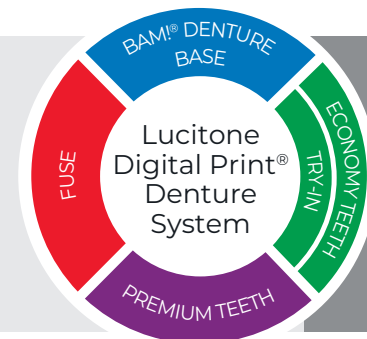


Illustrated Technique Guide

Print to Finish for Asiga MAX™ UV, Asiga MAX™ 2,
Asiga PRO 4K™ and Asiga Ultra Printers



Technical Support
800-243-1942
ext. 54212



dsdigitaldentures@
dentsplysirona.com

Contents

1. Print
2. Recycle
3. Clean
4. Fuse
5. Cure
6. Finish

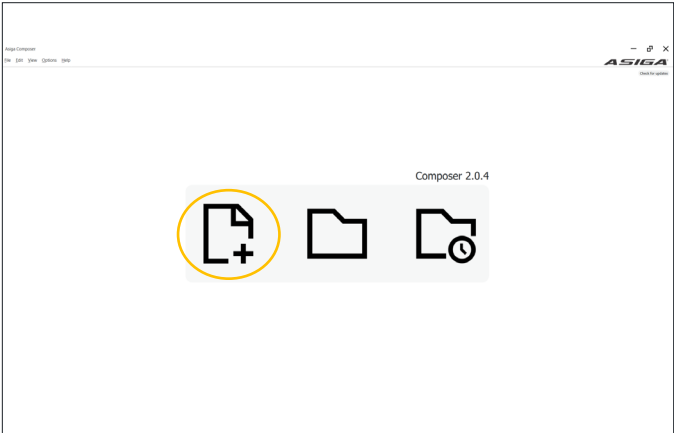
1.0 Print

1.1 Denture Base and Try-In Support Strategy

• Refer to 1.2 for Denture Teeth Support Strategy

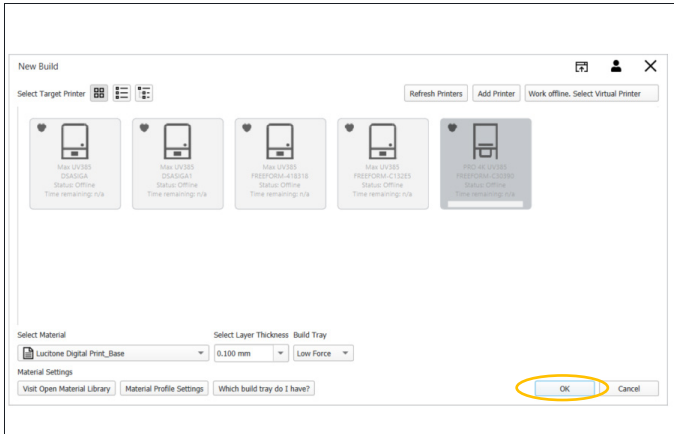
CAUTION:

- Instructions and parameters are applicable to Lucitone Digital Print Denture System materials only.
- Design Requirements: ensure all mandibular and maxillary files include three (3) support bars and one (1) T-Bar on the lingual side of the denture. See the Digital Denture Design in 3Shape Illustrated Technique Guide for instructions.
- Designate a separate tray for each material type (e.g., one tray for Lucitone Digital Print and a separate tray for Lucitone Digital Value). Do not mix materials and trays.
- Refer to the printer manufacturer’s Instructions for Use/User Guide for complete printer information.



Open Asiga® Composer. [1]

- To start a new build, select the plus folder icon.
- To open a previous build, select the middle folder icon.



