

# Ultimaker S5

## Product data sheet

### Enhanced reliability

Trust the Ultimaker S5 to do its job while you do yours. Its advanced active bed leveling ensures a perfect first layer, glass doors control the airflow, and dual filament flow sensors will pause your print and notify you if you run out of material.

### Open and connected system

With the Ultimaker S5, you are not only getting a market-leading 3D printer – you gain access to the Ultimaker platform. Access all the tools you need to start 3D printing – increased security, workflow management, and knowledge. Ultimaker brings it to your door, with features including a limited Digital Library for easy part storage and sharing, an IT knowledge base, and e-learning courses.

- ✓ **Hassle-free experience:** Seamless integration with the Ultimaker platform of software, materials, and printers
- ✓ **High build volume to size ratio:** Scale up with bigger parts or batch production
- ✓ **Touchscreen control:** Effortless operation via an award-winning user interface
- ✓ **Advanced active leveling:** Reliable first-layer adhesion, enables unattended use without manual leveling
- ✓ **Wide material choice:** Use almost any material with our open filament system, including composites (requires print core CC)
- ✓ **Easy setup and monitoring:** With NFC material recognition and internal camera
- ✓ **Network connectivity:** Print via Wi-Fi, LAN, cloud, or USB
- ✓ **Minimal training required:** Anyone can print after a 30-minute introduction
- ✓ **Ultimaker Essentials NEW:** Unending access to security-assessed software – with remote printing, user management, and e-learning

## The Ultimaker platform



### 3D printers that simply work

Our award-winning 3D printers are robust, reliable, and easy to use. They deliver quality parts time and again. Designed and tested to run 24/7, they allow you to achieve the results you need more quickly and easily.



### Software ready for Industry 4.0

Trusted by millions of users across 14 languages, Ultimaker Cura integrates with any workflow through Ultimaker Marketplace plugins. Then scale production and digital distribution with Ultimaker Digital Factory.



### Material choice like never before

Ultimaker offers the widest material choice on the market. Through our Material Alliance, choose the perfect filament for your application – from advanced polymers to carbon fiber composites.

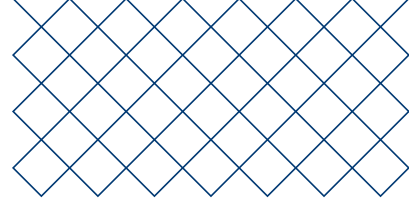


### Support dedicated to your success

Wherever you are in the world, Ultimaker support is close by. Our global network of service partners offer professional installation, training, and maintenance in your language and time zone.

Request a quote today at [ultimaker.com/quote/request](https://ultimaker.com/quote/request)

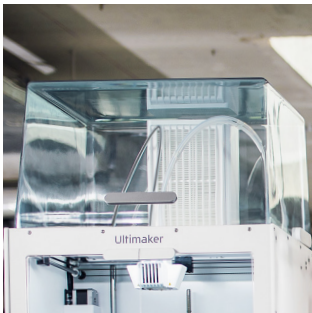
**Ultimaker**



## Ultimaker S5 specifications

<b>Printer and printing properties</b>	Technology	Fused filament fabrication (FFF)	
	Print head	Dual extrusion print head with a unique auto-nozzle lifting system and swappable print cores	
	Build volume (XYZ)	330 x 240 x 300 mm (13 x 9.4 x 11.8 in)	
	Layer resolution	0.25 mm nozzle: 150 - 60 micron 0.4 mm nozzle: 200 - 20 micron 0.6 mm nozzle: 300 - 20 micron 0.8 mm nozzle: 600 - 20 micron	
	XYZ resolution	6.9, 6.9, 2.5 micron	
	Build speed	< 24 mm <sup>3</sup> /s	
	Build plate	Heated glass build plate (20 - 140 °C)	
	Nozzle diameter	0.4 mm (included) 0.25 mm, 0.6 mm, 0.8 mm (sold separately)	
	Operating sound	< 50 dBA	
	Connectivity	Wi-Fi, LAN, USB port	
	<b>Physical dimensions</b>	Dimensions (with Bowden tubes and spool holder)	495 x 585 x 780 mm (19.5 x 23 x 30.7 in)
		Net weight	20.6 kg (45.4 lbs)
	<b>Software</b>	Free supplied software	Ultimaker Personal (for individuals – includes Ultimaker Cura) Ultimaker Essentials (for organizations – includes Ultimaker Cura Enterprise) Find our full range of enterprise plans at <a href="https://ultimaker.com/software">ultimaker.com/software</a>
Supported OS		MacOS, Windows, and Linux	
<b>Warranty</b>	Warranty period	12 months	

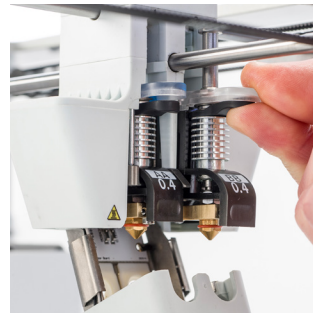
## Compatible accessories



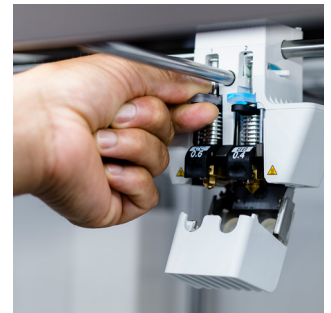
**Air Manager**  
EPA filter removes up to 95% of UFPs



**Material Station**  
Simplify and automate material handling



**Print cores AA and BB**  
Quick-swap nozzles for build and water-soluble support materials



**Print core CC**  
Ruby-tipped for printing abrasive composites

## Compatible materials

Unlock a wide range of applications with complete material choice. Use Ultimaker materials, any third-party filament, or access material profiles from leading brands. Choose from these materials and more.

