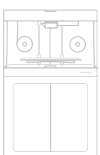
17-4 STAINLESS STEEL

Combining high strength, corrosion resistance and exceptional hardness, 17-4 stainless steel is widely used in the aerospace, medical and petroleum industries.

LAYER HEIGHT	TOLERANCE	SINTERED DENSITY
50 µm	±50 µm (geometry dependent)	99%

Compatible with


Metal X

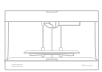

X7


X5


X3


Mark Two


Onyx Pro


Onyx One

CAMSHAFT SPROCKET

MATERIAL 17-4 STAINLESS STEEL

PART COST $12.56

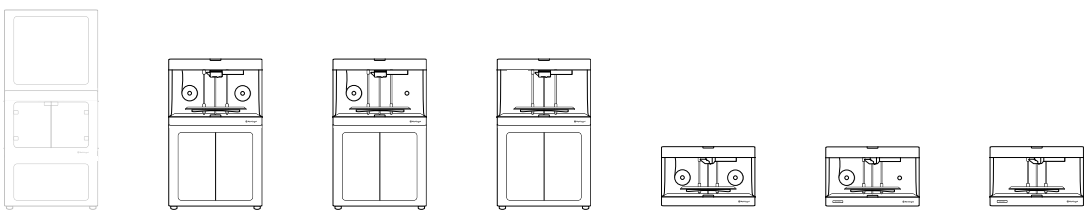
PLASTIC

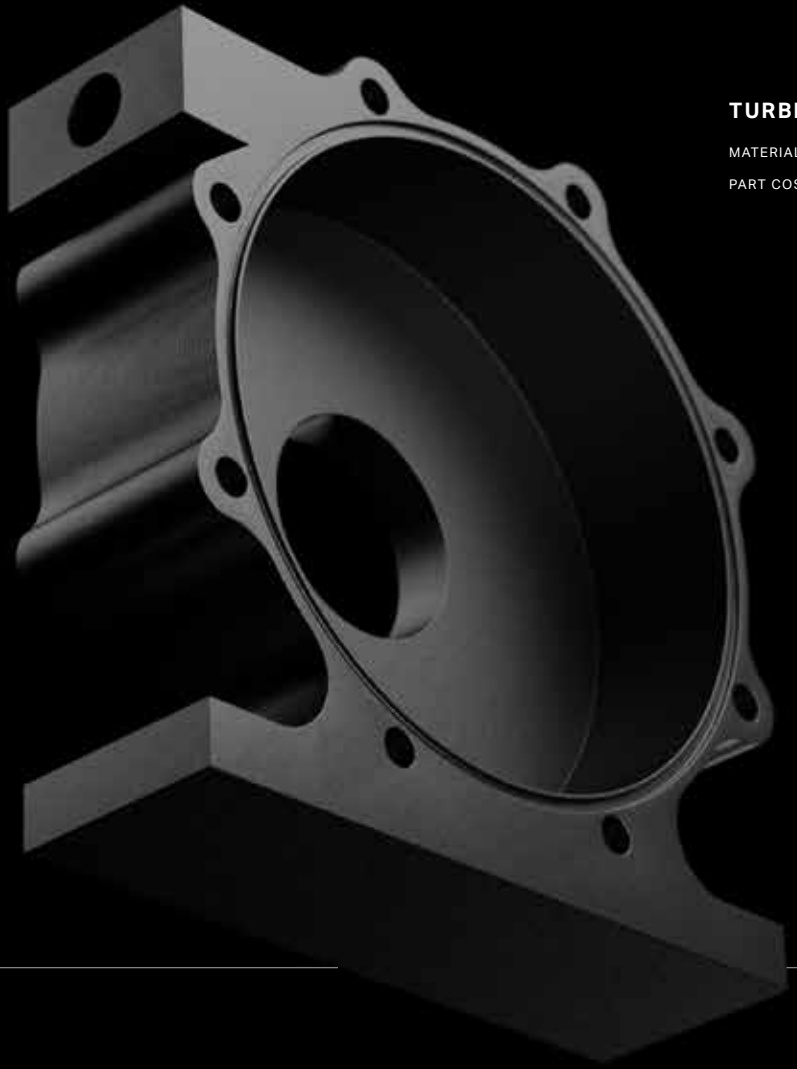
ONYX

Designed to combine the toughness and durability of Nylon with the dimensional stability and strength of composites, Onyx is the world's most capable 3D printing plastic.