Select the printer from the "Target Printer" list. Next, select the applicable "Material" and then the "Slice Thickness":

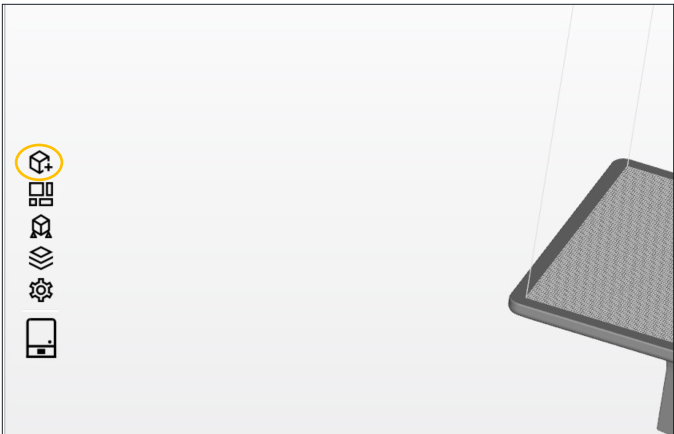
Denture Base

Material Selection	Lucitone Digital Print_Base
Slice Thickness	0.100 mm

Try-In

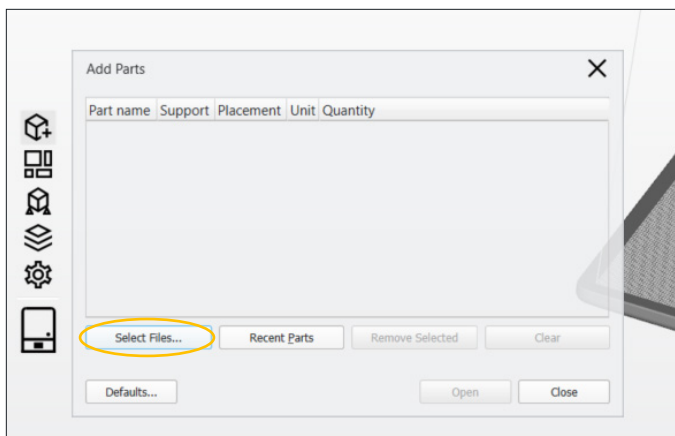
Material Selection	Lucitone Digital Value_Try-In
Slice Thickness	0.100 mm

Select "OK."

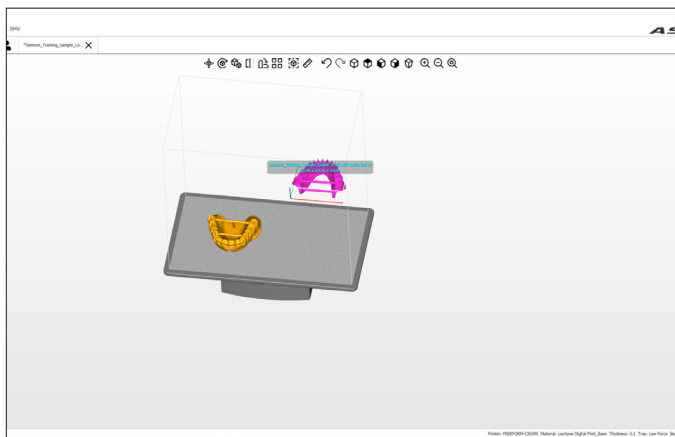


- Add parts using one of the following methods:
- Select "File" then "Add Parts..."
 - Select the "Add Parts" icon from the toolbar
 - Drag and drop .stl files from any folder location into the composer program

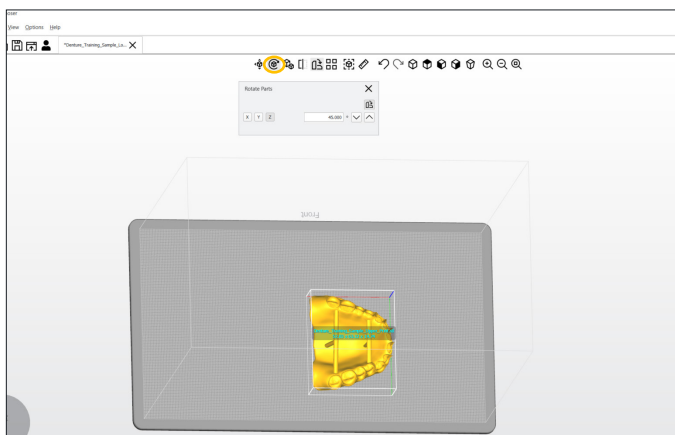
NOTE: Multiple files can be added at one time.



