



UltiMaker S7 and UltiMaker S7 Pro Bundle

Installation and user manual



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1.4 Regulatory information

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Disclaimer



This manual sets out the instructions on how to install and operate the UltiMaker S7. Please read and understand the contents of this installation and user manual carefully. Failure to read the manual may lead to personal injury, inferior print results, or damage to the UltiMaker printer or its peripherals.

Always make sure that anyone who uses this 3D printer knows and understands the contents of the manual to make the most out of the UltiMaker printer.

Upon delivery of the product, installation shall be done in accordance with the instructions in this user manual. The handling, storage, use, or disposal of the device are beyond our control and are for your sole responsibility. We do not assume responsibility and expressly disclaim liability for loss, injuries, damage, or expense arising out of or in any way connected with the handling, storage, use, or disposal of the product.

The information within this document has been collected and represented with great care and is considered accurate. In case inconsistencies or inaccuracies are observed, those are unintentional and UltiMaker welcomes to be made aware of those. Submit your feedback to UltiMaker via <u>support.ultimaker.com</u>.

Product information

The UltiMaker S7 can be used as a standalone unit, or in combination with the Material Station. As a standalone printer, install up to two materials using the spool holder at the back. In combination with the Material Station, pre-load up to six material spools and benefit from additional features, including automatic spool switching.



The instructions in this manual describe the installation and operation of the standalone 3D printer. If there are alternative instructions for the combination with the Material Station, these are described separately and indicated by the Material Station symbol.

Intended use

UltiMaker 3D printers are designed and built for fused filament fabrication mainly within a commercial, professional, or educational environment. The mixture of precision and speed makes UltiMaker 3D printers very suitable for concept models, functional prototypes, and small series production.

Although we achieved a very high standard in the reproduction of 3D models with the usage of UltiMaker Cura, the user remains responsible to qualify and validate the application of the printed object for its intended use. This is especially critical for applications in strictly regulated areas like medical devices and aeronautics.

UltiMaker 3D printers, including the UltiMaker S7, are compatible with an increasing range of materials available in our <u>Marketplace</u> and optimized for usage with UltiMaker materials. While being an open material platform, the best results will be achieved with UltiMaker materials, as effort has been made to match material properties with machine settings.



1. Safety and compliance



1.1 Safety messages

The information provided below is applicable to the UltiMaker S7 and the UltiMaker S7 in combination with the Material Station ("UltiMaker products").

This guide contains warnings and safety notices.

- (i) Provides additional information that is helpful to do a task or to avoid problems.
- 🚹 Warns of a situation that may cause material damage or injuries if the safety instructions are not followed.

The following ISO warning symbols are also used:

- Magnetic field (ISO 7010-W006)
- A Electricity hazard (ISO 7010-W012)
- A Hot surface (ISO 7010-W017)
- A Crushing of hands (ISO 7010-W024)
- A Pinching and entanglement hazard
- Read the user manual (ISO 7010-M002). Before using this product, read the complete user manual to learn about all its features and safety related information

1.2 General safety information

- UltiMaker products shall only be used by persons that have carefully read and understood the user manual and the safety provisions in it.
- UltiMaker 3D printers generate high temperatures and have hot moving parts that can cause injury. Never reach inside UltiMaker 3D printers while they are in operation. Always control the printers with the touchscreen at the front, the power switch at the back or via UltiMaker Digital Factory.
- Allow the UltiMaker 3D printers to cool down sufficiently before reaching inside, unless explicitly stated otherwise for certain (maintenance) processes. Always wait until the display indicates that the build plate has cooled down to a safe temperature.
- Do not change or adjust any parts of the product unless the change or adjustment is authorized by UltiMaker.
- Do not store items inside UltiMaker products.
- UltiMaker products are not intended for use by persons with reduced physical and/or mental capabilities, or
 persons with lack of experience and knowledge, unless they are supervised or have been given instructions
 concerning the use of the appliance by a person responsible for their safety.
- This product is not intended for use by children. When using this product, children should be under constant supervision of an adult responsible for their safety. Maintenance actions shall only be performed by an adult, following the provided instructions.
- Do not change the filter of the Air Manager while the fan is in operation. Turn off the printer or use the filter replacement procedure to make sure the fan cannot start unexpectedly.
- If the door must be opened to remove the print, change the printer configuration, or for maintenance or repair actions, close the door immediately afterward to prevent the risk of bumping into it.

1.3 Hazards

Electrical safety

- The UltiMaker S7 is powered by mains voltage, which is hazardous when touched. Only skilled and instructed persons should remove the bottom cover of the printer. Always check local regulations before removing the bottom cover.
- A mains socket with protective earth/ground terminal must be used. Make sure that the building installation has dedicated means of over-current and short-circuit protection. Please use a circuit breaker with a current rating not exceeding 16A.
- A Only use the original power cable supplied with the device. Do not damage, cut, or repair the cable. A damaged cable should be immediately replaced with a new one.
- Always unplug the product before performing maintenance or modifications, unless explicitly stated otherwise for certain (maintenance) processes.

Mechanical safety

- A Pinching and entanglement hazard. Do not reach into the top area of the printer during operation due to a pinching hazard. Do not lean over the printer during operation due to risk of entanglement of hair, jewelry, and/or scarfs. This may cause minor pain, but no significant injury to the user is expected from pinching or entanglement by the drive belts.
- **Crushing or pinching hazard.** The force of the build plate is limited but may cause minor injury, so stay out of the reach of the build plate during operation.
- Always unplug the product before performing maintenance or modifications, unless explicitly stated otherwise for certain (maintenance) processes.

Risk of burns

- ▲ Hot surface hazard. There is a potential risk of burns: the print heads of the UltiMaker 3D printers can reach temperatures above 200 °C, while the heated bed can reach temperatures above 100 °C. Do not touch either of these parts with your bare hands. This symbol is placed on the print head and on the build plate to warn the user about this risk.
- Allow the UltiMaker 3D printers to cool down sufficiently before reaching inside, or performing maintenance or modifications, unless explicitly stated otherwise for certain processes. Always wait until the display indicates that the build plate has cooled down to a safe temperature.

Emission hazard

▲ During 3D printing, Ultrafine Particles (UFPs), Volatile Organic Compounds (VOCs), and other chemical substances may be emitted. Above certain concentrations (Threshold Limit Values, TLV), these emissions can pose a risk. Concentrations are influenced by the filament and adhesive used, print conditions (e.g. print temperature), room volume, Air Exchange Rate (AER), and number of printers in a room.

UltiMaker products are designed for use with UltiMaker materials and are open for use with materials from third-party suppliers.

