

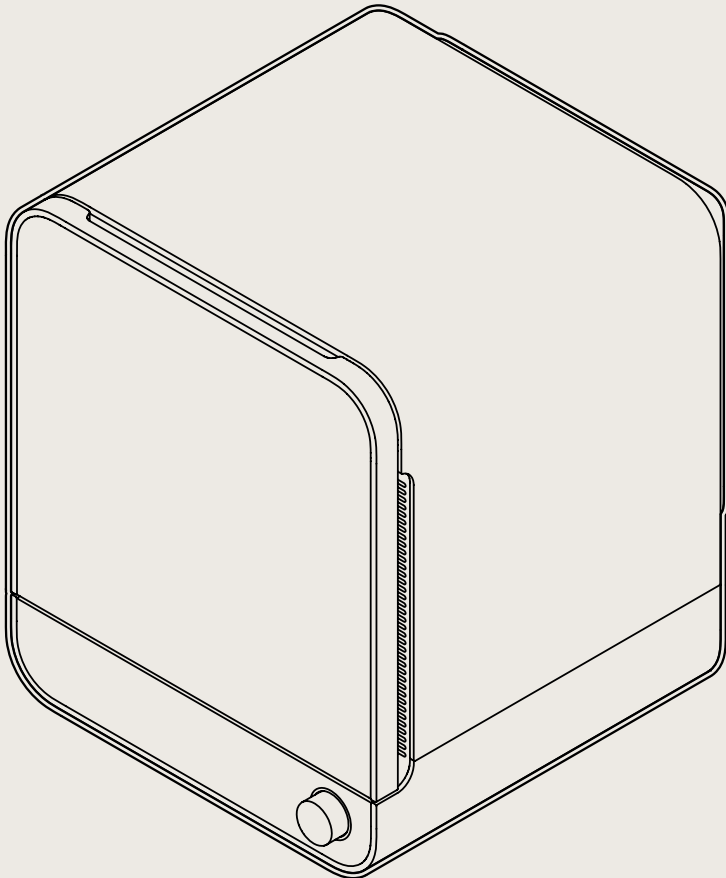
Installation and Usage Instructions

FORM

CURE

2nd Generation

Desktop Stereolithography Post-Cure Chamber



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Original English instructions

Read this manual carefully and keep it for future reference.

February 2025

REV 01

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Read and understand this manual and its safety instructions before using the Form Cure. Failure to do so can result in serious injury or death.

DISCLAIMER

Formlabs has made every effort to ensure these instructions are as clear, complete, and correct as possible. The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for, and is not to be used for, determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation, and testing of the products with respect to the relevant specific application or use thereof. Neither Formlabs nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information that is contained herein. If you have any suggestions for improvements or amendments or have found errors in this publication, please notify us.

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DOCUMENT REVISIONS

Date	Version	Document changes
Feb 2025	REV 01	Initial publication

1. Preface

Congratulations on purchasing the Form Cure (2nd Generation). On behalf of the employees who create and support Formlabs technology, we thank you for your purchase.

The Form Cure is a stereolithography (SLA) post-cure chamber. Post-curing printed parts in the Form Cure strengthens them with heat and 405 nm light and brings them to their optimal mechanical properties. Post-curing is also a required step in workflows using Formlabs dental or medical resins to make biocompatible parts.

This manual explains how to set up, use, and properly maintain the Form Cure and provides design guidance for optimizing print results.

The manual is intended for anyone who is installing, operating, maintaining, or otherwise interacting with the Form Cure. Supervise young or inexperienced users to ensure enjoyable and safe operation.

1.1 Read and retain instructions

Read and understand this manual and its safety instructions before using the Form Cure. Failure to do so can result in serious injury or death. Keep all safety information and instructions for future reference and provide them to subsequent users of the product.

Follow all the instructions. This will avoid fire, explosions, electric shocks, or other hazards that may result in damage to property and/or severe or fatal injuries.

The Form Cure shall only be used by persons who have fully read and understood the contents of this usage manual. Ensure that each person who uses the Form Cure has read these warnings and instructions and follows them. Formlabs is not liable for cases of material damage or personal injury caused by incorrect handling or non-compliance with the safety instructions. In such cases, the warranty will be voided.

1.2 Obtaining documentation and information

Visit **support.formlabs.com** to:

- Access the latest version of all Formlabs product documentation.
- Contact Formlabs to request documentation, usage instructions, and technical information.
- Submit any comments or feedback regarding what is good and what can be improved.
- Request additional training.

1.2.1 Support and service

Retain a record of the original purchase to request warranty services. Service options depend on the status of the specific product's warranty. Include the serial name of the product when contacting Formlabs Support or a certified service provider for product support. For products purchased from authorized resellers, contact the original service provider for assistance before contacting Formlabs Support.

Instead of a serial number, Formlabs products have a serial name, which is a unique identifier to track the history of manufacturing, sales, and repair, and to distinguish usage when connected to a network. The serial name is on the back panel of the machine in the format **CureGen2-AdjectiveAnimal**.

Service providers of Formlabs products also provide support and service. To the extent that

Formlabs or a certified service provider offers other or extended warranties, the terms of the separate offer may apply.

For any support or service requests, including product information, technical assistance, or assistance with instructions, contact Formlabs Support:

support.formlabs.com	USA Formlabs, Inc. 35 Medford St. Somerville, MA, USA, 02143	USA Formlabs, Inc. 220 E Buffalo St. Milwaukee, WI, USA 53202
	Germany Formlabs GmbH Mühlenstraße 15 10243 Berlin, Germany	Hungary Formlabs Andrássy út 9 1061 Budapest, Hungary
	Japan 1F Ubiz Shinagawa 3 Chome-6-9 Kitashinagawa Shinagawa City Tokyo 140-0001, Japan	Taiwan No. 282號21號之9, Shizheng North 2nd Rd, Xitun District Taichung City, Taiwan 407

1.2.2 **Returns**

Formlabs accepts returns for unopened, unused, undamaged SLA products within 30 days of the shipment date. Returns must be authorized by Formlabs. Visit [Formlabs.com](https://formlabs.com) for more detailed information about returning your purchase.