Once the “Add Parts” pop-up window opens, select “Select Files” and browse for the denture base/try-in .stl file location. Select the file(s) and then select “Open.”



As shown, parts inside the printable print envelope are yellow and parts outside the printable print envelope are magenta/pink.



There are two orientation options for denture bases/try-ins.

NOTE: When fabricating denture bases for use with IPN 3D Digital Denture Teeth (pre-manufactured teeth) use Orientation Option 2: Posterior Placement only.

Select rotate parts icon in top tool bar.

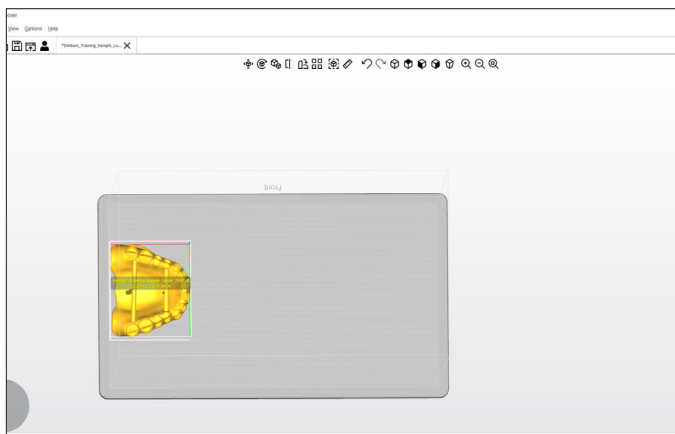
Orientation Option 1: Anterior Placement

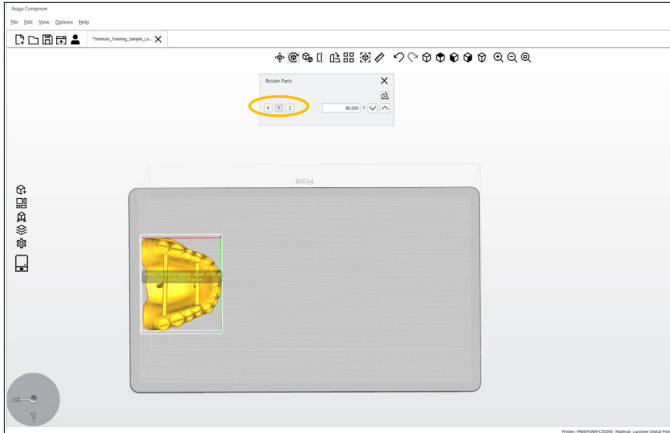
Orient the denture base/try-in with the anterior facing towards the platform edge.

For the Ultra, only posterior facing towards the build platform, no anterior option.

Orientation Option 2: Posterior Placement

Orient the denture base/try-in with the posterior facing towards the platform edge.



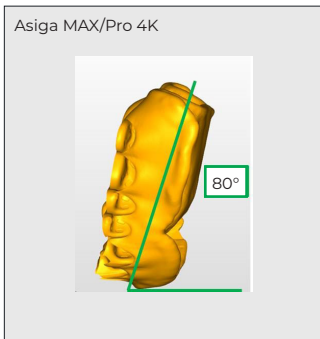


Select the denture base/try-in for orientation. In the “Rotate Parts Panel” select the appropriate “Rotate:” axis to orient the part as shown in the next illustrations. Replace the 45° increment with **70° or 80° depending on printer**.

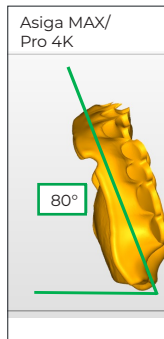
Select an arrow to rotate the denture base/try-in.

- Asiga MAX/Pro 4K: 80° (either anterior or posterior orientation)
- Asiga Ultra and Asiga MAX 2: 70° (posterior orientation only)

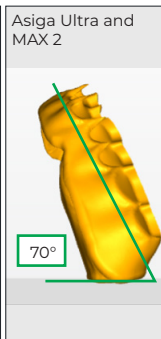
If the part rotates the wrong way select the opposite arrow twice (first to re-orient back to the original position, second to rotate 70° or 80° depending on printer in the correct direction).