### Easy to print

- Ultimaker PLA
- Ultimaker Tough PLA
- Ultimaker PETG

### Mechanical strength

- Ultimaker ABS
- Ultimaker PC
- Ultimaker CPE

### Wear resistance

- Ultimaker Nylon
- Ultimaker PP
- Iigus Iglidur I180-PF

### Heat resistance

- Ultimaker CPE+
- DSM Arnitel ID 2060 HT

### Flexibility

- Ultimaker TPU 95A
- DuPont™ Hytrel® 3D4100FL

### Reinforced composites

- Owens Corning XSTRAND™ GF30-PA6
- DSM Novamid® ID1030 CF10

### Support

- Ultimaker PVA
- Ultimaker Breakaway



**Ultimaker**



### STORAGE

XSTRAND™ filaments must be stored in a dry and temperate location. The product should remain in its original packaging, preferably closed, until beginning of use.

### WARNING

When melted, XSTRAND™ filament can be abrasive due to its glass reinforcement. Printing with XSTRAND™ may reduce brass nozzles and extruder driving wheels' lifetime. For a better experience, using hardened steel nozzles and extruder driving wheels is advised.

Ensure sufficient ventilation in your 3D printing space and avoid inhaling extrusion fumes.

### CONTACT

For any questions related to XSTRAND™ 3D products, contact us at:

**[3dprinting@owenscorning.com](mailto:3dprinting@owenscorning.com)**

Material Safety Data Sheet available upon request.

This information and data contained herein is offered solely as a guide in the selection of reinforcement. Rating contained in this publication is based on actual laboratory data, field test experience and observation of overall market use. We believe this information to be reliable, but do not guarantee its applicability to the user's process or assume any responsibility or liability arising out of its use or performance. The user agrees to be responsible for thoroughly testing any application to determine its suitability before committing to production. It is important for the user to determine the properties of its own commercial compounds when using this or any other reinforcement. Because of numerous factors affecting results, we make no warranty of any kind, express or implied, including those of merchantability and fitness for a particular purpose. Statements in this publication shall not be construed as representations or warranties or as inducements to infringe any patent or violate any law safety code or insurance regulation. Owens Corning reserves the right to modify this document without prior notice. Copyright © 2018 Owens Corning. All Rights Reserved. Pub. 10022732. XSTRAND™ 3D GF30-PP Technical datasheet Rev2 January 2018



Revision date: January 22<sup>nd</sup>, 2018



3D FILAMENT  
GLASS FIBER REINFORCED POLYPROPYLENE

**GF30-PP**



## MATERIAL DATASHEET

Physical Properties	Metric	Imperial	Standard
Density	0,94 g/cm <sup>3</sup>	7,85 lbs/gal	ISO 1183-A
Moisture Absorption	Very low (<0.1%)	Very low (<0.1%)	ISO 62 23 °C / 50% RH
Water Absorption	Very low (<0.1%)	Very low (<0.1%)	ISO 62 23 °C / Sat

Mechanical Properties	Metric	Imperial	Standard
Tensile Modulus	6 500 MPa	943 ksi	ISO 527 1 mm/min (0.04 inch/min)
Tensile Strength (Yield)	60 MPa	8,700 psi	ISO 527 1 mm/min (0.04 inch/min)
Tensile Strength (Break)	60 MPa	8,700 psi	ISO 527 1 mm/min (0.04 inch/min)
Elongation (Break)	1.6 %	1.6 %	ISO 527 1 mm/min (0.04 inch/min)
Flexural Modulus	4 300 MPa	624 ksi	ISO 178 2 mm/min (0.08 inch/min)
Flexural Strength (Yield)	83 MPa	12,000 psi	ISO 178 2 mm/min (0.08 inch/min)
Flexural Strength (Break)	78 MPa	11,300 psi	ISO 178 2 mm/min (0.08 inch/min)

Thermal Properties	Metric	Imperial	Standard
Heat Deflection Temperature	120 °C	248 °F	ISO 75 Method A (1.8 MPa)
Melting Point	167 °C	333 °F	ISO 11357

Printer Settings	Nozzle	Bed	Recommended Bed Type
Temperature	220 °C - 280 °C	80 °C - 110 °C	1) Perforated plate 2) HDPE sheet
Printing speed	30-100 mm/s	-	3) PP adhesive
Nozzle diameter	> 0.4 mm	-	

## PACKAGING

Thermal Properties	Metric	Imperial	Standard
Filament diameter	1,75 mm / 2,85 mm	0,069 inch / 0,112 inch	+/- 0,05 mm
Material weight	500 g / 2200 g	1.1 lbs / 4.85 lbs	Net weight
Spool (500g / 1.1lbs)	200 / 52 / 55 mm	7.9 / 2.0 / 2.2 inch	∅ext / ∅int / width
Spool (2200g / 4.85 lbs)	300 / 52 / 102 mm	11.8 / 2.0 / 4.0 inch	∅ext / ∅int / width

## DESCRIPTION

Developed by Owens Corning, a world leader in composite solutions, XSTRAND™ GF30-PP filament for 3D printing is a reinforced material designed to be compatible with any standard Fused Filament Fabrication 3D printer (1.75 and 2.85 mm diameters available).

## BENEFITS & PERFORMANCES

- High stiffness and strength (up to +200% compare to ABS)
- Large operational temperature range (-20°C to 120°C)
- Very good chemical and UV resistance
- Very low moisture absorption
- Excellent layer adhesion
- Reduced warping effect compared to neat PP

## POTENTIAL APPLICATIONS

XSTRAND™ GF30-PP is designed for functional prototyping and demanding applications such as industrial tooling, transportation, electronics, small appliances, sports & leisure...