1.2.3 **Warranty**

This product is protected under warranty. Formlabs offers a warranty for all Formlabs-branded hardware. Unless otherwise expressly stated, the Terms of Service, including the Warranty, constitute the entire agreement between you and Formlabs with respect to the Service and any product you purchase from Formlabs and supersedes all prior or contemporaneous communications, proposals, and agreements, whether electronic, oral, or written, between you and Formlabs.

Read the warranty for more details on the Formlabs warranty for your region:

US	formlabs.com/terms-of-service
EU (EN)	formlabs.com/eu/terms-of-service
EU (DE)	formlabs.com/de/terms-of-service
EU (FR)	formlabs.com/fr/terms-of-service
EU (ES)	formlabs.com/es/terms-of-service
EU (IT)	formlabs.com/it/terms-of-service
Latin America (ES)	formlabs.com/latam/terms-of-service/
Asia and Oceania (EN)	formlabs.com/asia/terms-of-service/
Japan (JA)	formlabs.com/jp/terms-of-service/

2. Introduction

2.1 Intended use

The Form Cure post-cures 3D printed parts with a combination of heat and light. The final performance characteristics of cured photopolymer resin may vary according to your compliance with the instructions for use, application, operating conditions, material combined with, end use, or other factors.



NOTICE

In some cases, the additive manufacturing process may inherently result in variable performance characteristics between manufacturing runs or within a specific part. Such variances may not be apparent and may result in unexpected defects in additively fabricated parts.



WARNING

You shall independently verify the suitability of additive manufacturing, stereolithography (SLA), the Form Cure, and any specific designs or materials employed for the application and intended purpose before use. In no event shall Formlabs be liable for any loss, death, or bodily injury that you suffer, or that you cause to any third party, in connection with your use of Formlabs products. To the fullest extent legally permitted Formlabs EXPRESSLY DISCLAIMS ANY IMPLIED OR EXPLICIT WARRANTY OF FITNESS for a particular usage, the particular nature and circumstances of said usage being unforeseen and unforeseeable to Formlabs.



WARNING

Formlabs is not a manufacturer of medical devices. Formlabs provides tools and materials that may be used in many applications, but makes no claims as to the safety or effectiveness of any specific devices made using Formlabs products. Certain Formlabs products, such as those commonly known in the industry as "biocompatible" materials, have been engineered to comply with relevant industry standards. The specific standards and most relevant technical specifications may be identified within the technical data sheets and have been tested according to relevant testing protocols for those standards and specifications. Biocompatible materials are a speciality product, developed for use by medical professionals, and should be used in accordance with the instructions for use.



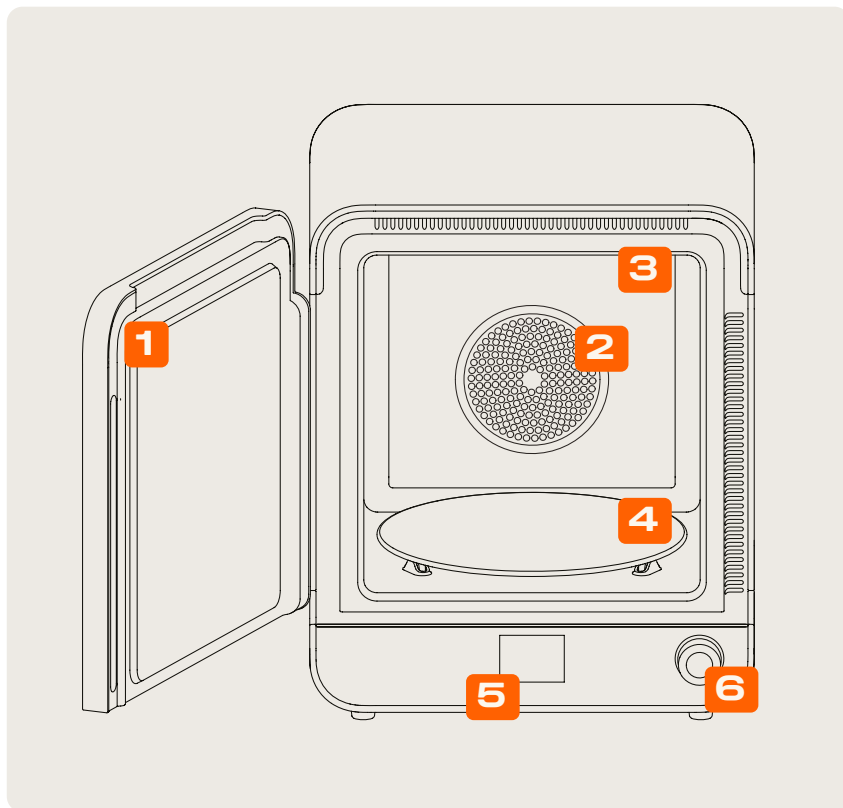
WARNING

Do not modify. The Form Cure is intended for use as-is. Modifying the machine without explicit approval and directions from Formlabs or a certified service provider will void your warranty, and could potentially damage the machine and cause bodily harm.

2.2 **Technical specifications**

Parameter	Unit
Unit	Form Cure (2nd Generation)
Installation surface	Desktop unit
Minimum dimensions for convenient access (W × D × H)	38.1 × 66.0 × 45.0 cm 15.0 × 26.0 × 17.7 in
Product dimensions (W × D × H)	33.7 × 35.6 × 40.4 cm 13.3 × 14.0 × 15.9 in
Product weight	12.1 kg 26.7 lb
Shipping weight	13.3 kg 29.3 lb
Turntable diameter	23.5 cm 9.25 in
Curing volume (W × D × H)	25.0 × 25.0 × 26.5 cm 9.84 × 9.84 × 10.43 in
Maximum part height	245 mm
Maximum part dimensions (W × D × H)	20.0 × 12.5 × 24.5 cm 7.87 × 4.92 × 9.64 in
Operating environment	18–28 °C 64–82 °F
Power requirements	Input (NA): 100 - 120 VAC, 50-60Hz, 15A Input (EU): 220 - 240 VAC, 50-60Hz, 8A
Maximum post-cure temperature	100 °C 212 °F
Light source	48 multi-directional LEDs
UV LED electrical power	150 W
UV LED radiant power (total)	50 W
UV LED wavelength	405 nm
USB connectivity	USB (rev 2.0) B port with a USB-C cable
Sound emission	Does not exceed 55 dB(A).