Anterior Orientation



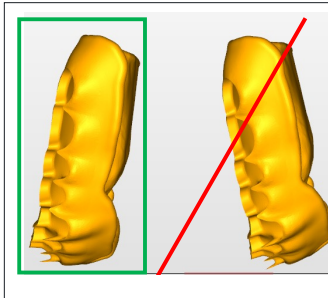
Posterior Orientation



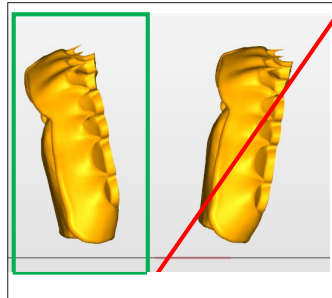
The orientation should appear as shown.

Repeat all steps for additional denture bases/try-ins to orient all parts.

- Asiga MAX/Pro 4K: 80° (either anterior or posterior orientation)
- Asiga Ultra and Asiga MAX 2: 70° (posterior orientation only)



Anterior Orientation



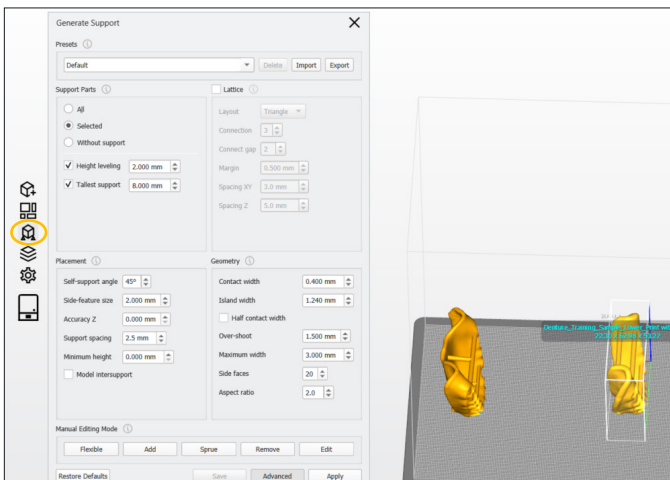
Posterior Orientation

Ensure correct positioning, as shown:

Green box = correct placement

Red line = incorrect placement

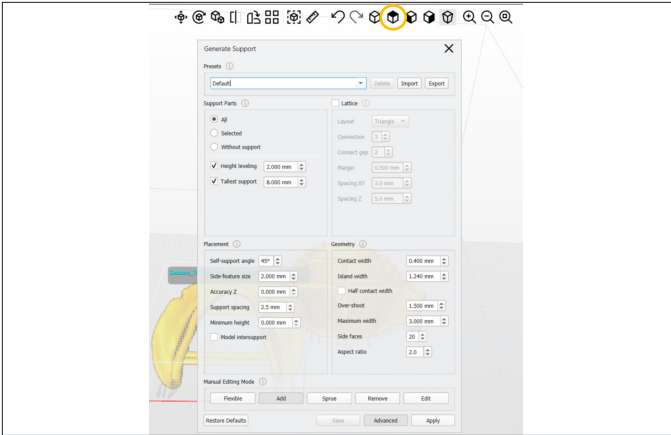
Select the “Generate Support” icon from the left toolbar. If needed, select “Advanced” for the Generate Support pop-up box to open and auto generate parameters:



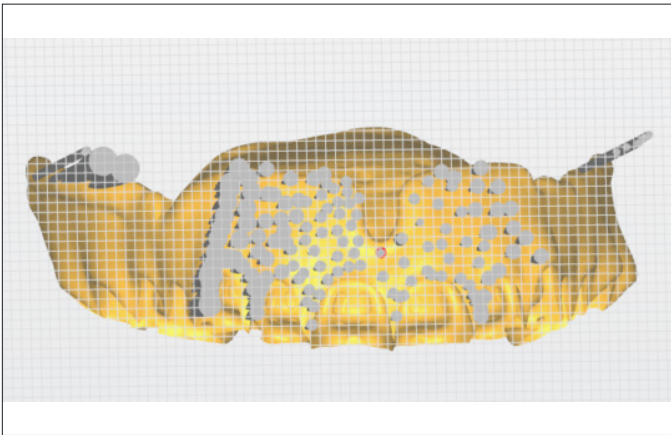
Support Setting	MAX/Pro 4K		Ultra/Ultra 32		MAX 2	
	LDP	LDV	LDP	LDV	LDP	LDV
Height leveling	2.0 mm	2.0 mm	2.0 mm	2.0 mm	2.0 mm	2.0 mm
Tallest support	8.0 mm	8.0 mm	8.0 mm	8.0 mm	8.0 mm	8.0 mm
Side-feature size	2.0 mm	2.0 mm				
Accuracy Z	0.00 mm	0.00 mm				
Self-support angle	45°	45°	45°	45°	45°	45°
Support spacing	2.5 mm	2.5 mm	2.5 mm	2.5 mm	2.3 mm	2.3 mm
Contact width	0.4 mm	0.4 mm	0.55 mm	0.55 mm	0.7 mm	0.7 mm
Island width	1.24 mm	1.24 mm	1.1 mm	1.1 mm	1.1 mm	1.1 mm
Over-shoot	1.5 mm	1.5 mm	1.5 mm	1.5 mm	1.5 mm	1.5 mm
Maximum width	3.0 mm	3.0 mm	2.5 mm	2.5 mm	2.3 mm	2.3 mm
Aspect ratio	2.0	2.0	2.0	2.0	2.0	2.0

Select “All” to add supports to all parts or select “Selected” to add supports to an individual part. **NOTE:** When selecting “All,” the new supports will replace the existing supports.

Select “Apply.” Do not close the Generate Support menu.

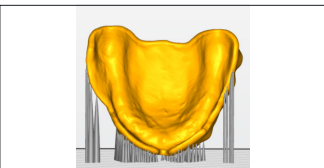


Add additional supports to the denture base/try-in: First, orient the view to the bottom view by selecting the top-view icon twice.

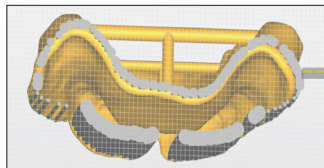


In the “Generate Support” pop-up box, select “Add” to add additional supports.

NOTE: “Apply” is not functional in the “Add” or “Remove” mode.

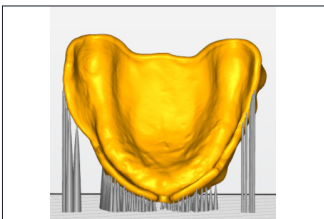


Anterior Orientation

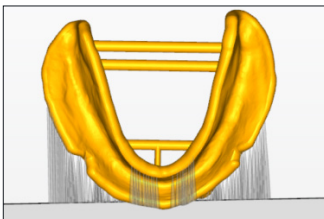


Posterior Orientation

Ensure there is sufficient support along the entire peripheral border to support the tallest portion of the denture base/try-in.

