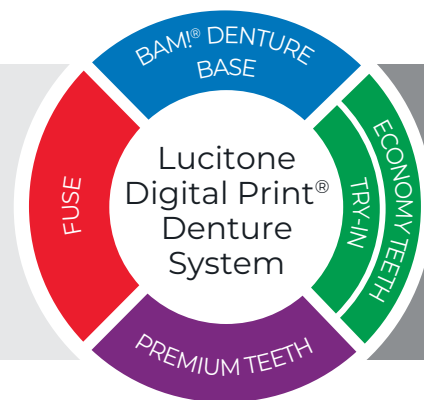




Illustrated Technique Guide

Print to Finish for Primeprint™ Solution



Technical Support
800-243-1942
ext. 54212



dsdigitaldentures@
dentsplysirona.com

Contents

1.0 Prepare Print Job

CAUTION:

- Instructions are applicable to Lucitone Digital Print Denture System materials only.
- Design Requirement Maxillary Denture/Try-In requires 3 T-bars and an anterior extension bar directly behind centrals. Mandibular Denture/Try-In requires 1 T-bar and 2 support bars. T-bars will be generated once the denture design is imported into inLab CAM. If using third party software, you will not need to add the supports/T-Bars during design, inLab CAM will place them automatically. Third party denture design software functional areas need to be marked during the import of the STL design file to inLab CAM. To learn more about denture design and T-bar placement in third-party softwares, visit the [Lucitone Digital Print Denture System Curriculum Page](#).
- Refer to the Primeprint Solution Instructions for Use for complete printer information.
- All parts printed with Lucitone Digital Value 3D Economy Tooth and Trial Placement resin are to be printed at 100 micron layer thickness.

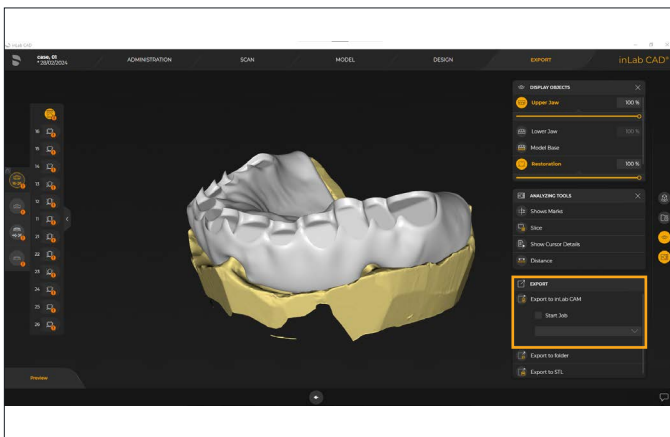


*only possible for Primeprint not for third-party Lucitone Digital Print validated printers.
Process is shown for denture base, but works accordingly for Denture Teeth and Denture Try-In.

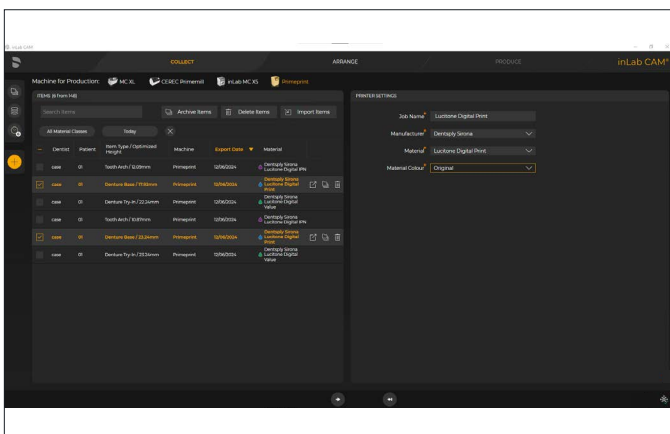
Import inLab CAD Design

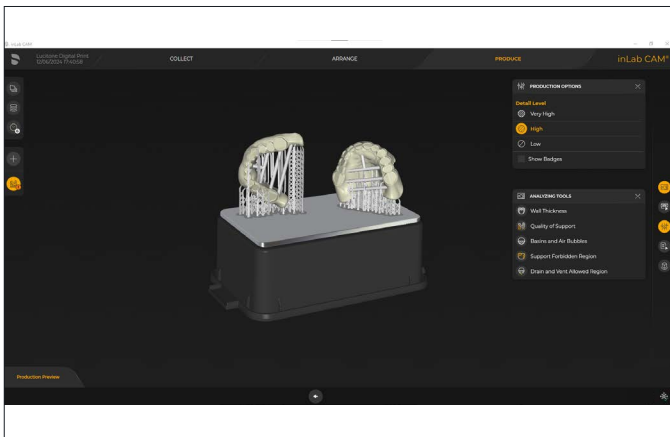
Export from inLab CAD design software into inLab CAM.

Design files will be automatically transferred to the installed inLab CAM instance.



Select Design in inLab CAM and click 'fast forward'.

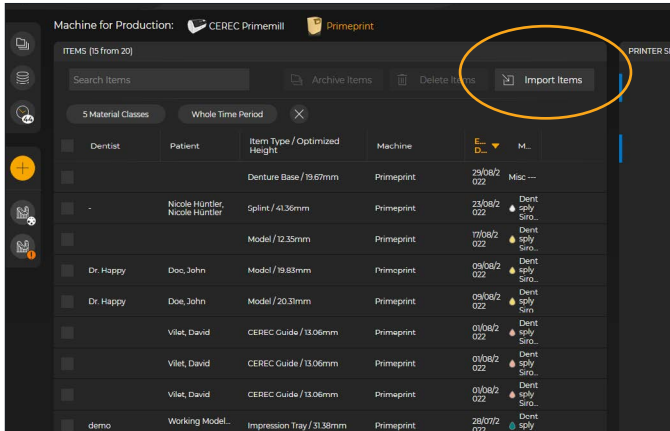




Check the placement of the T-bars and the orientation on the building platform.

Start the print job if no changes are required. In this example the T-bars are placed correctly but the orientation of the mandibular denture base is not correct.

NOTE: Software will prompt you if there are not enough bars placed.

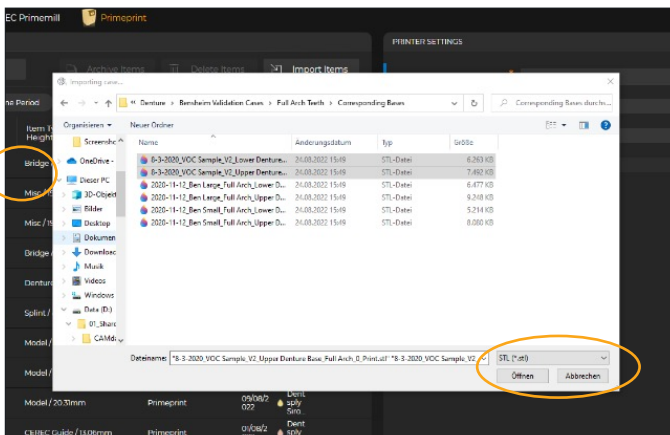


Import of Third-Party Denture Design STL Files into inLab CAM

Open the inLab CAM Software.