2.3 Product components



For detailed guidance and visual assistance, visit support.formlabs.com.

1. **Door:** Double walled chamber door insulates the chamber and allows it to heat quickly. Orange window treatment blocks curing light.
2. **Heaters:** Two 450 W heaters can heat the chamber up to 100 °C / 212 °F.
3. **LEDs:** Three arrays with a total of 48 405 nm LEDs help to post-cure parts. Secondary lights illuminate the turntable when the door is open and during heating.
4. **Turntable:** Rotating glass plate ensures balanced post-curing across all exposed surfaces.
5. **Display:** Shows status, time, temperature, and options for configuring the Form Cure, including pre-programming post-curing profiles with recommended settings for each Formlabs material.
6. **Knob:** Turn or press to adjust time and temperature settings and to start, pause, or stop post-curing.
7. **Power cable (not pictured):** Provides power to the Form Cure.

2.4 Form Cure controls

For detailed guidance and visual assistance, visit support.formlabs.com.

When connected to power, use the knob to program and operate the Form Cure:

- Rotate the knob counterclockwise or clockwise to move between items in the menu.
- Press the knob to select an option on the display.

The following options are available from the main menu on the Form Cure display:

- **Start:** Initiate post-curing by activating the heater and internal LED lights. The 405 nm lights begin post-curing once the heater reaches the target temperature.
- **Time:** Press the knob to select and adjust the time, indicated in minutes.
- **Temperature:** Press the knob to select and adjust the temperature indicated in degrees Celsius.

Check each material's recommended post-curing temperature before beginning a cycle.

While preheating, the display shows the preheating status, including the current and the target temperature. After beginning a post-cure cycle, the display shows the remaining time and additional menu options. Select **Pause** to turn off the heater and LEDs, while preserving the remaining time in the cure cycle. Opening the door automatically pauses the cure cycle. Select **End** to cancel the remaining time in the cure cycle while also stopping the heater and LEDs.

3. Safety Warnings



Read and understand this manual and its safety instructions before using the Form Cure. Failure to do so can result in serious injury or death.

Supervise young or inexperienced users to ensure enjoyable and safe operation. These instructions contain warnings and safety information, as explained below:



DANGER indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.



WARNING indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.



CAUTION indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.



NOTICE indicates information considered important, but not hazard-related.



DANGER: Isopropyl alcohol is a flammable chemical.



ENVIRONMENTAL HAZARD: Uncured photopolymer resin is classified as hazardous to aquatic life.



CAUTION: Do not touch hot surfaces.



MANDATORY ACTION: Refer to instruction manual/booklet.



MANDATORY ACTION: Disconnect before carrying out maintenance or repair.



MANDATORY ACTION: Wear eye protection.



MANDATORY ACTION: Wear thermal-insulating silicone gloves when handling hot build chambers.

3.1 Component and subsystem safety

3.1.1 General

The Form Cure is a professional appliance that includes electronic components. As with any such appliance:

- Do not operate the device with a damaged cord or plug.
- Ensure reliable grounding before connecting the device to power.
- Always disconnect power before cleaning.
- Only use well-maintained equipment.
- Operate on a clear and level surface.



Do not touch hot surfaces. The Form Cure contains two 450 W heaters to help ensure parts are strong after post-curing. While the heaters and fan designs limit overheating and the heaters are insulated to contain heat, surfaces of the Form Cure and printed parts may be hot during and after use.



Take care when removing parts from the Form Cure. The glass turntable can remain hot during and after a cure cycle. Always allow the turntable to cool completely before touching or cleaning.

Like any heating appliance, a fire may occur if the Form Cure maintains extended contact with flammable materials, such as walls or curtains. Keep the Form Cure away from walls and curtains. Keep the area surrounding the turntable clean, and only post-cure parts that have been completely dried. Accumulation of cured material creates the possibility of malfunction. The Form Cure uses heat and 405 nm light to post-cure 3D printed parts. The door includes an interlock system that is designed to automatically pause heating and extinguish the cure lights when the door is open.

3.1.2

Resin

Respect Formlabs resin like any household chemical. Follow standard chemical safety procedures and Formlabs resin handling instructions.

In general, Formlabs resin is not approved for use with food, drink, or medical applications on the human body. However, biocompatible resins, such as Dental SG, are biologically safe for specific types and lengths of exposure to the human body. Refer to information about each specific resin for more detail.



Resin and solvents may cause skin irritation or an allergic skin reaction. Wear gloves when handling liquid resin, liquid solvent, or resin-coated surfaces. Wash skin with plenty of soap and water. Do not use alcohol or other solvents to remove resin from skin.



Consult the safety data sheet (SDS) as the primary source of information to understand safety and handling of Formlabs resins. Respect Formlabs resin like any household chemical. Follow standard chemical safety procedures and Formlabs resin handling instructions. In general, Formlabs resin is not approved for use with food, drink, or medical applications on the human body. Refer to the safety data sheet (SDS) for each specific resin as well as support.formlabs.com for more detail.

3.1.3 Radio interference

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to CFR Title 47, Part 15 of FCC Rules. 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.

Changes or modifications to this product not authorized by Formlabs could void the electromagnetic compatibility (EMC) and wireless compliance and negate your authority to operate the product.

This product has demonstrated EMC compliance under conditions that included the use of compliant peripheral devices and shielded cables between system components. It is important that you use compliant peripheral devices and shielded cables between system components to reduce the possibility of causing interference to radios, televisions, and other electronic devices

3.1.4 Isopropyl alcohol



Isopropyl alcohol is a flammable chemical. Keep away from ignition sources, including open flames, sparks or concentrated sources of heat. Allow any printed part cleaned with isopropyl alcohol to dry completely before post-curing.