- (i) Safe use information for UltiMaker materials. UltiMaker materials can be printed safely without any additional filtering using the recommended temperatures and settings in a well-ventilated area (minimum refresh rate or AER of 1.8 for a room size of 30.6 m3). When multiple UltiMaker 3D printers are operated in a contained environment, concentrations of UFPs and/or VOCs will increase. Depending on the specific situation, please consider other safety measures, such as a separate filter, cabinet, and/or dedicated ventilation system.
- (i) Safe use information for third-party materials. Make sure to check with your material supplier whether additional risks and safety measures apply. Additional safety measures may be required for the safe usage of such materials. Always take the relevant information provided by the supplier of third-party materials into account for safe operation. Please check the safety data sheet of each specific material for information. UltiMaker cannot be held responsible for any adverse effects from the use and/or performance of third-party materials.

Magnetic field

Static magnetic field hazard. Due to the static magnetic field caused by the magnets in the printer, keep a distance of at least 4 cm between any implanted electronic medical devices and implants containing ferromagnetic materials.

Personal protective equipment

The following items are recommended for working safely with the UltiMaker S7, especially for performing maintenance actions:

- **Tweezers.** These are required for safely removing material residue from the tip of the nozzle.
- **Pliers.** When cleaning the inside of the nozzle with the hot and cold pull procedure, hold the filament with pliers to prevent damage to your hands in case the material breaks.
- **Thermal gloves.** It is recommended to wear thermal gloves while cleaning the nozzle as the nozzle will be hot during these procedures.

1.4 Regulatory information

Electromagnetic compatibility

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules and the EMC Directive 2014/30/EU. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

EC declaration of conformity

UltiMaker S-line products, including the UltiMaker S7, are compliant towards the essential requirements and other relevant provisions of the Machinery Directive 2006/42/EC, EMC Directive 2014/30/EU, RED 2014/53/EU, RoHS Directive 2011/65/EU, and WEEE Directive 2012/19/EU.

(i) A signed copy of the full EC declaration of conformity (English) can also be downloaded from our website.



2. Introduction



2.1 Main components





- 1. Glass door
- 2. Print head
- 3. Air Manager filter
- 4. Bowden tubes
- 5. Z-stage
- 6. Flexible build plate
- 7. Touchscreen
- 8. USB port

- 9. Air Manager fan
- 10. Air Manager cable
- 11. Feeder 2
- 12. Feeder 1
- 13. Spoolholder with filament guide*
- 14. Power socket and switch
- 15. Ethernet port
- 16. NFC port
- 17. UMB OUT port
- * Not required in combination with the Material Station

2.2 Specifications

UltiMaker S7 specifications

Properties	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	60 – 400 microns (depending on the print core nozzle size and print profile)
	XYZ resolution	6.9, 6.9, 2.5 microns
	Build speed	< 24 mm ³ /s
	Build plate	Heated flexible build plate 20 – 125 °C (68 °F – 257 °F)
	Nozzle diameter	0.4 mm (included) 0.25 mm, 0.6 mm, 0.8 mm (sold separately)
	Air Manager	Air extraction by low-noise brushless fan and EPA filter removes up to 95% of UFPs
	Operating sound	< 50 dBA
	Connectivity	Wi-Fi, LAN, USB port
Physical dimensions	Dimensions	495 x 585 x 800.5 mm (~ 19.5 x 23 x 31.5 in) (inc. spool holder)
	Net weight	30 kg (66 lbs)
Ambient conditions	Operating ambient temperature	15 – 32 °C (59 – 90 °F)
	Non-operating (storage) temperature	0 - 32 °C (32 - 90 °F)
	Relative humidity	10 – 90 % RH non-condensing
Electrical requirements	Voltage	100 – 240 VAC
	Frequency	50 – 60 Hz
	Power	Max. 500 W
Software	UltiMaker Cura	Our free print preparation software. Learn more.
	UltiMaker Digital Factory	Our online printer and print job management solution. Learn more.
	Software plans	UltiMaker Essentials, Professional, and Excellence help scale 3D printing innovation across organizations. <u>Learn more.</u>
	Supported OS	Windows, MacOS, Linux
Warranty	Warranty period	12 months

UltiMaker S7 Pro Bundle specifications (with Material Station)

Physical dimensions	Dimensions	495 x 488 x 1187.5 mm (~ 19.5 x 19.2 x 46.8 in)	
	Net weight	48 kg (106 lbs)	
	Total weight (incl materials)	Up to 57 kg (126 lbs)	
Electrical requirements	Power	Max. 600 W	
Materials	Material bays	6 with NFC recognition	
	Compatible spool dimensions	Width: 50 – 70 mm (2 – 2.7 in) Diameter: 197 – 203 mm (7.8 – 8 in) Core diameter: > 98 mm (3.8 in)	



3. Installation



3.1 Unboxing

The UltiMaker S7 comes in reusable, durable packaging, specially designed to protect your 3D printer. Follow the steps below properly to unpack your UltiMaker printer.

(i) It is recommended to remove the packaging with the box placed on the floor for safety. Please retain all packaging for warranty purposes.

Location

Before unboxing, choose a suitable location to place the UltiMaker S7. Take the following into account:

• Install the product on a flat, level, and stable surface that is capable of carrying the printer's weight (~ 35 kg / 77 lbs).

In combination with the Material Station, the total weight is up to 57 kg / 126 lbs.

- When placing the printer on a shelf or table, take proper measures to prevent the printer from falling.
- The UltiMaker S7 must be positioned out of direct sunlight when in use.
- Ensure there is at least 10 cm of space behind the printer for unrestricted airflow.

Unboxing instructions

- 1 The UltiMaker S7 must be lifted by at least two people during installation.
- ▲ If the printer needs to be transported without the outer box, be aware of the weight and dimensions of the printer. Use proper transport means to do so this safely.
- If the UltiMaker S7 is going to be installed in combination with the Material Station, place the Material Station first. Place the UltiMaker S7 on top of the Material Station and ensure the two products are correctly aligned.
- 1. Open and remove the six plastic locking clips from the bottom of the packaging. Do not cut open the box at the top.
- 2. Slide the outer box upwards off the printer.
- 3. Remove the top cardboard cap from the top of the printer.
- 4. Lift the printer out of the bottom tray. This must be done by at least two people. Place one hand in the handle in the side panel, and another on the back panel for stabilization.
- 5. Place the printer on a flat, level, and stable surface.
- 6. Remove the rubber door seals and open the glass door.
- 7. Pull the cardboard box marked Starter pack forward and out of the printer.
- 8. Remove the two cardboard inserts from the left and right side of the printer.
- 9. Manually lift up the build plate and remove the cardboard insert from underneath it.