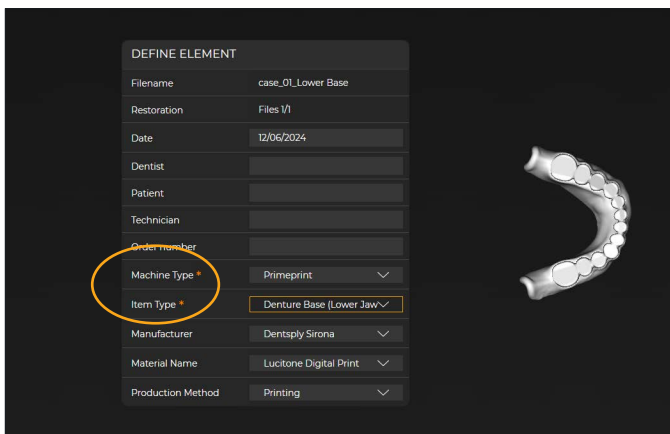
If you are not already in the COLLECT phase, click the “+” icon to create a new job.

Click the “Import Items” button in the system menu.



Select the folder where the Design is located.

Select “STL (*.stl)” from the drop-down list next to File name: in the drop-down menu. Choose the relevant file(s). Click on the “Open” button.



Complete the information (if available):

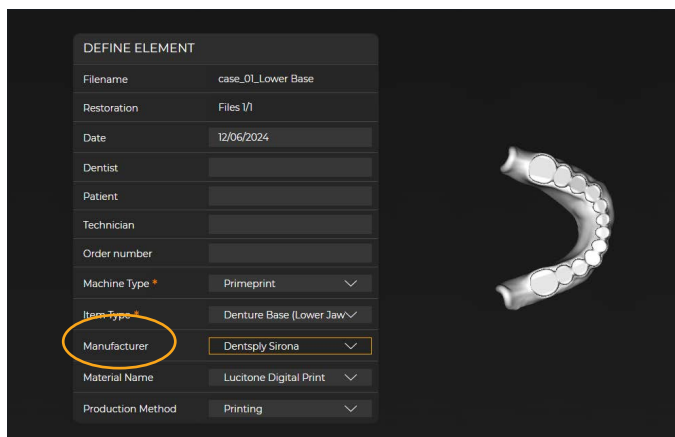
NOTE: Information marked “*” is mandatory.

Depending on the imported design choose the following settings:

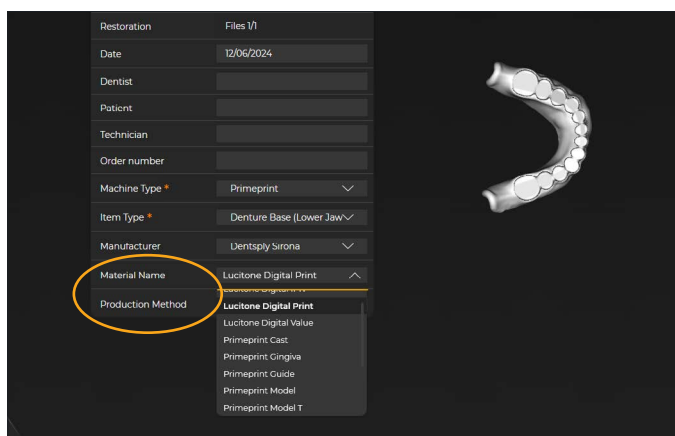
“Machine Type”: Primeprint

“Item Type”:

- Denture Base (Lower Jaw)
- Denture Base (Upper Jaw)
- Denture Try-In (Lower Jaw)
- Denture Try-In (Upper Jaw)
- Tooth Arch



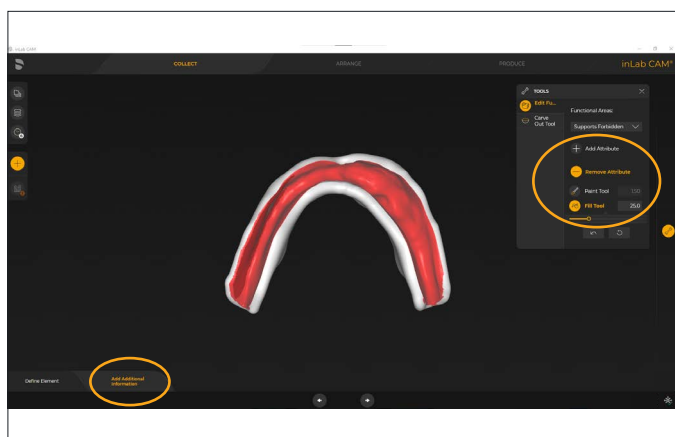
“Manufacturer”: Dentsply Sirona



“Material Name”:

- Denture Base: Lucitone Digital Print
- Try-In: Lucitone Digital Value
- Teeth: Lucitone Digital IPN
- Teeth: Lucitone Digital Value

“Production Method”: Printing

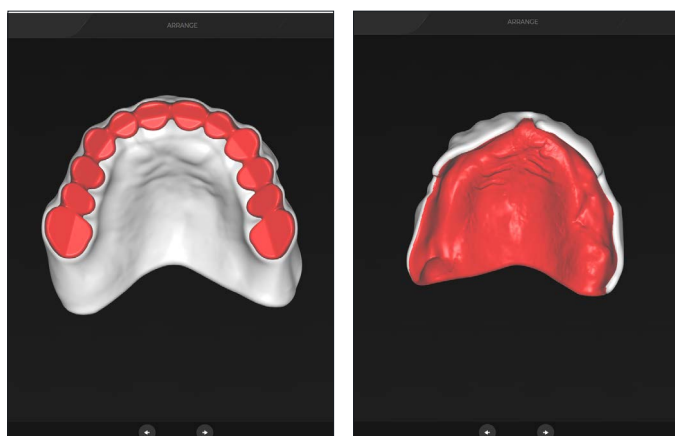


Edit Functional Areas

“Add additional information” to the elements.

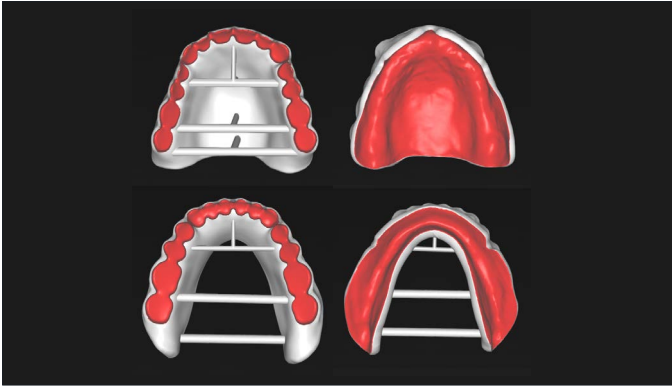
Edit functional areas by using the fill or paint tool to define the areas where connectors/support structures are to be avoided. Rotate the part to ensure that all forbidden areas are marked in red. (Forbidden areas are listed below.)

NOTE: Automatic Support bar placement may lead to errors when the design already includes support bars.



Support Forbidden zone should be marked on:

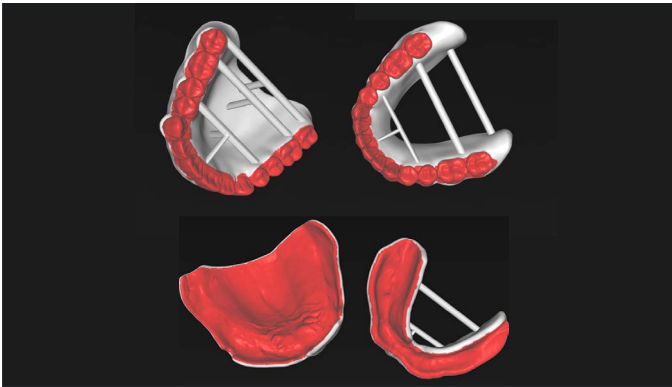
- Tooth pockets (Denture Base)
- Teeth (Try-In)
- Tissue/intaglio surface
- Teeth surface (Teeth)



Denture Base

After the “Functional Areas” were marked the parts to be printed should look like the screen shots.

