



The Fuse 1+ 30W SLS Ecosystem

High Performance Selective Laser Sintering Within Reach

formlabs 



Fuse 1+ 30W

Designed for maximum output and minimum waste, Fuse 1+ 30W is a compact SLS 3D printer that packs an industrial punch.

INDUSTRIAL-GRADE PRINTS

Make parts that can withstand heavy use with our library of performance materials, including filled and elastomeric powders.

SUPERIOR PRINT SPEEDS

Deliver high-precision parts within 24 hours thanks to a powerful 30W laser that prints at scan speeds of up to 12.5 meters per second.

SLS MADE EASY

Easy-to-use hardware and software are designed to get you up and running quickly and maximize your efficiency at every step of the process.

COMPACT AND SCALABLE

A compact footprint and modular ecosystem make the Fuse 1+ 30W suitable for any environment.

Fuse Sift

Fully compatible with all Fuse Series printers, the Fuse Sift creates an easy, streamlined workflow for industrial quality post-processing.

COMPACT, ENCLOSED SYSTEM

A negative air pressure system keeps powder inside while enabling open access and easy cleanup.

AUTOMATIC POWDER MIXING

Fuse Sift will dispense and mix used and new powder automatically so you can reduce waste and control your powder supply.

NONSTOP PRINTING

Reduce downtime by transferring modular build chambers and powder cartridges between the Fuse 1 and Fuse Sift for a nonstop, cyclical workflow.



Materials



3D print production-ready, end-use parts on the Fuse Series with our family of SLS Powders.

Nylon 12

POWDER

A Material That Does It All

Tensile Strength	50 MPa
Tensile Modulus	1850 MPa
Elongation at Break (X/Y)	11%



Nylon 12 GF

POWDER

Stiff, Stable, Functional Parts

Flexural Modulus	2400 MPa
Tensile Modulus	2800 MPa
Heat Deflection Temp @ 1.8 MPa	113 °C



Nylon 11

POWDER

High Ductility,
Impact Resistant Parts

Tensile Strength	49 MPa
Izod Impact Strength	71 J/m
Elongation at Break (X/Y)	40%



Nylon 11 CF

POWDER

Carbon Fiber for Strong and
Lightweight Parts

Tensile Strength (X)	69 MPa
Tensile Modulus (X)	5300 MPa
Heat Deflection Temp @ 1.8 MPa	178 °C



TPU 90A

POWDER

A Tough Elastomer for
Resilient, Skin-Safe Products

Tear Resistance (X/Y)	69 MPa
Shore Hardness	90A
Elongation at Break (X/Y)	310%

Material properties may vary based on part design and manufacturing practices. It is the manufacturer's responsibility to validate the suitability of the printed parts for the intended use.

From Design to Finished Part

A Convenient, Intuitive Workflow

1

PreForm



Efficient Print Packing for Optimal Part Density

Use our free print preparation software, PreForm, to import STL or OBJ files, orient models, estimate print times, and pack parts for optimized density, reducing print time and limiting waste.

2

Fuse 1+ 30W



Fast and reliable printing

Easily set up your printer and achieve fast printing thanks to the 30W laser. Print next-day prototypes and enable small series manufacturing of durable, end-use parts under 24 hours.

3

Dashboard



Remote monitoring for peace of mind

Take control of your production across multiple locations and machines. View printer availability, manage materials, track jobs, and receive notifications all in one cloud-based Dashboard to minimize downtime and maximize output.

4

Fuse Sift



All-in-one powder recycling and recovery

Our all-in-one powder recovery station, Fuse Sift, combines part extraction, powder recovery, storage, and mixing in a single device. Parts printed on Fuse 1+ 30W can be further cleaned with a commercially available media blaster.

5

Post-processing



Advanced post-processing for peak performance

Achieve smooth surfaces, custom colors, and enhanced durability by pairing Formlabs' materials with secondary post-processing methods.

Tech Specs: Fuse 1+ 30W

Technology	Selective laser sintering (SLS) Class 1 Laser Product	Printer Dimensions (W × D × H)	64.5 × 68.5 × 107 cm (165.5 cm with stand) 25.4 × 27.0 × 42.0 in (65.0 in with optional stand)
Build Volume	165 x 165 x 300 mm 6.5 x 6.5 x 11.8 in	Weight	114 kg (without build chamber or powder) 251.3 lb (without build chamber or powder)
Layer Thickness	110 microns 0.004 in	Power Requirements	EU: 230 VAC, 7.5 A (dedicated circuit) US: 120 VAC, 15 A (dedicated circuit)
Laser Type	Ytterbium Fiber 30W	Warranty and Service	One Year Warranty included. Extended Warranty, Standard Service Plan and Premium Service Plan available.
Laser Spot Size	200 microns (0.0079 in)	Software Compatibility	Windows 7 and up // Mac OSX 10.6.8 and up
Material Refresh Rate	20% – 50%	File Type	STL or OBJ
Build Chamber	Modular, compatible with Fuse 1+ 30W, Fuse 1 and Fuse Sift		
Print Support Structures	No supports necessary		