Starter pack

- 1. Open the box at the top.
- 2. You will first find the printer documentation, including the quick start guide and safety and warranty information booklet.
- 3. Underneath the top insert (place this aside) is the flex plate.
- 4. You will then find the accessory box, containing the print cores, spool holder, lubricants, etc.
- 5. Beneath the accessory box are the spools of Tough PLA Black and PVA Natural and the filter for the Air Manager.







3.2 What's in the box

The UltiMaker S7 is supplied with several hardware accessories. Check if all these items are included before continuing:

Accessories

- 1. Flexible build plate
- 2. Spool holder with material guide¹
- 3. Power cable
- 4. Ethernet cable
- 5. USB stick
- 6. Print core AA 0.4²
- 7. Print core BB 0.4
- 8. XY calibration sheet
- 9. Nozzle cover (3x)

Notes

¹ Not required in combination with the Material Station

² Another AA 0.4 print core is already inserted into print head slot 1

3.3 Hardware installation

Before turning the UltiMaker S7 on for the first time, install the relevant hardware accessories and connect the cables.

Install the flexible build plate

- 1. Take the flexible build plate out of the packaging.
- 2. Open the glass door of the UltiMaker S7.
- 3. Hold the build plate at the tabs at the front.
- 4. Align the back of the flexible build plate with the pins at the back of the base plate.
- 5. Lower the flexible build plate so it snaps into place.
- (i) The flexible build plate must be placed fully against the print table back cover so that it activates the build plate detection sensor. If the plate is too far towards the front, the printer will not recognize it.
- Only hold the flexible build plate at the tabs at the front. Keep fingers away from underneath the contact surface of the plate during installation to prevent getting stuck between the base plate and build plate.



Consumables

- Tough PLA (750 g)
 PVA (750 g)
 Oil
- 13. Grease

Tools

14. Hex screwdriver 2 mm

Place the Air Manager filter

- 1. Align the Air Manager filter with the housing, with the tab at the bottom.
- 2. Gently push the filter completely into the filter housing.



Connect the Air Manager cable

- 1. Close the glass door and move to the back of the printer.
- 2. Disconnect the end of the Air Manager cable from the cable clips in the back panel.
- 3. Connect it to the **UMB OUT** port at the back of the printer.
- If the UltiMaker S7 is installed in combination with the Material Station, the cable routing is different. Connect the Air Manager cable to the **UMB OUT** port at the back of the Material Station. Connect the short Material Station cable to the **UMB IN** port on the Material Station and the other end to the **UMB OUT** port on the UltiMaker S7.



Place and connect the NFC spool holder

- 1. Insert the spool holder into the back panel and push until it snaps into place.
- 2. Secure the cable behind the two cable clips in the back panel directly underneath the spool holder.
- 3. Connect the cable to the NFC socket at the back of the printer.



The spool holder is not used if the UltiMaker S7 is installed in combination with the Material Station. Instead, place the spool holder cap from the Material Station accessories in the hole in the back panel.



Connect the Material Station Bowden tubes

- This section describes how to connect the Bowden tubes of the Material Station to the feeders of the UltiMaker S7. If you do not have a Material Station, skip this section.
- 1. Insert a tube coupling collet in the bottom of each feeder of the UltiMaker S7.
- 2. Insert the left Bowden tube of the Material Station into the left feeder, and the right Bowden tube into the right feeder
- 3. Secure the Bowden tubes with clamp clips.



Connect the power cable

- 1. Connect the power cable to the power socket at the back of the printer.
- 2. Plug the other end of the cable into a wall outlet.
- If the UltiMaker S7 is installed in combination with a Material Station, first connect the power extension cable. Connect one side to the printer and the other to the double power entry port of the Material Station. Connect the power cable to the Material Station and the other end to a power outlet.



3.4 Welcome setup

To perform the setup steps, turn on the printer with the power switch at the back. You will first be asked to select your preferred language. After this, the welcome setup will appear on the touchscreen. Follow the steps on the touchscreen and described on the next pages of this user manual.

(i) The language on the printer can always be changed later. Find this option in the *Preferences* menu, under *Settings* → *Language*.

Build plate

In this step of the welcome setup, you must confirm that you have installed the flexible build plate. If you have not yet done so, follow the instructions in **section 3.3** to correctly place the flexible build plate.

(i) If the build plate is not recognized by the printer, it is not installed correctly. Ensure the plate is fully aligned with the back of the base plate, so the build plate detection sensor is activated.

Print cores

The UltiMaker S7 uses two print cores in the print head, which are interchangeable. There are different types of print cores:

- Type AA: for printing build materials and UltiMaker Breakaway material
- Type BB: for printing water-soluble support material
- Type CC: for printing composite materials
- Type DD: for printing ceramic support material (in combination with the Metal Expansion Kit)

The print cores contain information on a small chip, so that the printer always knows which print cores are installed and which materials can be used with this print core.

Each UltiMaker S7 comes with two print cores AA 0.4 (one is already installed in print head slot 1) and one print core BB 0.4. This means that it is possible to print with two build materials or with a build and support material. During the welcome setup, the second print core must be installed. Go to *Print core 2*, select *Start*, and follow the steps on the display.

- 1. Open the glass door.
- 2. Open the print head fan bracket and press *Confirm*.
- 3. Install the second print core (BB 0.4) in print head slot 2 by squeezing the levers of the print core and sliding it into the print head until you hear a click.
- $m \Lambda$ Do not touch the contact points on the back of the print core with your fingers.
- (i) Make sure you keep the print core completely vertical while installing it so it will smoothly slide into the print head.
- 4. Carefully close the print head fan bracket and select *Confirm* to proceed with the welcome setup.



Load materials

Before you can start printing on the UltiMaker S7, you need to load materials into the printer. For the first use, it is recommended to use the spools of Tough PLA and PVA that come with the printer.

For the Material Station, the material loading instructions are different. Skip to the subsection Material Station.

Load material 2

Material 2 will be loaded first because it must be placed closest to the back of the printer. Select *Material 2* from the list shown on the touchscreen, select *Start*, then take the following steps to load the material:

- 1. Unpack the material and cut off the end, ensuring a short, sharp tip.
- 2. Place the spool with material 2 (PVA) onto the spool holder and select *Confirm*. Make sure the end of the material points in a clockwise direction, so that the material can enter feeder 2 from the bottom.
- 3. Wait until the printer detects the material and select *Confirm*.
- (i) When using a third-party material, you can select the material type manually.

- 4. Insert the end of the material into feeder 2 and gently push it until the feeder grips it. Select *Confirm* to continue when the material is visible in the Bowden tube.
- (i) You can straighten the end of the material a bit so it can enter the feeder more easily.
- 5. Wait for the UltiMaker S7 to heat up print core 2 and load the material into the print head.
- 6. Confirm when the new material extrudes consistently from print core 2.
- 7. Wait a moment for print core 2 to cool down.