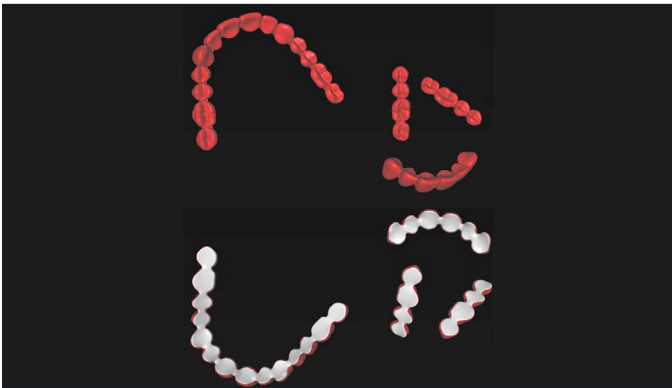
Confirm the information by clicking the right arrow.



Denture Try-In

After the “Functional Areas” were marked the parts to be printed should look like the screen shots.

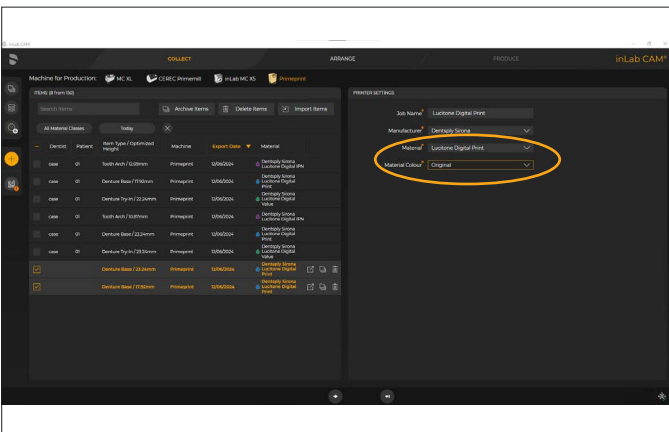
Confirm the information by clicking the right arrow.



Tooth Arch

After the “Functional Areas” were marked the parts to be printed should look like the screen shots.

Confirm the information by clicking the right arrow.



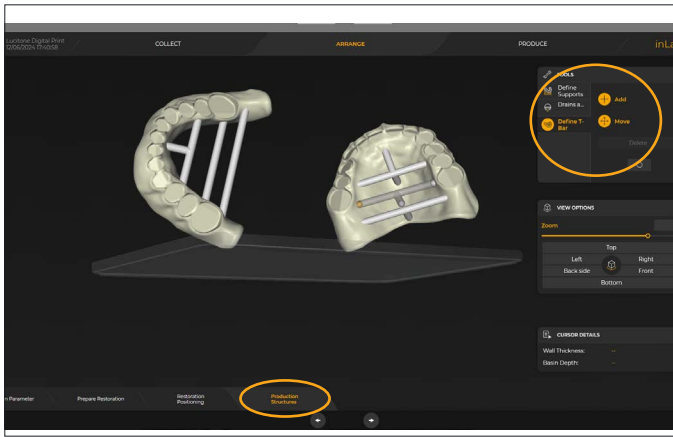
You are now in the COLLECT phase.

Select the design from the element list. The files that have been imported in the steps before are already preselected.

Choose the “Material Color” from the drop-down menu.

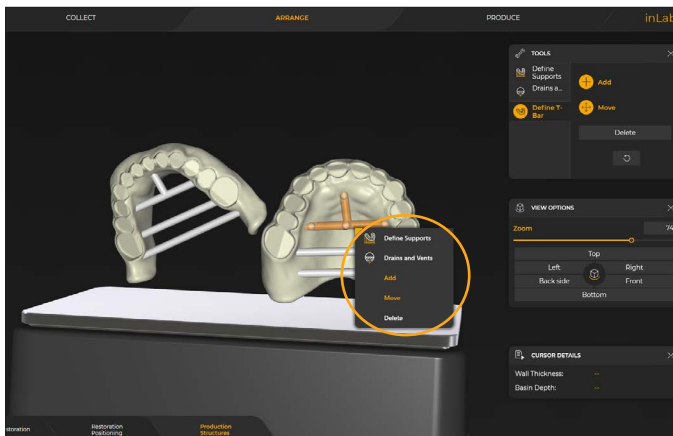
Click on the fast forward button. This leads to automatic calculation of the job using the default settings. A print material is selected, the elements are positioned on the building platform and the T-bars are placed. The application transitions to the PRODUCE phase.

Check the placement of the T- bars and the orientation on the building platform.

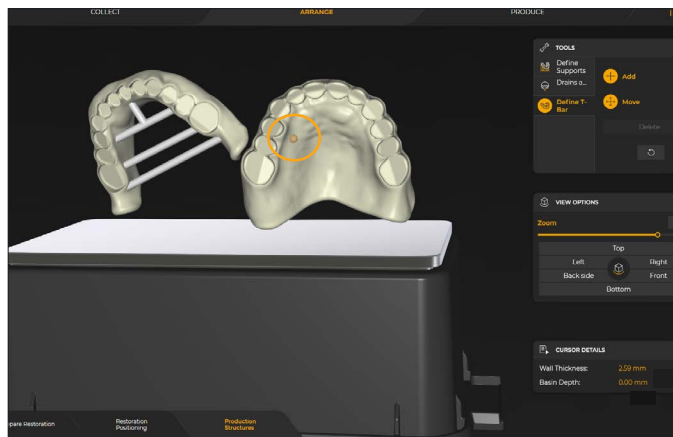


Adjust T-bar

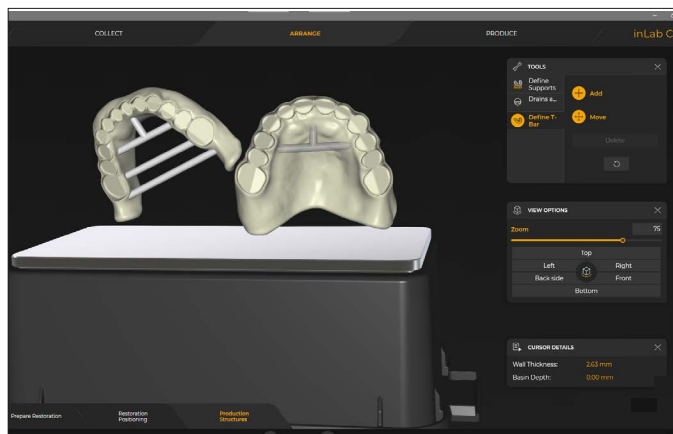
If T-bars are not sufficient, go to the "Arrange" tab and place T-bars correctly with the "Define T-Bar" tool in Production Structures.