Formlabs does not manufacture isopropyl alcohol. Consult the chemical manufacturer or supplier for detailed safety information. Carefully follow the safety instructions provided with the isopropyl alcohol that you purchase. Isopropyl alcohol can be flammable, even explosive, and should be kept away from heat, fire, or sparks. Any containers holding isopropyl alcohol should be kept closed or covered when not in use. We also recommend that you wear protective gloves and have good ventilation when working with isopropyl alcohol.

3.1.5 Tripropylene glycol monomethyl ether (TPM)



Formlabs does not manufacture tripropylene glycol monomethyl ether. Consult the chemical manufacturer or supplier for detailed safety information. Carefully follow the safety instructions provided with the tripropylene glycol monomethyl ether you purchase. We also recommend that you wear protective gloves when working with tripropylene glycol monomethyl ether.

3.2 Personal protective equipment (PPE)

Safe operation of the Form Cure can be achieved by using the following equipment:

- Non-reactive nitrile gloves
- Safety glasses



WARNING

Resin and solvents may cause skin irritation or an allergic skin reaction. Wear gloves when handling liquid resin, liquid solvent, or resin-coated surfaces. Wash skin with plenty of soap and water.



CAUTION

Some methods of support removal may cause small pieces of supports to break away. Beware of flying debris. Wear eye protection and gloves to protect the skin and eyes.

3.3 Specification of tools to be used

The Form Cure shall only be used with supplied accessories and additional tools recommended by Formlabs. Third-party accessories and materials may cause damage. Third-party accessories and materials may cause damage. Refer to sections **3.2 Personal protective equipment (PPE)** and **6.1 Tools and supplies** for more information.

Purchase additional supplies:

- Apron
- General purpose cleaner (e.g., glass cleaner)
- Low-fiber paper towels
- Non-reactive nitrile gloves
- Safety glasses
- Shoe covers
- Sandpaper
- Mineral oil
- Primer and paints

3.4 Sensitive components

The Form Cure has multiple components that are vulnerable to permanent damage if not periodically inspected and properly maintained. Using any tools, cleaning agents, or methods not mentioned in this manual may result in permanent damage to these components.

- **LED modules**

The Form Cure uses three LED modules to expose printed parts to 405 nm light during post-curing. Refer to section **6.4.2 Maintaining the light diffusers** for more information.

- **Heater modules**

The Form Cure uses two heater modules to heat the post-cure chamber and printed parts during post-curing. Refer to section **7.3 Disassembly and repair** for more information.

- **Turntable**

The Form Cure uses a glass turntable that rotates throughout the post-cure cycle, ensuring that printed parts are evenly exposed to light and heat. Refer to section **6.3.1 Maintaining the turntable** for more information.

3.5 Emergency and exceptional situations

Formlabs has made every effort to provide updated safety data sheets (SDS) for every resin product, in accordance with the latest government guidelines. Always consult the safety data sheet (SDS) as the primary source of information to understand safety and handling of

Formlabs materials and required accessories. Visit formlabs.com/sds to download safety data sheets for Formlabs materials.

3.5.1 **Chemical spills**

Prepare for a possible chemical spill of flammable materials, such as isopropyl alcohol. Your spill response procedure should contain the following:

- A listing of personal protective equipment (PPE), safety equipment, and cleanup materials required for spill cleanup and an explanation of their proper use.
- Appropriate evacuation zones and procedures.
- Availability of fire suppression equipment.
- Disposal of containers for spill cleanup materials.
- The first aid procedures that might be required.

3.5.2 **Fire**



Do not use water to extinguish an electrical fire. Dousing an electrical fire with water increases the risk of electrocution, and may cause the fire to spread by allowing electricity to conduct across additional flammable surfaces.

If a localized fire develops either inside or outside of the machine, immediately take the following actions.

If the fire is inside the device:

1. Immediately disconnect the machine from its power source.
2. If the door of the Form Cure is open, close its door if possible.
 - If a part inside the Form Cure is on fire, do not close its door. Place a fire blanket over the unit.
3. Use an ABC fire extinguisher to cover the affected area generously.

If the fire is too large to control:

1. Immediately leave the area and close the door of the room behind you.
2. Evacuate the building according to your organization's emergency protocols.
3. Call emergency services once you have reached a safe distance from the fire.

3.5.3 **Isopropyl alcohol (IPA)**



When handling isopropyl alcohol, always consult the safety data sheet (SDS) from the isopropyl alcohol supplier as the primary source of information. Handle isopropyl alcohol with gloves in a well-ventilated area. Keep away from heat, sparks, and open flame. Isopropyl alcohol evaporates rapidly, so keep the wash bucket and bottles closed whenever possible.

3.5.4 **Resin**



Never ingest resin in liquid or solid form. If swallowed, immediately call a poison center or medical professional. Contact Chemtrec at +1 800 424 9300 for global 24-hour emergency assistance.



NOTICE

Promptly clean and inspect the device after a resin spill to minimize any cosmetic or functional damage to the machine. If you have experienced an accidental resin spill, document the problem with photos and clean the device as best as possible. Contact Formlabs Support or a certified service provider as soon as possible.

4. Preparation and Setup

4.1 Location and environs

Prepare a space to install and operate the Form Cure and house the necessary accessories and consumables.

To prepare the workspace:

1. Choose a stable, level workspace to install and operate the Form Cure.
2. Reserve the following minimum dimensions for the most convenient access:
 - Width: 38.1 cm (15.0 in)
 - Depth: 66.0 cm (26.0 in)
 - Height: 45 cm (17.7 in)
 - The door swings open to the left to allow inserting and removing printed parts from the turntable. The dimensions above include space for the door to open.
3. Allow additional space for accessories, such as the Formlabs SLA printer, Finish Kit, and Form Wash.
4. Position the device so that it is easy to operate the power switch and reach the power cord of the unit.
5. The Form Cure has a cooling exhaust at the back of the unit. Do not place the Form Cure in an enclosure such as a cabinet or a shelf with no ventilation in the back.