Load material 1

After completing these steps, load material 1. Material 1 will be put on the material guide first before placing it on the spool holder to avoid tangling of the two materials during printing. Select *Material 1* from the list on the touchscreen, select *Start*, and follow the steps below:

- 1. Unpack the material and cut off the end, ensuring a short, sharp tip.
- 2. Take the material guide and hold it with the outer part towards you.
- 3. Place the spool on the material guide with the material in a counterclockwise direction, and put the end of the material through the hole in the material guide.
- 4. Place the material guide with material 1 on it onto the spool holder behind material 2, and select *Confirm*.
- 5. Wait until the UltiMaker S7 detects the material and select *Confirm*.
- (i) When using a third-party material, you can select the material type manually.
- 6. Insert the end of the material into feeder 1 and gently push it until the feeder grips it. Select *Confirm* to continue when the material is visible in the Bowden tube.
- (i) You can straighten the end of the material so it can enter the feeder easier.
- 7. Wait for the printer to heat up print core 1 and to load the material into the print head.
- 8. Confirm when the new material extrudes consistently from print core 1.
- 9. Wait a moment for print core 1 to cool down.



📖 Material Station

If the UltiMaker S7 is used in combination with a Material Station, loading materials is quick and simple, and can be done from the front. The materials will be pre-loaded into the Material Station and will be automatically forwarded to the print head when a print is started.

- 1. Unpack the material and cut off the end, ensuring a short, sharp tip.
- 2. Open the Material Station door.
- 3. Place the spool of filament into one of the material bays of the Material Station with the NFC tag on the left side.
- 4. Insert the tip of the material into filament entry port 1 until the prefeeder grabs the material
- 5. Wait for the Material Station to detect the material and select *Confirm* to continue.
- (i) When using a third-party material, you can manually select the material type.
- 6. Repeat the steps above for UltiMaker PVA Natural, but insert it into filament entry port 2.
- (i) You can load more materials in the Material Station at this point or do so later at any time.



Network installation

The UltiMaker S7 can connect to a local area network, using either Wi-Fi or Ethernet. To connect to a network, select *Network setup* from the welcome setup list. If you want to set up a wireless network connection, select *Wi-Fi setup*. If you want to use Ethernet, or don't want to set up network connectivity, select *Skip*.

Set up Wi-Fi

To connect your UltiMaker S7 to a wireless network, you will need a computer or a smartphone. Start the Wi-Fi setup and follow the steps on the touchscreen:

- 1. Wait until your printer has created a Wi-Fi hotspot. This may take a minute.
- 2. Use a computer or smartphone to connect to the printer. The name of the Wi-Fi network is shown on the touchscreen of the printer.
- 3. A pop-up will appear on the display of your computer or smartphone. Follow the steps to connect the printer to your local Wi-Fi network. The pop-up will disappear when you have completed these steps.
- (i) If the pop-up does not appear, open a browser and go to a website that is not yet known by your browser.
- (i) Within some network environments the UltiMaker S7 may experience difficulties connecting wirelessly. When this happens, repeat the Wi-Fi setup from another computer or smartphone.
- 4. Go back to the UltiMaker printer and wait until the Wi-Fi setup is finished.
- (i) If you skip the Wi-Fi setup during the welcome setup, you can start it again from the *Preferences* menu, by selection the *Network* option.

Connect via Ethernet

You can set up a wired network connection after completing the welcome setup by performing the following steps:

- 1. Connect one end of an Ethernet cable to the Ethernet port at the back of the printer.
- 2. Connect the other end of the cable to a network source (router, modem, or switch).
- 3. Enable Ethernet in the network menu by navigating to *Preferences* \rightarrow *Network* and toggle the Ethernet switch.

3.5 Firmware update

After completing the welcome setup, the UltiMaker S7 will check if the latest firmware is installed. If an older version is detected, it will download the latest firmware and install it. This process may take several minutes to complete.

(i) You will only be prompted to install the latest firmware if the printer is connected to a network and an older firmware version is detected. If the printer is not connected to the network, go to <u>ultimaker.com/firmware</u> to check if an update is available.

3.6 Software

To make the most out of your new UltiMaker S7, it is recommended to <u>register your printer</u> and set up your <u>UltiMaker account</u>. This allows you to make use of UltiMaker Essentials and UltiMaker Digital Factory for a streamlined, cloud-based workflow. Find more information about UltiMaker's software plans on the <u>UltiMaker website</u>.

Digital Factory

After setting up your UltiMaker Account, you can connect your printer to <u>UltiMaker Digital Factory</u> to gain access to unique features in the UltiMaker Platform. In the Digital Factory, select *Add printer*. On the UltiMaker S7, navigate to the *Preferences* \rightarrow *Network* menu and select *Digital Factory*. Enter the 6-digit code from the UltiMaker S7 display to establish a connection.

(i) Ensure the UltiMaker S7 is connected to the network.

UltiMaker Cura

Finally, install UltiMaker Cura – UltiMaker's free print preparation software – on your computer. You can download UltiMaker Cura at <u>ultimaker.com/software</u>.

(i) For more information about UltiMaker Cura and system requirements, please consult the UltiMaker Cura support pages.

Sign in to your UltiMaker Account to add your printer from UltiMaker Digital Factory. Alternatively, you can select your UltiMaker S7 manually from the list of networked or non-networked printers.

(i) For the best printing results, always use the latest version of UltiMaker Cura.





4. Operation



4.1 Touchscreen

You can control the UltiMaker S7 by using the touchscreen at the front of the printer.

(i) When turned on for the first time, the UltiMaker S7 will run the welcome setup. After completing this, the main menu will be shown when the printer is turned on.

Interface

The main menu offers three options, represented by the following icons:

- O The Status overview is automatically shown next to the main menu. From here, you can start a print from USB or view the progress of the print while printing.
- **The Configuration overview** shows the current configuration of the printer. Here you can see which print cores and materials are installed, as well as change the configuration.

The Preferences overview consists of three sub-menus: settings, maintenance, and network.

- In the printer **Settings** menu, you can change general settings, such as the language.
- In the **Maintenance** menu, you can perform the most important maintenance and calibration procedures, in addition to saving logs for diagnostics.
- The Network menu allows you to change network settings or to perform the Wi-Fi setup.

4.2 Materials

Material compatibility

The UltiMaker S7 comes with two AA print cores and one BB print core. The AA print cores can be used for printing build materials and Breakaway support material. The BB print core can be used for water-soluble support material (PVA).

The UltiMaker S7 supports all UltiMaker materials that are currently available, of which most can be printed with the 0.25, 0.4, and 0.8 mm print core sizes. The CC print cores are available in 0.4 and 0.6 mm and can be used for third-party composite materials.