FLEXURAL STRENGTH	TENSILE STRENGTH	FLEXURAL MODULUS
81 MPa	36 MPa	2.9 GPa

Compatible with





TURBINE HOUSING

MATERIAL	ONYX
PART COST	$26.51

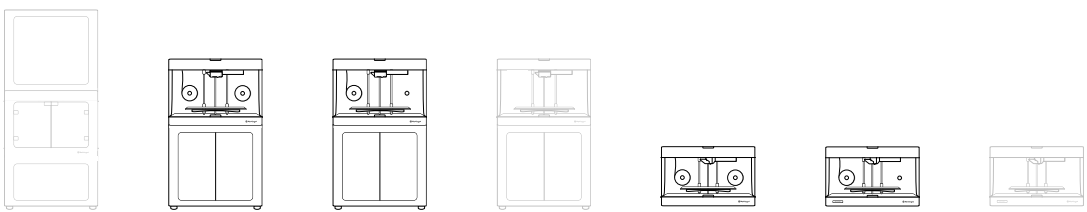
COMPOSITE

FIBERGLASS

Using our unique composite reinforcement process, Fiberglass parts are an order of magnitude stiffer and stronger than typical 3D printed parts.

FLEXURAL STRENGTH	TENSILE STRENGTH	FLEXURAL MODULUS
210 MPa	590 MPa	22 GPa

Compatible with



Metal X | X7 | X5 | X3 | Mark Two | Onyx Pro | Onyx One


AIRCRAFT BRACKET
MATERIAL ONYX & FIBERGLASS
PART COST $112.49
EXTERIOR SHELL
ONYX
INTERIOR REINFORCEMENT
FIBERGLASS

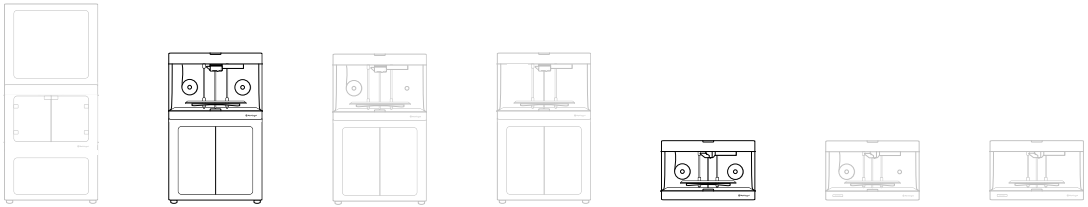
COMPOSITE

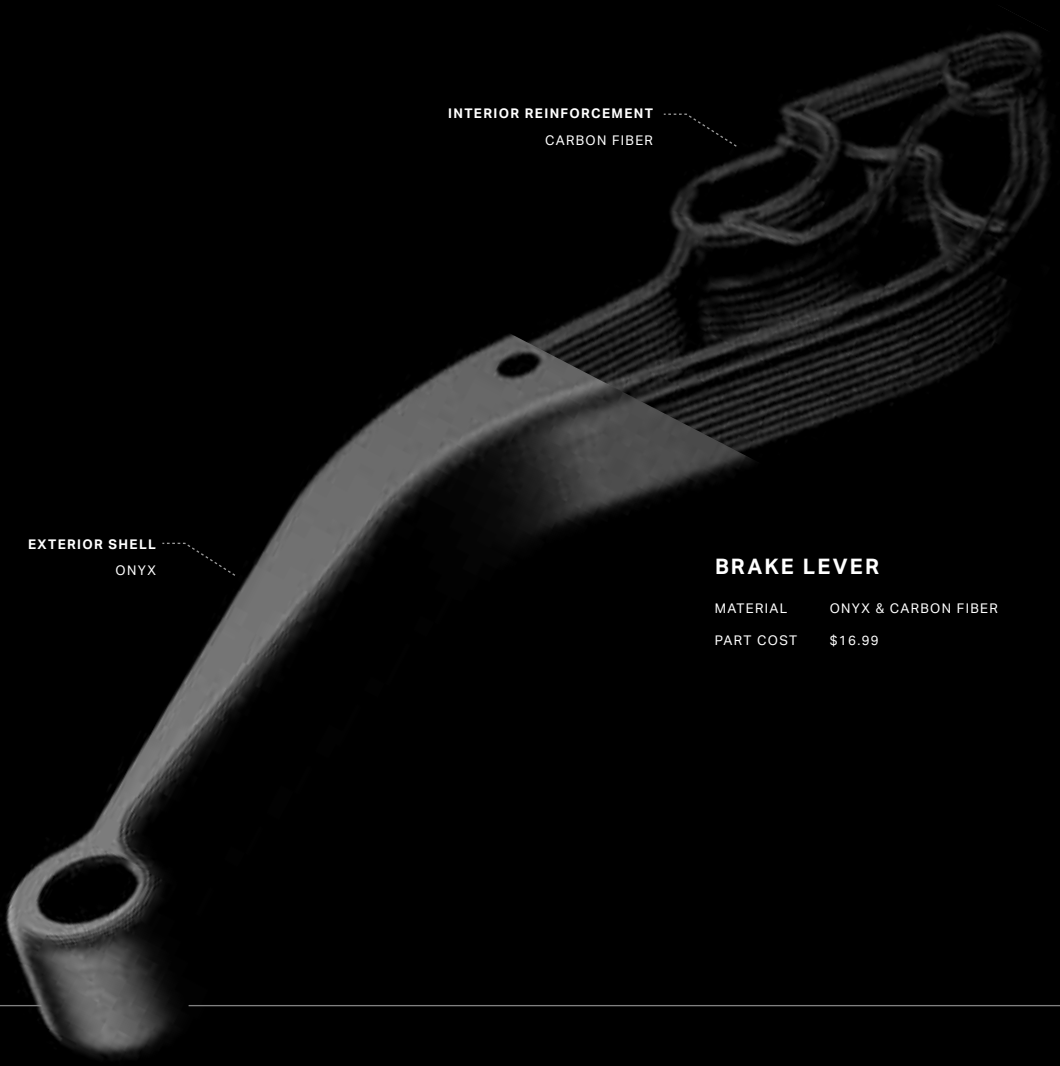
CARBON FIBER

With excellent strength-to-weight and stiffness, Carbon Fiber is our highest performing composite material. Ideal for applications requiring high strength and low weight.

FLEXURAL STRENGTH	TENSILE STRENGTH	FLEXURAL MODULUS
470 MPa	700 MPa	51 GPa

Compatible with





BRAKE LEVER

MATERIAL	ONYX & CARBON FIBER
PART COST	$16.99

MARKFORGED

ALL MATERIALS

With excellent strength-to-weight and stiffness, Carbon Fiber is our highest performing composite material.

PLASTIC	COMPOSITE	STAINLESS STEEL	ALUMINUM
Onyx	Fiberglass	17-4 Stainless Steel	6061 Aluminum
Nylon	Carbon Fiber	316L Stainless Steel	7075 Aluminum
	Kevlar		
	HSHT Fiberglass		

TITANIUM	INCONEL	TOOL STEEL	
Ti-6Al-4V	IN Alloy 625	A-2 Tool Steel	Find out more at
		D-2 Tool Steel	**markforged.com**

METAL X

Metal Printer