4.2 Unboxing the Form Cure

For detailed guidance and visual assistance, visit support.formlabs.com.

Prior to unboxing, ensure that the suitable workspace has been prepared according to section **4.1 Location and environs**.

The Form Cure ships in a cardboard carton, protected by foam inserts above and below the machine. The upper foam insert also contains the accessories. During unboxing, inspect the Form Cure for any damage or missing items. In the case of damage or missing items, contact Formlabs or the certified service provider.

To unbox the machine:

1. Open the box from the top.
2. Lift and remove the power cable, turntable, and printed Quick Start Guide.
3. Lift the Form Cure out of the box.



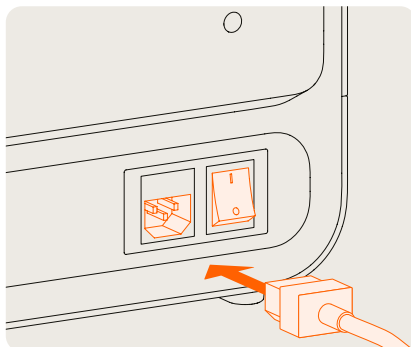
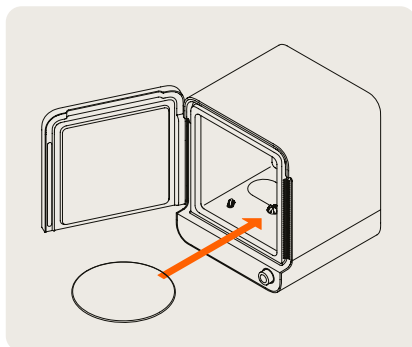
NOTICE

Remove all packaging material before connecting power. Retain all packaging and inserts for warranty service.

4.3 Installing the Form Cure

To install the Form Cure:

1. Find a clean, level surface with a nearby power source.
2. Remove the thin plastic wrapper from the Form Cure exterior.
3. Open the door.
4. Insert the turntable on the circular wheel mount at the base of the cure chamber.
5. Connect the power cable to the Form Cure and a power source. Power on the machine using the switch on the back of the unit



The Form Cure is ready to use once the turntable is installed and the power is connected. Each cycle requires time to preheat before the 405 nm lights begin post-curing. The preheating time depends on the current temperature and the target post-cure temperature.

4.4 Transporting the Form Cure

Refer to **2.2 Technical Specifications** for product weight and dimensions. Keep the packaging for transportation or shipping.

The Form Cure complete packaging kit consists of:

- 1 outer cardboard carton
- 1 foam bottom insert
- 1 foam upper insert, which holds the small accessory boxes
- Plastic wrap

To prepare the machine:

1. Always remove the turntable and any printed parts before moving or packaging the machine.
2. Wipe residual liquid resin and solvent from the post-curing chamber and other internal components.



NOTICE

Do not ship the machine with any liquid resin or solvent inside. Liquids left inside the machine can leak during transit, which may result in additional fees, void the warranty, or present a safety hazard.

3. Close the door.
4. Wrap the Form Cure with plastic wrap to secure the door.
5. Reassemble the box.
6. Place the bottom foam insert in the box.
7. Place the Form Cure on top of the bottom foam insert.
8. Place the upper foam insert on top of the Form Cure.
9. Seal the box with adhesive packing tape.



NOTICE

When shipping a machine to Formlabs for service, do not ship the accessory tools or the power cable. Accessories will not be returned after service. The product's original packaging is required for warranty service. Contact other authorized resellers for unique guidance on shipping requirements.

5. Usage

5.1 Operational environment

Operate the Form Cure in a well-ventilated room with a temperature of 18–28 °C (64–82 °F). For optimal performance, do not exceed this range.

- **Ventilation:** No specific requirements
- **Temperature:** 18–28 °C (64–82 °F)
- **Power:**
 - Dedicated power outlet capable of delivering 6 A of current (for 220–240 VAC circuits) or 12 A (for 100–120 VAC circuits)
 - Easy access to the power switch and power cord of the device
- **Location:** Dry, indoor
- **Altitude:** Maximum 2000 m (6561.7 ft)
- **Humidity:** Low ambient humidity (<65% RH)

5.2 Post-curing printed parts

Many resin types require post-curing to achieve their optimal mechanical properties or as a step in producing a biocompatible printed part. The Form Cure helps ensure consistent post-curing by rotating printed parts during the post-cure cycle and exposing the part to light from all directions. For detailed guidance and visual assistance, visit support.formlabs.com.

5.2.1 Inserting washed and dried printed parts

Fully dry all solvent off of printed parts after washing. Check all surfaces, because curing non-dried parts may trap solvent inside the part, prevent parts from strengthening, and affect quality.

Once parts are dry:

- Open the door.
- Distribute parts on the round turntable. Place parts with the most even spacing possible to allow light and heat to reach all areas.
- Gently close the door.



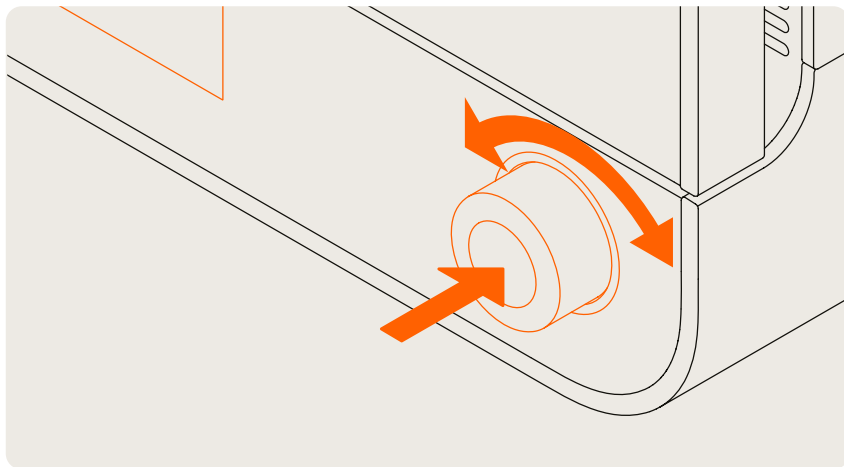
CAUTION

The Form Cure contains two heaters that heat inserted parts during post-curing. Take care when inserting and removing parts from the Form Cure, because the turntable may be hot.