With a left click on the bar the whole bar is selected and can be deleted. (open menu with right click)



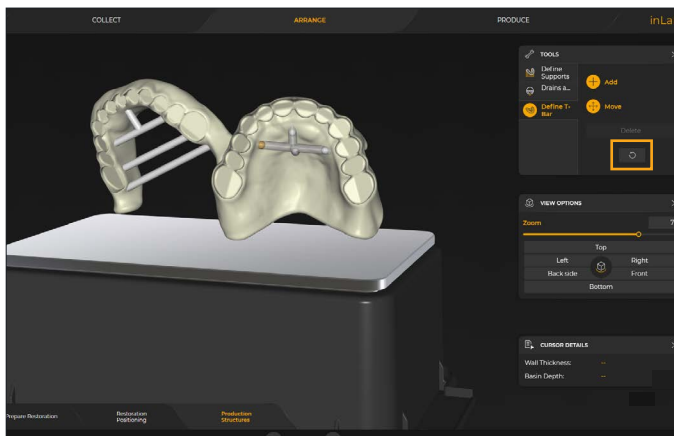
Hover over the part, an orange dot appears where the bar can be attached to the part.



Bars can have up to four attachment points. The attachment of the bars to the part is done with a single left click.

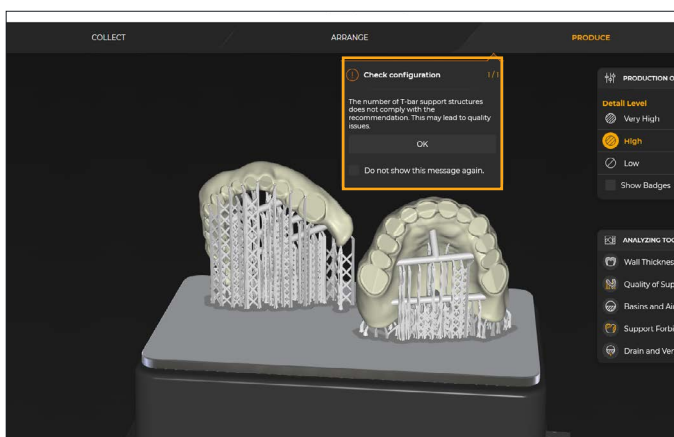
A double click completes the placement.

Do a right click to go one step back.

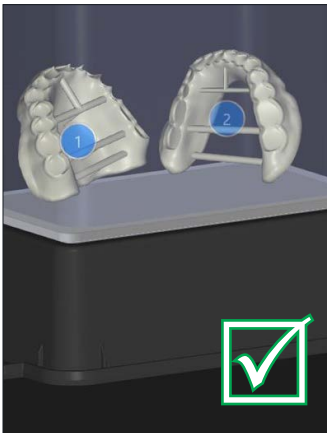


Selecting one end of a finished bar gives you the possibility to move the bar.

With the reset button users can restore the initial proposal.



The inLab CAM software will prompt you if there are not enough bars placed.



Orientation of Parts

Maxillary and mandibular Denture Base(s)/Try-In(s) should orient with the posterior facing the build platform.

- ☒ The screen shot on the left illustrates proper orientation.
- ☐ The screen shot on the right is an example of improper orientation.

NOTE: If the auto-orient function does not provide ideal orientation of a part, then manual positioning will be required.

The following steps will illustrate the manual positioning process.

If the Orientation is correct skip to

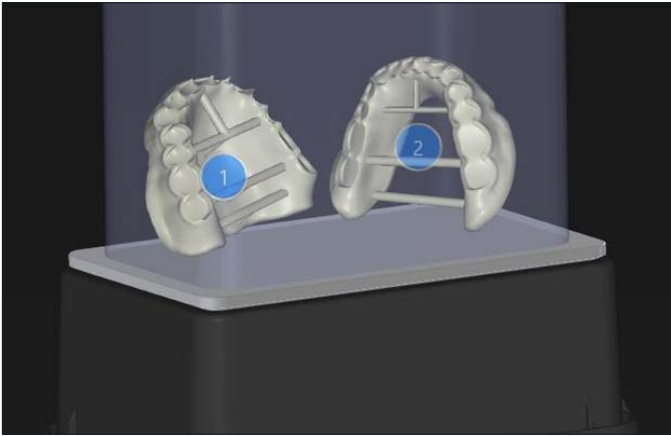


Manual Orientation of Parts

To manually orient the parts, follow the steps below:

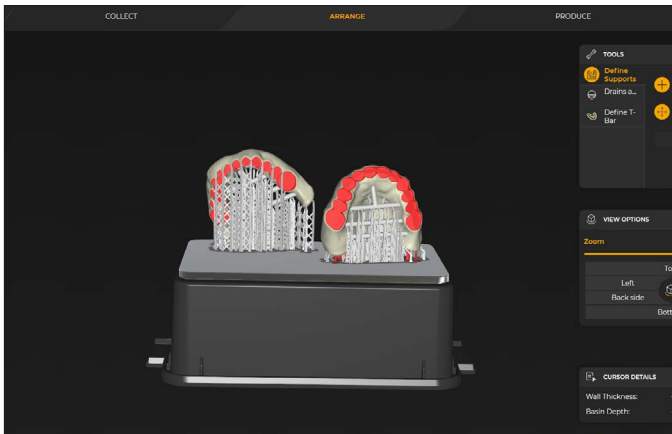
Select "Restoration Positioning" at bottom of screen

Under "Tools" select "Move Restoration" - "3D Mode"

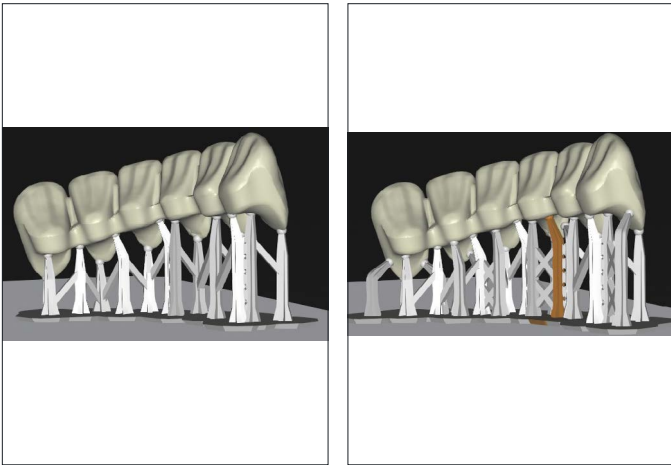


Place cursor over part and hold left click to manually rotate and maneuver the part until posterior is facing the build platform.

Ensure the part has the tissue-surface slightly angled from vertical.



In ARRANGE phase, select "Production Structures" at bottom of screen to check that supporting is correct.

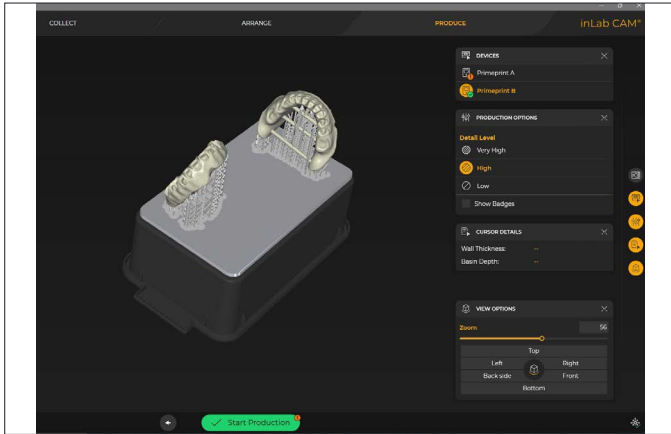


In some instances, additional supports may be needed to provide optimal print results.

Additional supports can be placed by selecting "+ Add" under "Define Supports" in the "TOOLS" menu.