(i) For an overview of possible dual-extrusion material combinations, please refer to the <u>UltiMaker website</u>.

All UltiMaker materials have been extensively tested and have optimized profiles in UltiMaker Cura to ensure the best print results. Therefore, it is advised to use one of the default profiles in UltiMaker Cura for the highest reliability. Using UltiMaker materials will also allow you to benefit from the NFC detection system. UltiMaker spools will be automatically recognized by the spool holder or Material Station. This information can be directly transferred to UltiMaker Cura when connected to a network, for a seamless connection between the printer and UltiMaker Cura software.

To use third-party materials on the UltiMaker S7, it is recommended to install the material profiles on the printer. This allows you to select the right material during loading. The temperature information in the material profiles is important during loading and unloading materials, active leveling, depriming, and changing print cores. You can add third-party material profiles to your printer via USB, or by synchronizing via UltiMaker Digital Factory.

📖 Spools with the following dimensions are compatible with the Material Station:

- Width: 50 70 mm (2 2.7 in)
- Diameter: 197 203 mm (7.8 8 in)
- **Core diameter:** > 98 mm (3.8 in)

Print recommendations

Each material requires different settings for optimal results. When using UltiMaker Cura and UltiMaker materials, the print settings are automatically updated based on the selected print cores and material(s).

(i) For detailed instructions on which settings and adhesion method to use per UltiMaker material, take a look at the material support pages on <u>support.ultimaker.com</u>.

When using third-party materials, check the UltiMaker Marketplace for the latest print profiles. These profiles are submitted and maintained by filament companies in the UltiMaker Material Alliance Program to ensure the highest success rate with your UltiMaker 3D printer.

To benefit from the automatic material switching during a print when a spool runs out, it is recommended to have at least two spools of the same material loaded into the Material Station.

4.3 Preparing a print with UltiMaker Cura

Interface

When the UltiMaker S7 is set up in UltiMaker Cura, the main interface becomes visible. Here is an overview of the user interface (UI):



(i) Due to fast development cycles of UltiMaker Cura software, interface elements may be subject to change. Always check the Cura support pages for the latest information (interface).

UltiMaker Cura workflow

The UltiMaker Cura workflow is arranged in three stages, seen at the top of the interface. These are the prepare, preview, and monitor stages.

Prepare stage

- 1. Load the 3D model(s) by clicking the 'open file' folder icon.
- 2. In the configuration panel, select your print cores and material(s).
- 3. Use the adjustment tools to position, scale, and rotate the model as desired.
- 4. Select your desired settings in the print settings panel.
- 5. Press the *Slice* button in the action panel.
- 6. When slicing is complete, the action panel will direct you to the preview stage.

Preview stage

The preview stage allows you to see exactly how your model will be printed. Use the different color schemes to get various information about your model. You can view the different line types, differentiate infill from skin, or use the X-Ray view to detect gaps within your model.

(i) Previewing the model can be skipped, but is highly recommended to validate your print strategy and prevent problems before starting the print.

When slicing is complete, you can start the print via the action panel. Send your print job via Cloud if the printer is connected to the Digital Factory, via network if the printer is connected via LAN, or save the file to a USB drive for printing with offline printers.

Monitor stage

The monitor stage utilizes the UltiMaker Digital Factory functionality to show the status of your networked UltiMaker printer. This allows you to track the print progress directly from UltiMaker Cura. Alternatively, go to <u>UltiMaker Digital Factory</u> for additional information and features.

(i) The latest information about the UltiMaker Cura workflow can be found on the online <u>support page</u>.

4.4 Printing

When a print job is selected, either remotely or via USB, the UltiMaker S7 will automatically prepare for printing. This can take several minutes and includes the following processes:

- Preheating. The print cores and build plate will heat up according to the material settings.
- Active leveling. The print cores will probe the build plate in several locations to create a detailed height map. This information will be used to ensure optimal adhesion of the print.
- In combination with a Material Station, all materials are in a pre-loaded state. When a print job is started, the required materials are automatically forwarded to the print head. The UltiMaker S7 will prime the materials.
- (i) Keep the door closed during printing for safety and optimal air management. Never reach into the UltiMaker S7 while the printer is in operation.

Once your 3D print is finished, it must be removed from the build plate. The UltiMaker S7 has a convenient flexible build plate, which makes removing prints quick and simple.

- 1. Wait for the build plate to cool down. The display of the UltiMaker S7 will indicate when it is safe to remove the build plate.
- Never remove the build plate when it is still hot to prevent burning your hands. The build plate can reach temperatures of over 100 °C.
- 2. Open the glass door.
- 3. Hold the flexible build plate at the tabs at the front, lift it up, and slide it out of the printer.
- 4. Carefully bend the plate underneath the printed object until it detaches from the build plate.
- (i) Take measures to prevent the printed object from falling and getting damaged when removing it from the flexible build plate.

Not all prints will detach easily, especially those with a small footprint or when using flexible materials. If the object does not detach by bending the plate, you can use a spatula or scraper. Carefully insert the spatula or scraper under the print, parallel to the build plate, and apply some force to remove the print.

▲ Use a spatula or scraper with rounded edges and wear protective gloves to prevent injury when removing the print.

When the print is off the build plate, remove any brims using a deburring tool and/or remove support structures (see **section 4.6**).

1 The edges of the model or brim can be sharp. Wear protective gloves to prevent injury.

Once the print has been removed and the build plate is placed back in the printer, select *Confirm removal* on the display of the UltiMaker S7. This will allow the next print job to start.







4.6 Remove support material

PVA support

PVA support structures can be removed easily by dissolving the PVA in water and leave no trace afterwards. Dissolving PVA can take up to several hours.

- (i) Experience quicker and easier post-processing when using PVA support material with the UltiMaker PVA Removal Station. The PVA Removal Station removes PVA up to 4x faster compared to motionless water. Learn more here.
- 1. Submerge the print in water to let the PVA dissolve.
- 2. Rinse the print with clean water to remove any excess PVA.
- 3. Let the print dry completely.
- 4. Dispose of the wastewater.



(i) PVA is a biodegradable material. However, please check local regulations for more comprehensive guidance on wastewater disposal or visit <u>this support page</u> for additional information.

It is possible to use the water for more than one print, but this might extend the dissolving time. Through repeated use, water becomes saturated by previously dissolved PVA. For the quickest result, fresh water is recommended.

Breakaway support

Prints using UltiMaker Breakaway support material will require post-processing to remove the support structures. This can be achieved by breaking the support structures from the build material. Follow the steps below and refer to the UltiMaker website for additional tips and information.

It is advised to wear protective gloves when the support structure contains sharp corners or when working with larger models.