5.2.2 Setting the time and temperature

Turn the knob to navigate the display menu. Press the knob to select a feature or setting. Select a preset post-curing profile or a custom time and temperature, and then select **Start**. Once the heater has reached the target temperature, the LEDs activate and the timer starts. Once a cure cycle has started, use the display or open the door to pause post-curing.

See support.formlabs.com or **5.4 Time and temperature settings** for specific post-cure settings for each resin type.



NOTICE

The printed part must be in the Form Cure while it heats. If the part is not placed in the Form Cure until preheating is complete, it may cause warping.

5.2.3

Collecting printed parts

When the post-curing cycle completes, the LEDs and heaters turn off. Open the door and remove parts.



CAUTION

The Form Cure contains two heaters that heat inserted parts during post-curing. Take care when inserting and removing parts from the Form Cure, because the turntable may be hot.

5.2.4

Additional finishing steps

Once parts are post-cured, use the flush cutters that come in your Finish Kit or Form Wash to carefully cut the supports attached to the part(s). Supports can also be removed before post-curing, but parts may warp under exposure to light and heat without structural support.



CAUTION

Some methods of support removal may cause small pieces of supports to break away. Beware of flying debris. Wear eye protection and gloves to protect the skin and eyes.

In addition to removing supports, use sanding, polishing, priming, or painting to improve presentation, or use other equipment to create molds from printed parts.

5.3

Considerations for specific geometries

For detailed guidance and visual assistance, visit support.formlabs.com.

Consider the specific geometry of each part when starting the cycle. Modify the post-cure process for parts that are large or long, have dense support structures, or have thick or thin features.

5.3.1 **Dense supports**

Some parts require more dense or thicker support structures. These can inadvertently block light from reaching some part surfaces during post-curing. The Form Cure helps ensure even post-curing by rotating the part during the cure cycle and exposing the part to light from all directions, including underneath the turntable. Remove some supports, only as needed, to ensure that light can easily reach all part surfaces. Leave some supports in place whenever possible to prevent features from warping during post-curing.

5.3.2 **Long and tall parts**

The Form Cure turntable has a diameter of 23.5 cm (9.25 in), and the maximum part height that can be post-cured in the Form Cure is 20.5 cm (8.0 in). Most parts should be post-cured before removing support structures to preserve their shape and prevent warping. While some parts may fit on the turntable more easily without supports, long or tall prints may require special arrangements to stand on the turntable without support. Consider the part dimensions when designing the support structures or planning the post-cure steps.

5.3.3 **Large or thick parts**

Large or thick parts may require a longer post-curing time or higher temperatures because the part takes longer to heat. Light alone cannot post-cure beyond the surface of the part, which is one advantage of the Form Cure heating functionality. When post-curing thick geometries, warm the part before post-curing and allow extra time for the Form Cure to preheat to the target temperature before starting the post-cure lights and timer.

5.3.4 **Thin features**

Warping during post-curing may occur if a part is especially thin, inadequately supported, or unevenly exposed to light. The Form Cure helps prevent warping by rotating the part during the cure cycle and by exposing the part to light from all directions, including underneath the turntable. Use support settings or manual editing to design sufficient supports so that thin features do not warp during post-curing. In the case of a thin, flat, sheet-like object, placing the part directly on the turntable may offer the best support during post-curing.

5.4 **Time and temperature settings**

For the best results, use the recommended time and temperature settings tested specifically for use with the Form Cure. Keep your machine's firmware up to date to ensure you have access to the latest settings. For detailed guidance and visual assistance, visit support.formlabs.com. Each material's print settings are designed and refined to print parts successfully at optimal speeds. Additional post-curing further improves the functional properties of the materials. Post-curing exposes parts to light and heat and strengthens crosslinks in the polymer structure, improving the parts' strength, stiffness, and temperature resistance. Due to the increased number of bonds the material becomes more tightly packed and will shrink slightly. Each material's print settings are designed to account for the expected shrinkage during printing and post-curing. Although using a higher temperature for post-curing results in a faster post-cure, a higher temperature setting may also cause some materials to warp, depending on the part geometry and features. When choosing to modify the recommended post-cure settings, the material must be able to withstand the temperature and maintain a stable material structure. Formlabs resins are designed for printing and post-curing with 405 nm light.

5.5 Managing the machine

5.5.1 Turning off

Turn off the Form Cure completely when moving or storing the device and to conserve power. Flip the breaker switch on the back of the unit to the **OFF** position to turn off the machine completely and conserve power. When moving or storing the machine, unplug the unit from its power source in addition to flipping the breaker switch.

The Form Cure display automatically enters a low-power sleep mode after a period of inactivity. The machine can be woken up by interacting with the knob.

5.5.2 Updating firmware

The Form Cure includes a USB port for updating the machine's firmware. See **6.5.1 Updating firmware**.

5.5.3 Accessing the serial name

The serial name is on the back panel of the machine in the format **CureGen2-AdjectiveAnimal**. The serial name is also available on the display.

To access the serial name or firmware version on the display:

1. Disconnect the power cable.
2. Reconnect the power cable.
3. When the display shows **Formlabs**, press and hold the knob immediately. The display shows the serial name (preceded by **CureGen2-**) and firmware version.

6. Maintenance

To maintain the most efficient and long-lasting machine, ensure regular conservation. Formlabs provides instructions to advise in installing, operating, and maintaining the machine. The Form Cure shall only be maintained by a qualified and trained person. Unauthorized disassembly or repair procedures may damage the machine.