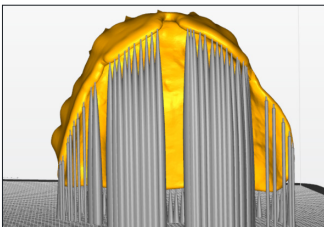


Anterior Orientation

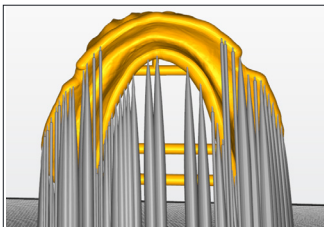


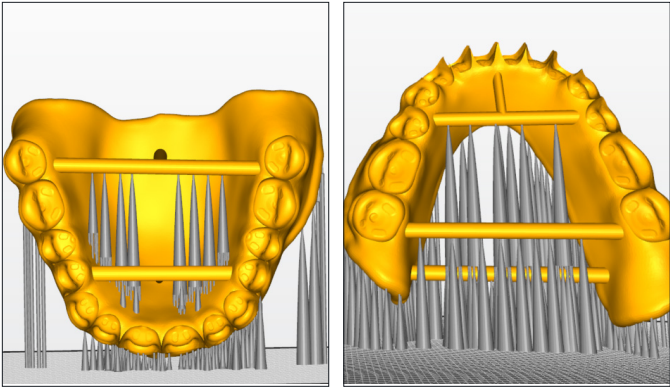
Add supports around the peripheral border of the lingual intaglio side. **NOTE:** The “Clipping” tool (located at the bottom right of the screen) will aid in better visualization during the addition/subtraction of printing supports.

IMPORTANT: Ensure that the denture bases do not breakthrough the tooth pockets. If there is breakthrough, remove and reposition the supports, or do not add supports in that specific area.



Posterior Orientation



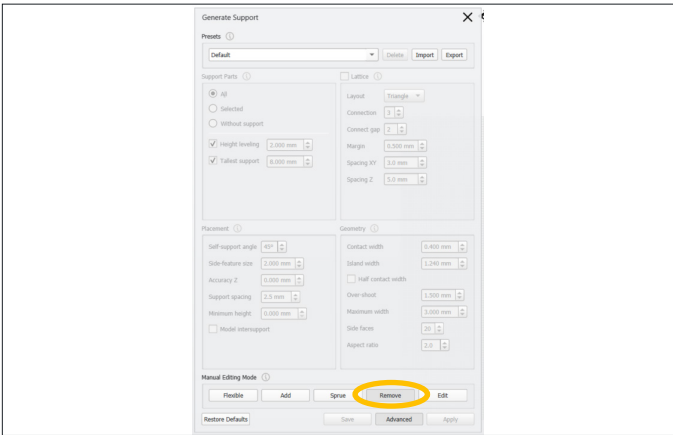


Anterior Orientation

Posterior Orientation

Add additional support to both the **T-Bars** and the **mandibular support bars** for each denture base/try-in.

Determine the support quantity by the final appliance size:
 Small = 2-3
 Medium = 4-6
 Large = 6-8



Anterior Orientation

Select "Remove" to remove all supports from the tooth pockets/ breakthrough (denture bases) and thin structures (dentures bases/try-ins) that may deform during removal. Rotate the build envelope to identify all supports that require removal. After all supports are complete, the job is ready for printing.

Posterior Orientation

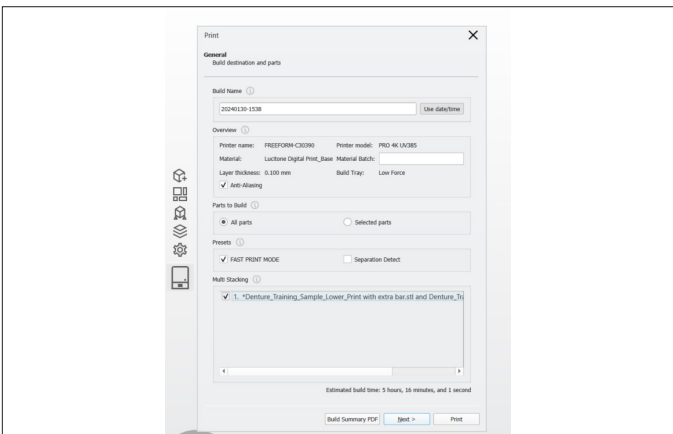
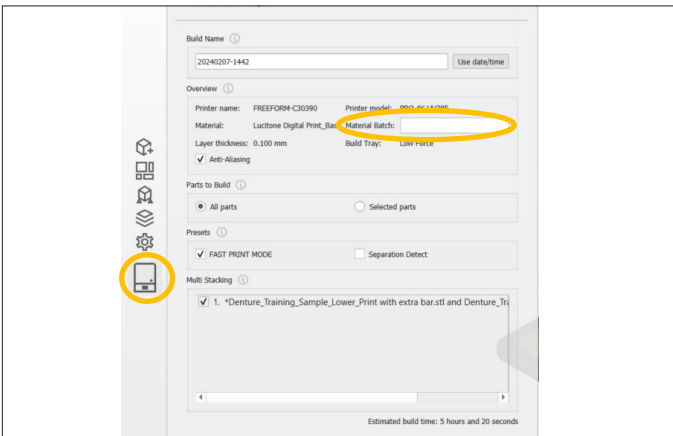
Ensure proper support on the peripheral borders. Select "Remove" to remove any unwanted supports placed on tissue surfaces. Rotate the build envelope to identify all supports that require removal. In some cases of ridge collapse, the tissue/ intaglio surfaces will require supports. Manual removal of these supports will take place after the print is complete. Repeat previous instructions to manually add supports, as necessary. After all supports are complete, the job is ready for printing.