- 1. Tear away most of the inner support structure using pliers.
- 2. Use cutting pliers to grip the Breakaway support interface and pull it away from the model.
- 3. Remove the last traces of the Breakaway support using cutting pliers or tweezers.
- (i) Similar steps can be used to remove support structures printed with build materials. However, these structures can be more difficult to remove and leave more scarring on the model.



4.7 Change the printer configuration

Change materials

The process for changing materials on the UltiMaker S7 depends on whether the printer is used as a standalone unit, or in combination with the Material Station.

(i) When removing a spool that is not yet empty, put the end of the filament through the small hole in the spool to prevent unwinding. Store the material according to the recommended storage conditions as described in **section 5.2**.

Standalone printer

The UltiMaker S7 has an assisted process for changing materials. You can also choose to only load or unload a material. Make sure compatible print cores are installed before you insert materials.

- 1. In the *Configuration* menu, select the material you want to use, and select *Change*.
- 2. Wait for the print core to heat up and unload the material.
- 3. Remove the material from the feeder and spool holder. Confirm to continue.
- 4. Place the new material on the spool holder and confirm to continue.
- 5. Wait until the UltiMaker S7 detects the material.
- (i) When using a third-party material, you can select the material type manually. Ensure you have installed the correct material profile first.

- 6. Insert the end of the material into the feeder and gently push it until the feeder grips it and the material is visible in the Bowden tube just above the feeder. Confirm to continue.
- 7. Wait for the UltiMaker S7 to heat up the print core and to load the material into the print head.
- 8. Confirm when the new material extrudes consistently.

📖 Material Station

Changing materials in the Material Station is easy and intuitive. This is possible for pre-loaded materials during printing as well as in an idle state.

- 1. Gently open the glass door of the Material Station.
- 2. Press the eject button of the corresponding material bay to eject the pre-loaded filament.
- (i) The materials in use during a print or parked above the print head are blocked from unloading. Active materials are indicated by a blue light.
- 3. Remove the material spool from the material bay.
- 4. Take a new spool and use the wire cutters to ensure that the filament has a short, sharp tip before loading the filament.
- 5. Place the spool of filament into the material bay of the Material Station with the NFC tag on the left side.
- 6. Insert the tip of the material into filament entry port 1 or 2 until the prefeeder grabs the material.
- 7. Wait for the Material Station to detect the material and select *Confirm* to continue.
- (i) When using a third-party material, you can select the material type manually.
- 8. Close the glass door of the Material Station.
- (i) The materials will remain pre-loaded in the Material Station and will be automatically forwarded to the print head when a print is started.



Change print core

Print cores can be easily changed on the UltiMaker S7 by using the procedure from the menu. You can also choose to only load or unload a print core:

- 1. In the *Configuration* menu, select the print core you want to change and select *Change*.
- 2. Wait for the print core to heat up, unload the material, and cool down again.
- 3. Open the glass door of the UltiMaker S7 and the print head fan bracket and select *Confirm* when completed.
- 4. Squeeze the print core lever upward and slide the print core out of the print head.
- ⚠️ Do not touch the contact points on the back side of the print core with your fingers.
- (i) Keep the print core completely vertical while removing or installing it so it will smoothly slide into and out of the print head.
- 5. Insert a different print core by squeezing the lever upward and sliding it into the print head slot until you hear a click.
- 6. Carefully close the print head fan bracket and select *Confirm* when completed.
- 7. Wait for the UltiMaker S7 to load the material into the print core.

4.8 Calibrations

The UltiMaker S7 is a dual-extrusion printer with a unique nozzle lifting system. For accurate dual-extrusion prints, the XY offset and the position of the switch bay must be calibrated.

XY offset calibration

The horizontal distance between the nozzles of the two print cores in the X and Y direction needs to be configured. A correct XY calibration will ensure that the two colors or materials align well.

The print cores that are supplied with the UltiMaker S7 are already calibrated. For any new combination of print cores, an XY offset calibration must be performed. The printer will then store this calibration value internally.

To perform the calibration, you will need the XY calibration sheet as a reference, which is included in the accessory box. Ensure two print cores and materials are installed before starting the calibration.

- 1. Confirm the prompt on the display to start. Alternatively, in the *Preferences* menu, go to *Maintenance* \rightarrow *Print head* \rightarrow *Calibrate XY offset* and select *Start calibration*.
- 2. The UltiMaker S7 will now print a grid pattern on the build plate. Wait until it is complete.
- 3. Once the build plate has cooled down, remove the flexible build plate from the printer.



- (i) Place the XY calibration sheet next to the flex plate as a reference. This shows which of the grids corresponds to X and Y and indicates the numbers for the printed lines.
- 4. Find the best aligned lines on the printed X grid and note which number corresponds to these lines. Enter this number as the X offset value on the display.
- 5. Find the best aligned lines on the printed Y grid and note which number corresponds to these lines. Enter this number as the Y offset value on the display.



(i) It is important that the printed XY offset pattern adheres well to the build plate and shows no signs of underextrusion. If it did not print well, it is recommended to repeat the calibration print.

After completing the XY calibration, place the flexible build plate back into the printer.

Lift switch calibration

The switch bay enables the second print core to be lifted and lowered. It is important that print core switching functions well for active leveling and a correct nozzle alignment in dual-extrusion prints. The lift switch is already calibrated at the factory, but calibration can also be performed manually if needed.

- 1. In the *Preferences* menu, go to *Maintenance* \rightarrow *Print head* \rightarrow *Calibrate lift switch* and select *Start calibration*.
- 2. Move the lift switch on the side of the print head to point towards you. Select *Confirm* to continue.
- 3. Move the print head so that the lift switch fits in the switching bay. Select *Confirm* when completed.
- 4. Wait for the print head to go to the home position and test the lift switch. Carefully observe.
- 5. Did the lift switch lower and raise the print core? If so, press *Yes* to complete the calibration. If not, select *No* to perform the calibration again.





5. Maintenance



Periodically, a new firmware version is released. To ensure that your UltiMaker S7 is equipped with the latest features, it is recommended to keep the firmware updated.

Update over the network

If the UltiMaker S7 is connected to a network, it automatically checks for available firmware updates. When a new firmware is available, the printer will prompt you to download and install it via the touchscreen interface.

- (i) Alternatively, check for updates manually under *Printer tasks* or in the *Preferences* menu, under *Maintenance* → *Update firmware*.
- A Do not power off the printer during the firmware installation.

Update using a USB stick

If your UltiMaker S7 is not connected to a network, you can update to the latest firmware via USB. The firmware files are found on the UltiMaker website:

- 1. Go to <u>ultimaker.com/firmware</u>, and select your printer.
- 2. Download the firmware file and store it in the root directory of a USB stick.
- 3. Insert the USB stick into the USB port of the printer
- 4. In the *Preferences* menu, go to *Maintenance* \rightarrow *Update firmware* and select the new firmware in the update menu.