Once correct support structures are confirmed proceed to PRODUCE phase.

2.0 Print



For Lucitone Digital Value teeth select "High" within "Detail Level" under the "PRODUCTION OPTIONS" menu. This changes the layer thickness to the required 100 microns necessary to print.

Once "Detail Level" is selected, the job is ready to print.

Click "Start Production" to start the printing process. If Primeprint is already correctly loaded (green symbol), production starts immediately.

NOTE: If a yellow or red exclamation mark is displayed on the machine, actions are required on the machine. Hovering over the exclamation mark will explain what actions are needed.

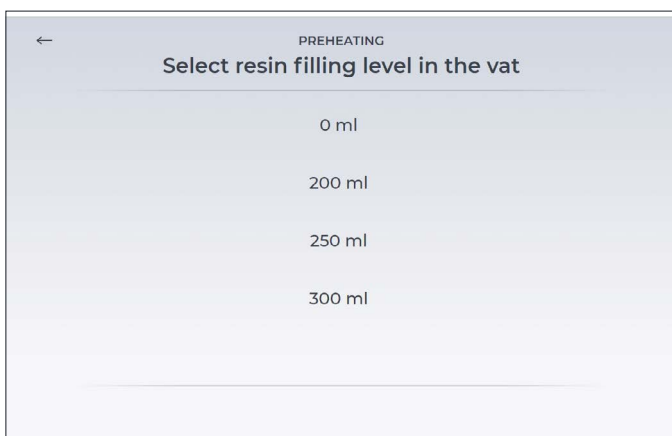


To start the job, load the material unit with the correct resin cartridge and place into the Primeprint.

NOTE: The resin cartridge will only have to be inserted into the material unit for initial use or when resin level is low.

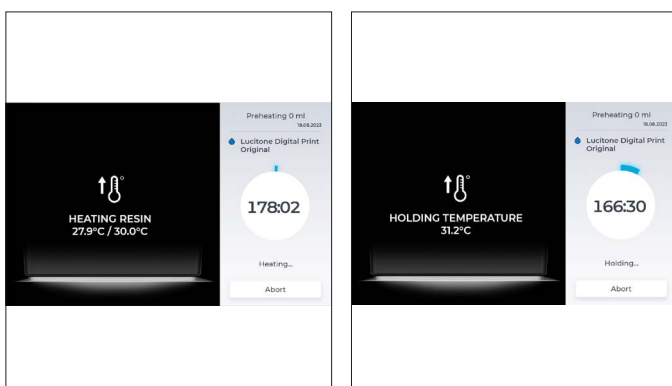
NOTE: If material unit has been stored with resin for 30 or more days since last print, use a wipe card (REF: 6753631) to scrape bottom of vat. Stir resin to redistribute any pigment that may have settled.

Insert the Primeprint Box into the printer.

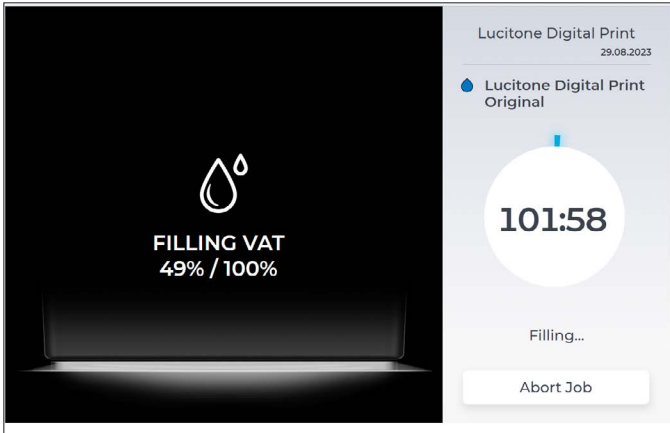


PRO TIP: Always use preheating function - even 0ml is fine. Ideally, this step is taken before planning and creating the denture. Then the resin has enough time to be appropriately conditioned.

Different vat filling levels can be chosen. It is also possible to select 0 ml so the vat is not filled.

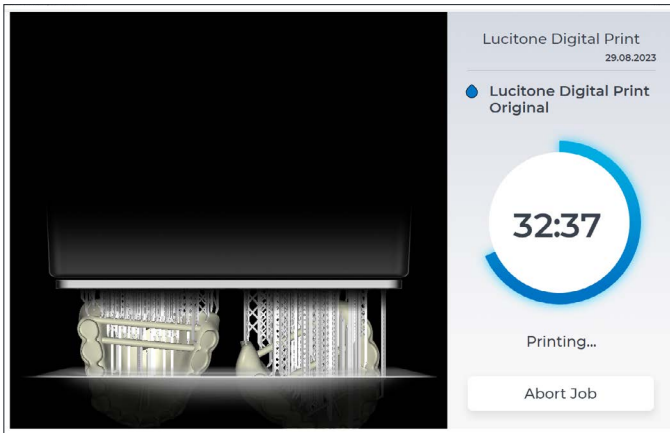


During the preheating process the screen indicates whether the resin is still heated or the required temperature has been reached and the temperature is held.



Primeprint will fill the vat with the resin and heat the resin automatically at the beginning of the print job.

NOTE: If you notice a timeout issue, it is recommended to use the preheat function before starting the print job. Choose the preheat function with a filling level of 200ml. Store the cartridges at room temperature.

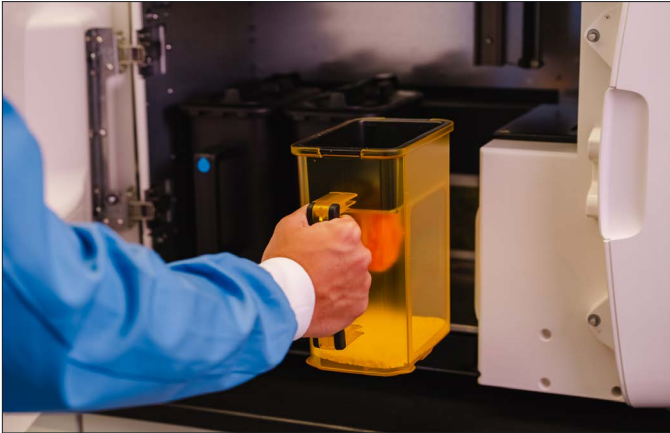


As it is printing the timer will show the progress.

3.0 Clean

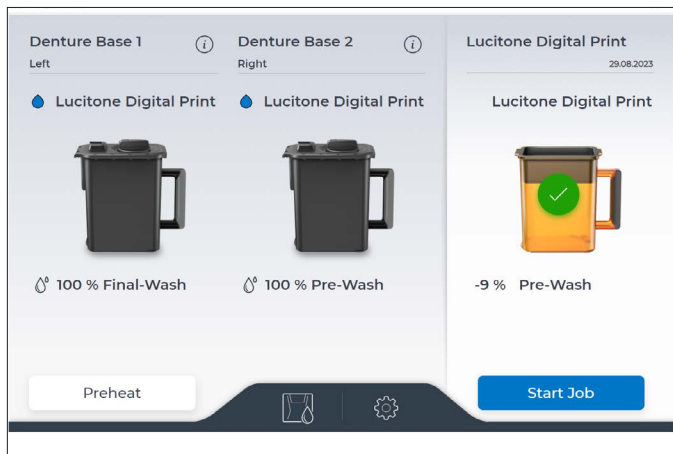
CAUTION: (For manual cleaning process)

- Use proper ventilation. Wear protective gloves, eye protection, and protective clothing.
- Isopropyl Alcohol is highly flammable. Keep containers tightly closed and use/store away from sources of ignition.
- Carefully follow the clean time recommendations - prolonged Isopropyl Alcohol (IPA) exposure may change appliance physical properties.