There are two groups of maintenance procedures: regular, which should be done after every use, and intermittent maintenance, which only needs to be done occasionally. Please keep a log detailing when each intermittent maintenance procedure was last performed.

For detailed guidance and visual assistance, visit support.formlabs.com.



Tampering with or disassembling the device prior to disconnecting the power cable and waiting at least five minutes can subject users to potentially fatal electrical hazards. When removing the exterior paneling, disconnect the machine from its power source before maintenance.



Wear personal protective equipment (PPE) when performing maintenance tasks. Use tools only as described.



- Do not open the Form Cure and/or investigate internal components unless under the guidance of Formlabs Support or a certified service provider. Contact Formlabs Support or a certified service provider for any additional guidance.
- Unauthorized disassembly or repair procedures may damage the machine and void the warranty.

6.1 Tools and supplies

- **General purpose cleaner (e.g., glass cleaner) and/or soapy water:** For cleaning the outer shells and display.
- **Isopropyl alcohol (IPA), 90% or higher:** For cleaning the work surface and tools.
- **Low-fiber paper towels:** For cleaning the work surface and tools and for wiping residue grease, resin, or solvent.
- **Non-abrasive microfiber cloth:** For cleaning the outer shells and display.

6.2 Inspection and maintenance

6.2.1 Before each use

Inspect	Refer to	Section
Installation environment	Location and environs	4.1
Turntable	Maintaining the turntable	6.3.1
Parts to be post-cured	Considerations for specific geometries Drying parts and keeping equipment clean	5.3 6.3.2

6.2.2 **Periodic maintenance**

Inspect	Refer to	Section
Interior surfaces	Maintaining interior surfaces	6.4.1
Light diffusers	Maintaining the light diffusers	6.4.2
Door	Maintaining the door	6.4.3
Touchscreen	Maintaining the display	6.4.4

6.3 Tasks between uses

Over time, debris or contaminants may collect in the Form Cure or on its internal surfaces, particularly if printed parts are not fully dried before post-curing. In order to preserve the reliability of the Form Cure, it is important to regularly inspect and clean its various components and assemblies.

6.3.1 **Maintaining the turntable**

The Form Cure relies on the turntable’s rotation to expose part surfaces to even amounts of light and heat. The turntable must have sufficient clearance to continue rotating.

To maintain the turntable:

- Periodically lift the turntable to inspect underneath it for small pieces of cured resin. Remove particles of cured resin from above and below the turntable to ensure the turntable can rotate without interruption.
- Clean the turntable and the surface underneath as needed.
- Use isopropyl alcohol to clean the turntable or the base if necessary, and allow isopropyl alcohol to fully evaporate before starting a post-cure cycle.

6.3.2 **Drying parts and keeping equipment clean**

Completely wash and dry all parts before post-curing in the Form Cure. Do not operate the Form Cure with uncured resin, partially cured resin, or other liquids on the turntable.

6.4 Periodic maintenance

The Form Cure requires regular maintenance and care. The standard cycle for the following procedures is every one to three months of use.

6.4.1 **Maintaining interior surfaces**

The internal surfaces of the Form Cure are covered in a reflective coating that reflects the light from the LEDs and ensures that parts post-cure evenly. If the reflective coating is damaged or covered, parts may not post-cure properly.

Visually inspect the internal surfaces of the Form Cure for traces of resin, cracks, or other damage.

Resin will harden during post-curing. Cured resin blocks light and must be removed. If parts are washed but not fully dry before post-curing, certain washing solvents, such as tripropylene monomethyl ether, may evaporate and form deposits on the interior surfaces of the Form Cure. These deposits cloud the reflective coating and prevent parts from post-curing properly. Clean the reflective coating as needed. Use isopropyl alcohol to clean the reflective coating and allow isopropyl alcohol to fully evaporate before starting a post-cure cycle.

6.4.2 **Maintaining the light diffusers**

The 405 nm and white secondary LEDs in the Form Cure are covered by frosted light diffusing panels. These light diffusers spread the light from the LEDs and ensure that parts post-cure evenly. If the light diffusers are damaged or covered, parts may not post-cure properly.

Visually inspect the light diffusers for traces of resin, cracks, or other damage. Resin will harden during the post-curing.

Cured resin blocks light and must be removed. If parts are washed but not fully dry before post-curing, certain part washing solvents, such as tripropylene monomethyl ether, may evaporate and form deposits on the interior surfaces of the Form Cure.

These deposits will coat the light diffusers and prevent parts from post-curing properly. Clean the light diffusers as needed. Use isopropyl alcohol to clean the light diffusers and allow isopropyl alcohol to fully evaporate before starting a post-cure cycle.

6.4.3 **Maintaining the door**

Visually inspect the door for traces of resin, cracks, or other damage. Clean the door with a non-abrasive microfiber cloth and soapy water or a general purpose cleaner, such as glass cleaner.

6.4.4 **Maintaining the display**

Visually inspect the display for any traces of resin. Check that the knob turns easily and that the display responds to inputs. Clean the display with a non-abrasive microfiber cloth and general purpose cleaner, such as glass cleaner.

6.5 **Intermittent maintenance**

Task	Frequency	Refer to	Section
Update the firmware	When indicated by Formlabs	Updating firmware	6.5.1

6.5.1 **Updating firmware**

Formlabs regularly releases updated firmware to fix bugs and improve functionality. Review the PreForm and firmware release notes to learn more about the improvements that come with each version's release.

To update the firmware:

1. Connect the Form Cure with a USB cable to a computer running the latest version of PreForm.
2. Locate and run the Form Wash/Cure Updater tool in the PreForm installation folder to check for firmware updates and to update the firmware.
3. When the updater tool detects the unit, select **Update Firmware**.
4. The tool uploads the new firmware and restarts the unit to complete the update.
The update should take approximately 20 seconds. The turntable may rotate during firmware updates.



Do not disconnect the USB or power cables during the update.

5. **Firmware Up To Date** appears next to the connected unit in the main updater window. Select **Done** once the update is complete.
6. Repeat steps 1–5 to update firmware on additional Form Cure units.
7. Select **Quit** to close the updater.