5.2 Material handling and storage

Opened material spools must be stored properly when not in use. If material is stored incorrectly, it may affect its quality and usability.

The optimal storage temperature for PLA, Tough PLA, PETG, CPE, CPE+, PC, Nylon, PP, TPU 95A, and Breakaway is between -20 °C to +30 °C. Store ABS between 15 °C and 25 °C and PVA between 10 °C and 30 °C. Furthermore, a relative humidity of below 50% is recommended for PVA, Nylon, and TPU 95A. If these materials are exposed to a higher humidity, the quality of the material can be affected.

Store all materials cool and dry, out of direct sunlight, and in a re-sealable bag with the silica gel desiccant provided. Store PVA immediately after use to minimize moisture uptake.

The Material Station can be used to store up to six spools of material. While the Material Station receives power and the door is closed, the relative humidity is kept below 40%. This means opened spools can be safely stored in the Material Station.

5.3 Maintenance schedule

To keep your UltiMaker S7 in optimal condition, we recommend the following maintenance schedule, based on 1,500 printing hours per year.

- (i) If the usage frequency is higher, we recommend performing more frequent maintenance on your printer to ensure optimal printing results.
- Maintenance actions shall only be performed by an adult. Carefully follow the provided instructions. Where possible, ensure the printer is turned off before performing maintenance. Otherwise, disable the printer in UltiMaker Digital Factory to prevent new print jobs from starting remotely.

Every month	Clean the printer	 Keep the UltiMaker S7 clean for optimal printing results. This includes: Removing degraded material from the outside of the nozzles Removing particles from the inside of the Bowden tubes Cleaning the inside and glass components
	Lubricate the axles	 Apply a small drop of oil to the X, Y, and Z axles. Move the print head and build plate to equally distribute the oil. Only use the supplied oil, as other oils or grease may affect the coating of the axles. The X, Y and Z axles do not need lubrication for the first year of using the printer. After this, they should be lubricated monthly.
Every three months	Check for play on the axles	The X and Y axles in the frame should only rotate, not move back and forth. Firmly attempt to move the axles individually. If there is play, follow the instructions on the UltiMaker website to correct it.
	Check the tension of the short belts	The short belts attached to the X and Y motors should be tight to correctly transfer the movement to the print head. If the belt tension is too low, follow the instructions on the UltiMaker website to correct it.
	Check the quality of the nozzle cover	The nozzle cover shields the print cores from cold airflow from the fans, helping the print cores maintain a stable temperature while printing. The cover also prevents backflow of material into the print head. Check both sides of the cover for tears or damage from heat. If it is damaged, replace the nozzle cover. Extra nozzle covers are included in the accessory box.
	Lubricate the lead screw (Z motor)	Apply a small amount of grease to the lead screw of the Z motor. Move the build plate up and down to equally distribute the grease.
	Clean the feeders	Small filament particles can gather on the feeder's knurled wheel. Unload the materials and open the feeders to clean the inside with a small brush.
	Clean the print cores	Remove any degraded material from the inside of the print core by applying hot and cold pulls. Use UltiMaker cleaning filament or PLA. In the <i>Preferences</i> menu, go to <i>Maintenance</i> \rightarrow <i>Print head</i> \rightarrow <i>Print core cleaning</i> and follow the instructions on the display.
Every year	Lubricate the feeder gear	Remove the feeder from the back panel to access the feeder gear. Clean it first, then apply a small amount of grease to the gear.
	Check the Bowden tubes	Materials can slightly scratch the inside of the Bowden tubes and the ends of the tubes can get damaged by the tube coupling collets. It is advised to replace them after one year of printing.
	Replace the Air Manager filter	The filter in the Air Manager is a consumable and must be replaced after 1,500 printing hours. Directly place the used filter in a (resealable) bag and close it.

(i) For detailed instructions on how to perform each maintenance action, visit <u>support.ultimaker.com</u> or go to the <u>UltiMaker Digital Factory</u>.

5.4 Flexible build plate maintenance instructions

Keep the surface of the flexible build plate clean for the best results. Clean the surface of the flexible build plate using a (microfiber) cloth and > 95% isopropyl alcohol (IPA). Always let the plate cool down before cleaning.

IPA (CAS nr. 67-63-0) is a hazardous, highly flammable substance. Keep away from heat, sparks, static
 discharge, and other potential ignition sources. Ensure good ventilation and avoid inhaling vapor. Read the SDS from your IPA supplier to learn more about the risks and safety precautions.

- ▲ Do not use other cleaning agents, such as acetone, petrol, or thinner for cleaning. This will permanently damage the surface of the flexible build plate.
- ▲ Do not clean the flexible build plate with water. Thoroughly dry the plate with a (microfiber) cloth if it has come into contact with water.

▲ Do not use scouring pads or other tools that may scratch the surface of the flexible build plate.

For more information about the flexible build plate, including handling and maintenance, go to <u>ultimaker.com/flexplate</u>.



6. Troubleshooting



6.1 UltiMaker support

If you are experiencing difficulties with an UltiMaker product, please visit our knowledgebase at <u>support.ultimaker.com</u>. Here, you find a lot of information about UltiMaker's hardware, software, materials, and more. Navigate to your product to learn more. Alternatively, type a question or subject in the search bar to directly find relevant articles.

If you can't resolve the problem with our support articles, get in contact with our support team. Submit a support ticket and describe the situation. A support agent will help to quickly resolve the issue.

(i) Include as much relevant information about your product and issues as possible, such as:

- Serial number. This starts with BPP- and is found on the printer's back panel.
- Log files. Go to Preferences \rightarrow Maintenance \rightarrow Diagnostics \rightarrow Save log files to USB.
- Error message(s). If applicable, include the ER code or the message on the display.

6.2 Error messages

When the UltiMaker S7 detects that something is wrong, or when it reads values outside of the allowed range, an error will occur. The display will give a short description of the detected issue along with its unique error code. For example:

• This print job is not suitable for this printer. Go to ultimaker.com/ER42

Scan the QR code or navigate to the specified page to learn more and for troubleshooting tips.

6.3 Print core troubleshooting

Clogged print core

If material does not flow consistently, the print core could be clogged with degraded material. In this case, the print core should be cleaned by performing the hot and cold pull method. Start the assisted procedure in the *Preferences* menu, under *Maintenance* \rightarrow *Print head* \rightarrow *Print core cleaning* and follow the instructions on the display or visit this support page for additional information.

Print core not recognized

If a print core is not recognized by the UltiMaker S7, the printer will inform you about this. The most common reason for this is dirty contact points on the PCB at the back of the print core. Clean the contact points with a cotton swab and some alcohol (IPA).