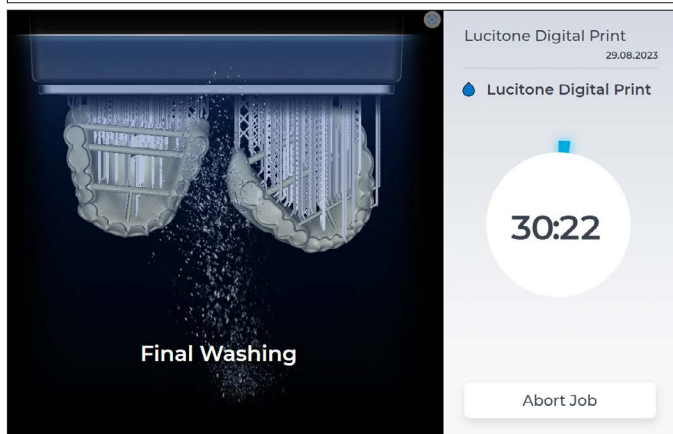


After the print process is completed take the Primeprint Box out of the Primeprint and put it into the Primeprint PPU. Load the Primeprint PPU with the washing containers required for the printed resin and unlock their lids as soon as they are inside the device. One washing container is filled with Butyldiglycol (CAS number 112-34-5 ex. InovaPrint Wash*) and one is filled with Isopropanol (IPA, 99%).

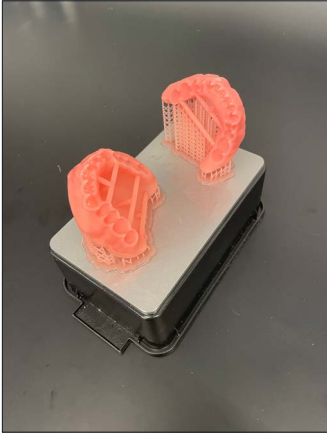
*InovaPrint Wash is a registered mark of by HPdent GmbH.



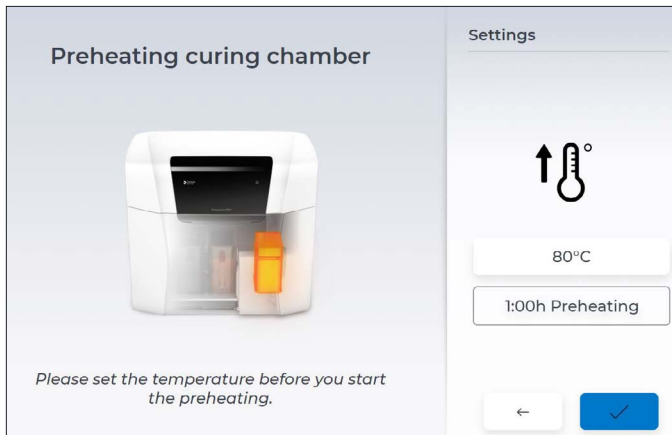
Close the door of the Primeprint PPU and select the “Start Job” icon to begin the washing process.



The Primeprint PPU will start the washing process and show a timer until the washing is completed.



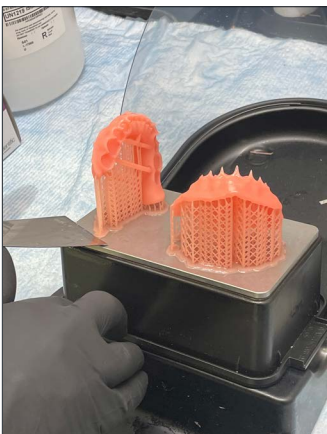
Take the Primeprint Box out of the PPU after the washing process is completed. It is recommended to use the preheating process on the PPU while the manual washing steps take place.



It is recommended to use the preheating process of the PPU to preheat the PPU to 80 °C after washing and during the bonding of denture teeth and denture base. Preheating of the curing chamber inside the PPU reduces time during the curing process.



The Preheating process is shown on the screen of the PPU.



Remove the print job from the building platform. Detach the parts by hand, using moderate pressure, or use a spatula/scraper.

Clean the building platform with IPA after the washing in the PPU and the removal from the building platform.



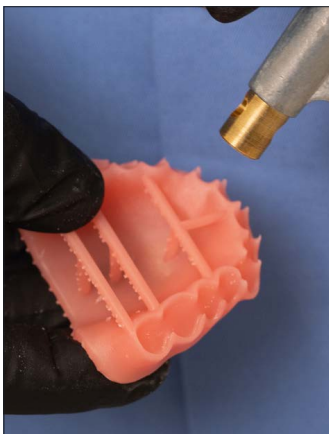
Remove the support structures using hand pressure or a cutting tool.



Do not remove the bar supports on Denture Base(s)/ Try-In(s). Removal will occur after the post-cure step.



Check the part(s) for residual resin. Use a brush soaked with $\geq 99\%$ IPA to remove any residual resin.



Use compressed air to thoroughly dry part(s) before the Fuse process.

IMPORTANT: It is recommended to wait 30 minutes for all clean parts to air-dry before proceeding to next steps.

4.0 Fuse

- For Try-In appliances, skip to 5.0 Cure

Fuse Process



Process Steps	
4.1	Tooth Preparation for Printed Denture Teeth
4.2	Dry Fit
4.3	Lucitone Digital Fuse Step 2 - 3D Denture Bonding Resin
4.4	Lucitone Digital Fuse Step 3 Total - 3D Sealer

4.1 Tooth Preparation for Printed Denture Teeth



Remove the printing supports using a carbide bur or a cutting disc.



Use a diamond disc to open the interproximal areas. Shape and contour the teeth as desired.



Remove any remaining debris using a small brush and $\geq 99\%$ IPA.

4.2 Dry-Fit



Segments/Full Arch

Place the tooth segments or full arch into the denture base and check for proper fit.

4.3 Lucitone Digital Fuse Step 2 – 3D Denture Bonding Resin

Segments



Apply Step 2 resin to the tooth quadrant indentation on the denture base.



Insert a segment, fully seat, and clean excess resin with 4X4 gauze.



Tack cure the buccal and lingual surfaces with the UV Tack-Cure Light for ten seconds, two teeth at a time.

Repeat the above steps for the remaining tooth segments.

IMPORTANT: Fuse Step 2 is available in all Lucitone Digital Print 3D Denture Base shades. Use Original shade as a universal shade option, except for with dark reddish pink.

Full Arch



Apply Step 2 resin to the full arch indentation on the denture base.



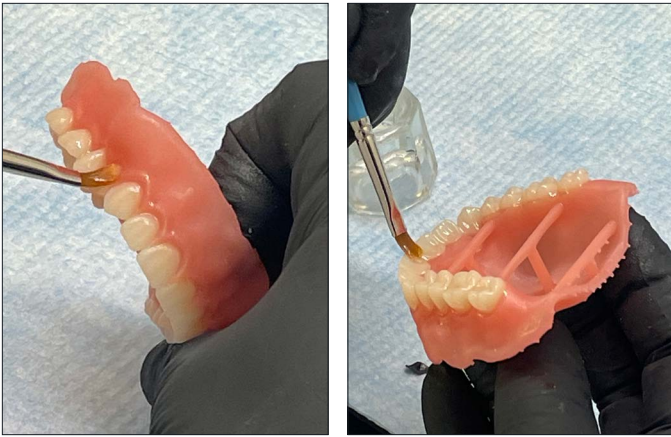
Insert the full arch, fully seat, and clean excess resin with 4X4 gauze.