7. Troubleshooting and Repair

For detailed guidance and visual assistance, search on support.formlabs.com.

7.1 Power cycle the machine

If the display freezes during or after the firmware update, power cycle the Form Cure unit:

1. Unplug the unit.
2. Wait at least 10 seconds to ensure a complete power cycle.
3. Reconnect the power cable to restart the unit.

7.2 Troubleshooting

In the case of an error or abnormal activity with the Form Cure, reference the following errors, causes, and proposed solutions. Complete the initial troubleshooting steps and carefully document all results. Contact Formlabs Support or a certified service provider for additional guidance.

Error	Cause	Solution
The display does not turn on.	• Power failure or a faulty electrical connection	• Check that the secondary white LEDs turn on when the door is opened. If they do not, switch to another outlet. • Disconnect and reconnect the power.
The display does not turn off or sleep.	• Firmware bug	• Disconnect and reconnect the power. • Update the firmware. See 6.5.1 Updating firmware.
The display indicates that the door is open when the door is closed.	• Interlock magnets are missing or misaligned	• Wiggle the door from side to side. • Ensure the door is aligned with the body of the machine.
The 405 nm LEDs and secondary white LEDs do not turn on.	• Power failure or a faulty electrical connection	• Disconnect and reconnect the power.
Some of the 405 nm LEDs turn on when the door is opened.	• Water damage to the LED module(s) • Electrical damage to the LED modules	• Leave the Form Cure with the door open in a ventilated area preferably with a fan blowing into the chamber for 12 hours. • If problems persist, consider replacing LED modules. See 7.3 Disassembly and repair.
The 405 nm LEDs do not turn on.	• The Form Cure has not reached its target temperature • Power failure or a faulty electrical connection	• Wait for the Form Cure to reach its target temperature. See 5.2.2 Setting the time and temperature. • Disconnect and reconnect the power.

Error	Cause	Solution
The heater does not reach the target temperature.	- Abnormal display behavior - Environmental conditions - Convection fan failure	- Disconnect and reconnect the power. - Ensure that the operating environment is in the recommended temperature range. See 5.1 Operational environment. - Check with a flashlight shining through the door to confirm that the convection fan next to the heaters is spinning while the Form Cure heats up. The fan only spins when the door is closed.
The turntable does not turn.	- Turntable is obstructed - Turntable is not fully seated - Faulty or damaged motor assembly	- Ensure that no cured resin or printed parts are blocking the turntable. Reorient large prints as necessary. See 5.3.2 Large or long parts. - Reseat the turntable on the circular wheel mount. See 4.3 Installing the Form Cure. - Replace the Form Cure motor assembly. See 7.3 Disassembly and repair.
Parts are undercured or do not have desired mechanical properties.	- Expired resin - Part was washed but not fully dried before post-curing - Dirty turntable	- Check the expected lifetime of the resin used for the print. - Fully dry all solvent off of parts before post-curing. - Clean the glass turntable.
Post-cured parts have tacky or sticky surfaces.	- Part was not washed before post-curing - Part was washed but not fully dried before post-curing	- Wash liquid resin off of printed parts before post-curing. - Fully dry all solvent off of parts before post-curing.

7.3 Disassembly and repair

Contact Formlabs Support or a certified service provider to receive repair instructions and authorization, including how to disassemble or remove the exterior paneling.

Task	Cause
Replacing the motor assembly	The turntable has stopped functioning or behaves erratically.
Replacing the LED modules	The LED lights have stopped functioning or behave erratically.
Replacing the heaters	The Form Cure has stopped heating or is heating abnormally slowly.

8. Disposal

8.1 Guidance for recycling and disposal

8.1.1 Disposal of electronic components



The symbol on the product, accessories, or packaging indicates that this device must not be treated as nor disposed of with household waste. When you decide to dispose of this product, do so in accordance with local environmental laws and guidelines. Dispose of the device via a collection point for the recycling of waste electrical and electronic equipment. By disposing of the device in the proper manner, you help to avoid possible hazards for the environment and public health that could otherwise be caused by improper treatment of waste equipment. The recycling of materials contributes to the conservation of natural resources. Therefore do not dispose of your old electrical and electronic equipment with the unsorted municipal waste.

8.1.2 Disposal of packaging waste

Keep the packaging for transporting your Form Cure. Form Cure packaging materials are designed to be kept and reused for transportation or shipping.

The packaging is made of cardboard and plastic-based materials. Dispose of packaging through your local waste and recycling facilities. By disposing of the packaging waste in the proper manner, you help to avoid possible hazards for the environment and public health.

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10. Glossary

Term	Meaning
Circular wheel mount	The turntable sits on the circular wheel mount, which is driven by the motor assembly.
Display	The display shows status, time, temperature, and options for configuring the Form Cure.
Display ribbon cable	A flat, flexible cable connects the display assembly to the motherboard.
Door	The hinged door allows access to the Form Cure turntable. Double walls insulate the cure chamber and internal surfaces reflect light.
Heaters	Two 450 W heating modules that can heat the chamber up to 100 °C / 212 °F .
Interlock magnets	The interlock sensor detects these magnets to determine when the door is closed. This safety mechanism disables the heater, 405 nm LEDs, and turntable when the door is open.
Knob	The knob is the primary interface device for the Form Cure. Turn the knob to navigate the display menu. Press the knob to select a feature or setting.
LEDs	Three arrays with a total of 48 405 nm LEDs help to post-cure parts. Secondary lights illuminate the turntable when the door is open and during heating.
Motherboard	The motherboard is the main circuitry through which all systems in the Form Cure communicate.
Motor assembly	The motor assembly rotates the turntable during the post-cure cycle.
Power cable	Provides power to the Form Cure.
Turntable	A rotating plate ensures balanced post-curing across all exposed part surfaces. The turntable is made of glass to allow light to reach all surfaces of printed parts in the Form Cure.
USB port	The Form Cure can connect to a computer via USB. The port is connected to the motherboard and can be accessed from the back of the machine.