1 Do not touch the contact points on the back of the print core with your fingers.

Print core not compatible

If the printer gives you an incompatibility warning, the print core cannot be used with the loaded material. Change the print core and/or the material to a supported configuration.







6.4 Print quality

Common quality issues include under-extrusion, ringing, and warping. If you are not satisfied with the quality of the printed object, there are several things to try. The print quality is affected by multiple factors.

Material quality

If the material has degraded, this will show in the print quality. When not in use, ensure to store the materials according to the recommended storage conditions.

(i) For more information, see **section 5.2** or the Materials support section on support.ultimaker.com. For thirdparty materials, follow the manufacturer's recommendations.

Some materials are susceptible to moisture intake. In some cases, the material can be dried to improve the material quality. You can use a specialized filament dryer (third-party accessory) or use the heated build plate of your printer. Find more information on this support page.

Slicing settings

When preparing your print, using incorrect or suboptimal settings will lead to poor print quality. The following settings most heavily impact the quality:

- **Speed.** Printing too fast can cause under-extrusion, poor layer bonding, and inaccuracies. Printing too slowly can lead to surface blobs, oozing, and material degradation. Additionally, high acceleration and jerk settings can increase ringing on the print surface.
- **Temperature.** Similar to speed, low nozzle temperatures may lead to under-extrusion, while too high temperatures may cause the material to degrade. A low build plate temperature may cause the print to warp or detach from the build plate.
- **Object density.** The number of walls, top and bottom layers, and the infill determine the density of the printed object. With too few walls, the infill can be visible through the outer surface. Too few top layers or a low infill density can cause pillowing on the top surface.

If you are struggling with the print quality, always revert to one of the default UltiMaker Cura profiles first. Find more information about all UltiMaker Cura slicing settings in the Print settings section in our knowledgebase.

Hardware

If the hardware is causing poor print quality, this is most often due to not performing timely maintenance.

- **Print core.** The print cores could be (partially) blocked with degraded material. As mentioned in section 6.3, clean the cores using the hot and cold pull method. Also check the tip of the nozzle. Using abrasive filaments in the AA or BB print cores can wear out the nozzle shape.
- **Feeder.** Ensure to timely clean the inside of the feeder according to the maintenance schedule. Set the feeder tension to the correct setting to prevent slipping (too low tension) or grinding (too high tension) of the material. For UltiMaker materials, the feeder tension should be set in the middle.
- **Gantry.** If the printer has play on the axles, a loose pulley, slack belts, or misaligned print head shafts, this can heavily affect the accuracy and dimensions of the print. Timely perform all recommended maintenance actions, or find more information on our support pages.
- (i) For additional help on print quality problems, error messages, or any other problem you might experience with your UltiMaker S7, go to <u>support.ultimaker.com</u> or submit a support ticket.



7. Warranty



7.1 General

UltiMaker grants a standard warranty on the UltiMaker S7 ("Product") in the country where the Product was purchased.

From the date the Product is sold and delivered to an end-customer for the first time, as evidenced by the original customer's purchase invoice, UltiMaker warrants the Product is free from defects in material, design, and workmanship for a period of twelve (12) months. Only the original purchaser is entitled to claim warranty and the warranty period is limited to their lifetime.

For a warranty claim to be valid (i) notification must be made before the end of the warranty period, (ii) conform to any additional stipulations of the warranty, as defined below, (iii) must be substantiated with the original customer's purchase invoice, (iv) the serial number sticker must still be on the Product(s), and (v) the Product must be returned in the original packaging. Since customers will only be entitled to make a warranty claim on submission of the original invoice and packaging, we advise that both the invoice and official packaging are kept safe. If the original packaging is not available anymore, the customer can purchase replacement packaging from a recognized UltiMaker reseller.

The customer – provided that they are a natural person who is not acting in the course of their profession or business – may claim the rights to which they are entitled under the warranty without prejudice to their rights or claims in accordance with the law.

7.2 Conditions

The UltiMaker warranty is granted under the explicit condition that:

- The Product was sold, delivered, and assembled by a recognized UltiMaker reseller (see <u>ultimaker.com/resellers</u> for addresses of the recognized UltiMaker resellers).
- The Product was newly manufactured on the date of purchase and not sold as used, refurbished, or manufacturing seconds.
- UltiMaker's latest software was installed and used in and with the Product.
- The UltiMaker's installation and maintenance instructions as described in the manual for the Product have been observed. Unless the manual contains 'do-it-yourself' assembly instructions for the Product or part thereof and these have been followed up meticulously, the warranty will become invalidated if the Product was at any time disassembled or reassembled by any other person than a recognized UltiMaker reseller.

Customers are welcome and we encourage them to use third-party materials, accessories, etc. That, in itself, does not void the warranty. If, however, the use of third-party elements, causes damage to the Product, the part(s) affected by this damage is excluded from warranty.

If a part of the Product is repaired or replaced during the warranty period, the warranty period still remaining for the entire Product will apply to this part. However, repair and/or replacement will not extend the warranty period.

7.3 Notification

The UltiMaker resellers deal with this warranty on behalf of UltiMaker. Therefore, any notification on the basis of this warranty must be made to the UltiMaker reseller from whom the Product was originally purchased, even if this is not in the customer's present country of residence.

Any warranty claim must first be recognized as justified, either by UltiMaker's reseller or by UltiMaker. If so, the reseller is obliged to rectify the defects free of charge according to this warranty. If the defect cannot be repaired, the reseller will, within the warranty period, replace the Product free of charge by an identical product, or, if the Product is no longer manufactured, by a similar replacement of the same value or offer an appropriate refund.

Depending on the country, the warranty may not automatically include costs incurred for shipping defective Product(s) for scrutiny and/or repair, nor for shipping costs of replacement or repaired Product(s) back to claimant.

7.4 Exclusions

This warranty does not apply to and therefore does not cover:

- Any defect or damage caused by inappropriate, incorrect, or improper use, installation, maintenance, operation and cleaning or normal wear and tear. For correct use, reference is made to the manual of the Product.
- <u>Consumables</u>, such as the print cores and Bowden tubes.
- Any other event, act, default, or omission outside UltiMaker's control.
- Failure of the Product caused by an accident.

In any event, UltiMaker is not liable for indirect or consequential damages, including but not limited to loss of use, loss of profit, or loss of revenue. Furthermore, UltiMaker's liability is limited to the purchase value of the Product.

7.5 Applicable law and competent court

This warranty is exclusively governed by Dutch law. Any dispute arising out of or in connection with this warranty will be exclusively submitted to the jurisdiction of the court (Rechtbank) of Midden-Nederland, location Utrecht.