Tack cure the buccal and lingual surfaces with the UV Tack-Cure Light for ten seconds, two teeth at a time.

IMPORTANT: Fuse Step 2 is available in all Lucitone Digital Print 3D Denture Base shades. Use Original shade as a universal shade option, except for with dark reddish pink.

4.4 Lucitone Digital Fuse Step 3 Total - 3D Sealer



Lucitone Digital Fuse Step 3 - Total

Apply a thin layer of Total sealer to the entire tooth structures, including the cervicals, using a flat brush. Optional (not required): Apply the sealer to all or part of the denture base surface (including the intaglio/tissue) per laboratory preference.

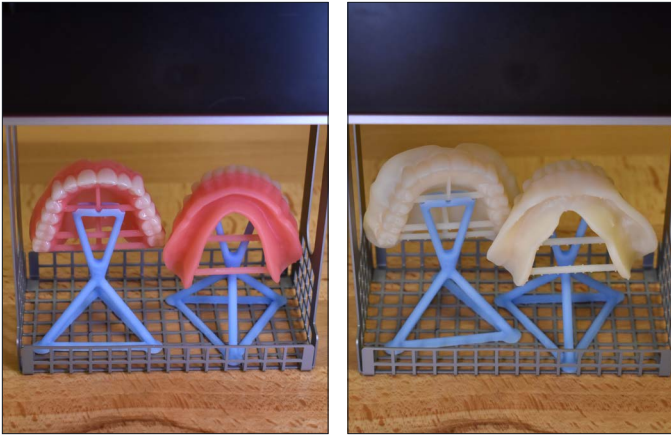
The appliance is now ready to cure.



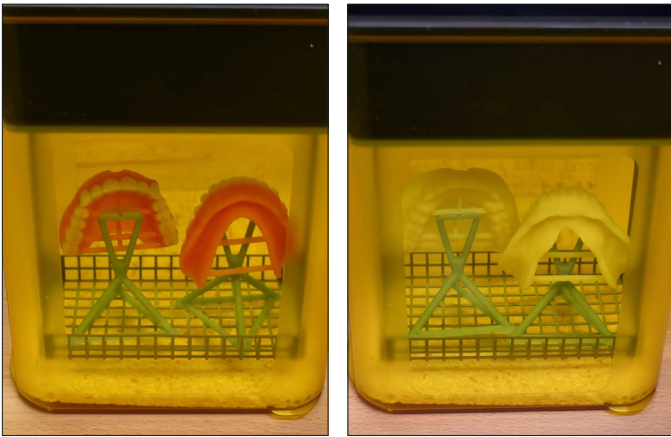
The printed denture bases or try-in devices need to be placed on a denture holder during the curing process in the individual curing carrier. The denture holder has to be printed using Primeprint Model T (REF 6740224), which can be ordered from your dealer. To print the denture holder, the stl file is available for download at dentsplysirona.com and can be imported into the inLab CAM Software.

► [Printable lab denture holder design file for Primeprint](#)

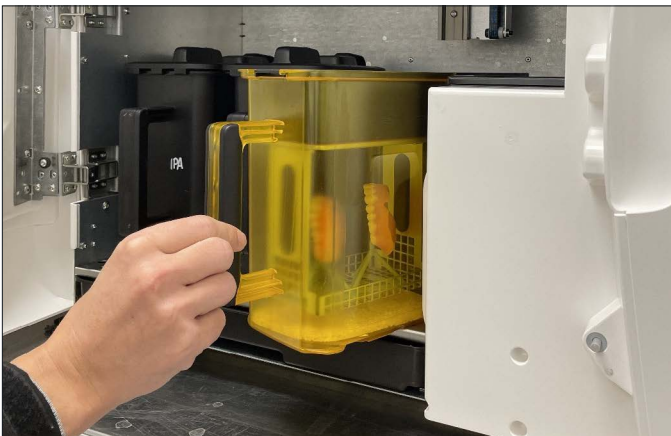
5.0 Cure



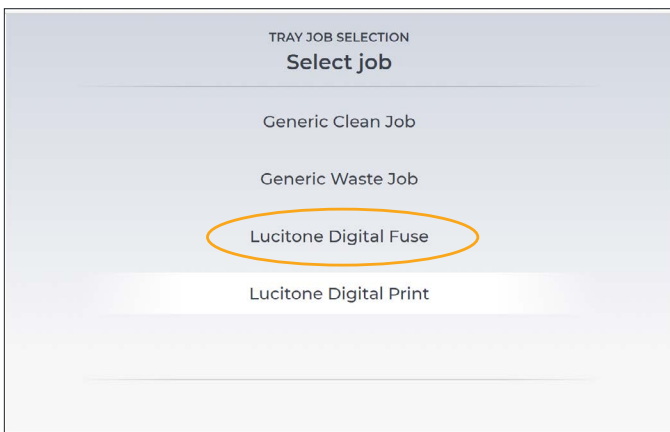
After denture base and denture teeth have been fused, place one denture on one denture holder. The smaller T-bar is balanced on the denture holder. The second T-bar is leaning against the denture holder. This is done accordingly for the manufacturing of try-ins.



Place a maximum of two arches on the denture holder in the individual curing carrier. Place as shown in the picture.



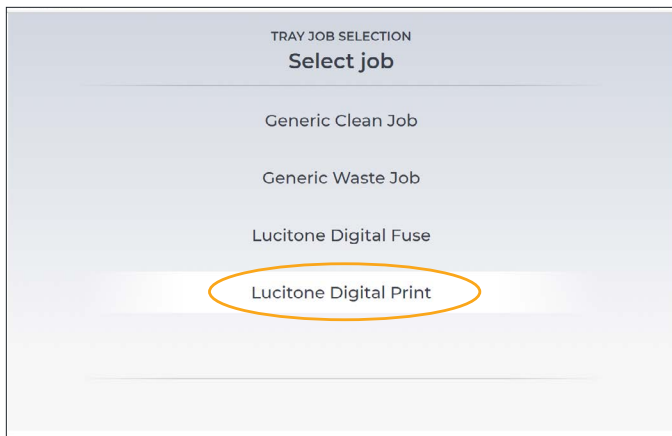
Load Primeprint PPU with the individual curing carrier and open the nitrogen bottle.



Close the door of the PPU. Select "Lucitone Digital Fuse" to tack cure Fuse 3 Total sealer.

Fuse 3 Total is fast curing sealer that provides an integral chemical bonding and a smooth surface connection to the printed denture teeth and the base.

NOTE: "Lucitone Digital Fuse" tack cure will not be needed for Try-Ins since they do not require Fuse 3 Total sealer.



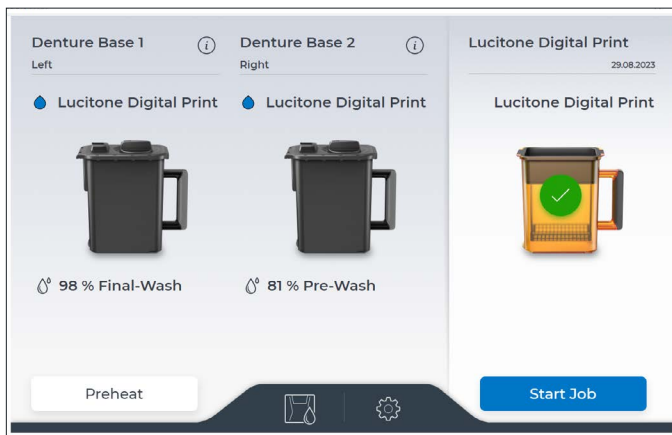
After the tack cure cycle is finished.

Select proper final job.

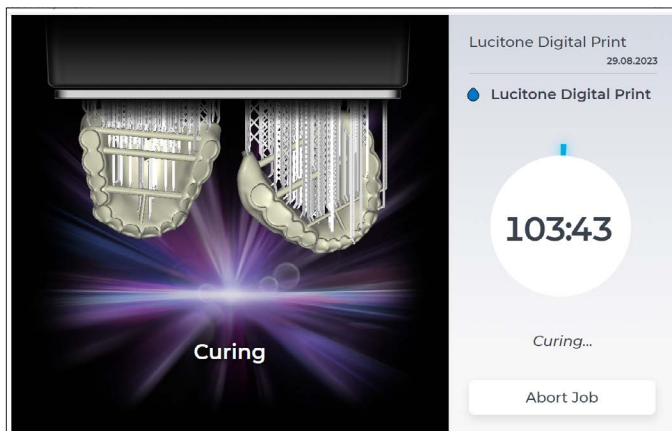
NOTE: Illustration may vary from your PPU screen, always select Lucitone Digital Print (or custom job name set in the inLab CAM software) for the final cure of your assembled denture.

All jobs will remain in the PPU for a period of 72 hours.

Release of the build platform - The build platform on which parts were printed is only officially released after the completion of the curing cycle and declared as clean.

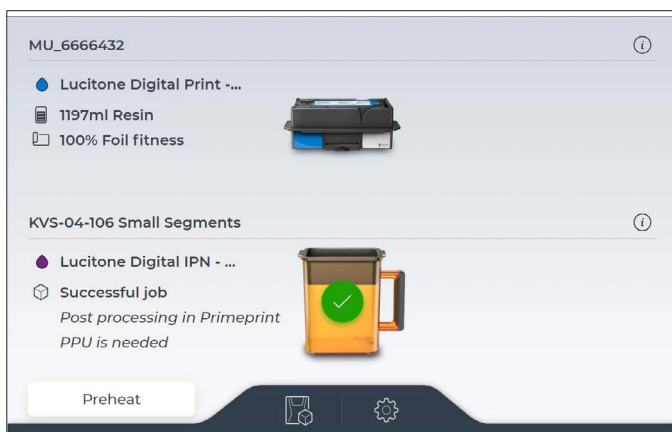


Start the Curing Process on the screen of the device.

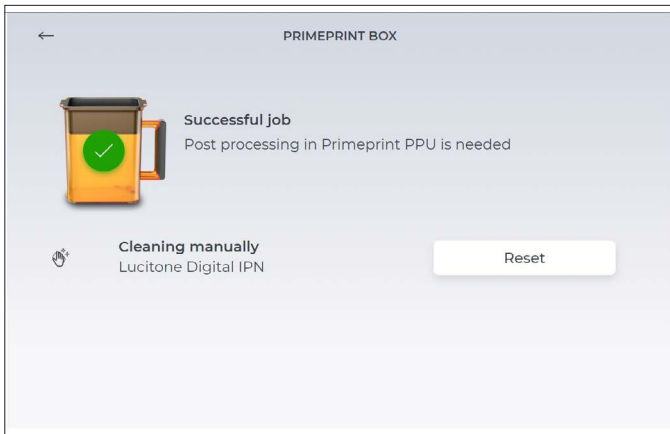


Primeprint PPU will start the curing process and show a timer until the curing is completed.

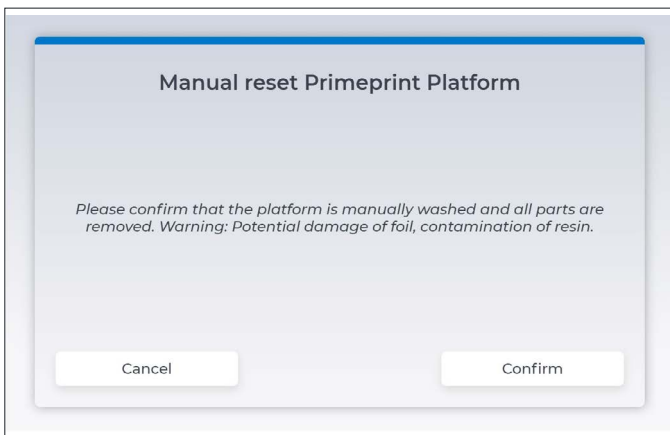
IMPORTANT: Cured dental appliances must cool prior to handling to avoid deformation. To ensure safe handling, parts should be cooled in the individual curing carrier for 15 minutes. Individual curing carrier may be left inside or removed from PPU for this cooling step.



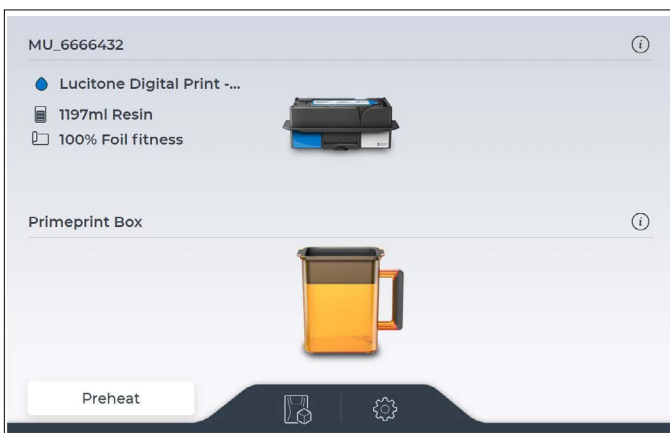
The building platform is only reset after a successful curing step. Since the customer usually only uses the curing of Denture or IPN, if there are two building platforms, only one is reset. The building platform is displayed with a green tick and needs to be reset manually before the next printing process can be started.



By clicking the 'reset' button in the Primeprint Box menu the status of the building platform can be reset.



After the manual reset the Primeprint Box can be used for printing again.



It has to be confirmed that the building platform has been cleaned manually.

6.0 Finish

CAUTION:

- Use proper ventilation and personal protective equipment when grinding appliances.
- Do not steam clean Lucitone Digital Print Denture appliances.



Remove bar supports using a cut-off disc or similar tool. Grind away any remaining support structure.

Manually remove any supports on the intaglio/tissue surface.



Finish, festoon, stipple, and polish as desired.

IMPORTANT: Avoid extensive polishing for dentures designed with the Dentsply Sirona Highly Characterized Denture Tooth Libraries to preserve the premium features and characterization.



Lucitone Digital Value
Try-In Appliance



Lucitone Digital IPN Denture
Premium Esthetics using Digital
HC Genios Tooth Library
(gingiva stippling and festooning)



Lucitone Digital IPN Denture
Standard Esthetics using
Digital Portrait Tooth Library

Specific indications, contraindications, warnings, precautions and safety information exist for these products. Please consult a clinician and product Instructions for Use prior to application. Rx only.

Dentsply Sirona | 800-243-1942 | dentsplysirona.com
DP-0000636 Rev. 2025-07