Select "Print" icon from the left toolbar.

On the "General" page:

- Enter "Build Name", which may be a case pan number or another unique case/laboratory identifier
- Enter "Material Batch" (or material lot number) and shade (optional)

An Estimated build time will appear.



Under General, confirm the selection of the following:

	MAX/MAX 2/Pro 4K *for all Lucitone denture base and try-in resins	Ultra *for all Lucitone denture base and try-in resins
Anti-Aliasing	Yes	Yes
All Parts	Yes	Yes
Fast Print Mode	Yes	Yes
Separation Detect	No	Yes

IMPORTANT: For MAX, MAX 2 and Pro 4K, ensure "Separation Detect" is NOT selected.

Select "Next."

On the “Advanced Parameters” page, the settings will auto generate - **Do not modify the Parameters.** “Base Plate Configuration” settings are as follows:

	MAX/Pro 4K *for all resins	Ultra/MAX 2 *for all resins
Base Plate Thickness	0.4 mm	0.5 mm
Type	Shadow	Shadow
Add Baseplate to	Supported Parts Only	Supported Parts Only
Placement	Underneath	Underneath
Mesh Shape	Hexagon	Hexagon
Mesh Size	2.5 mm	2.5 mm
Mesh Width	1.0 mm	1.0 mm
Supported Parts		

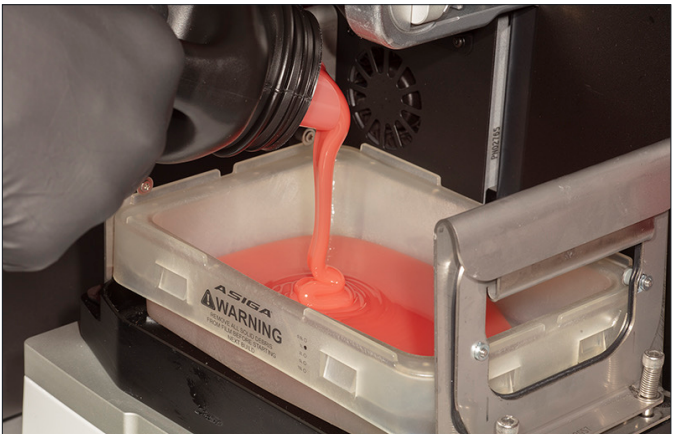
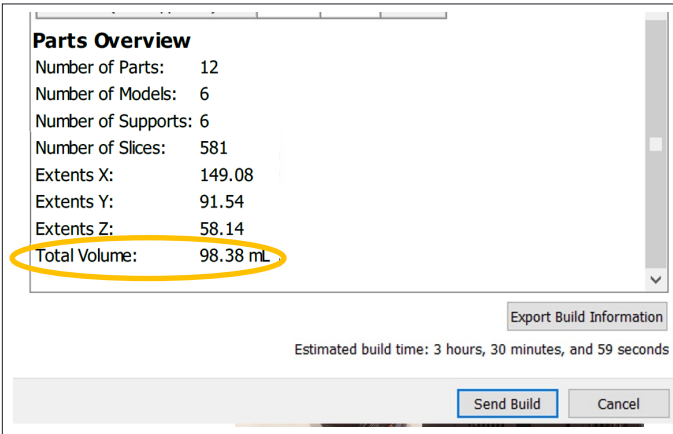
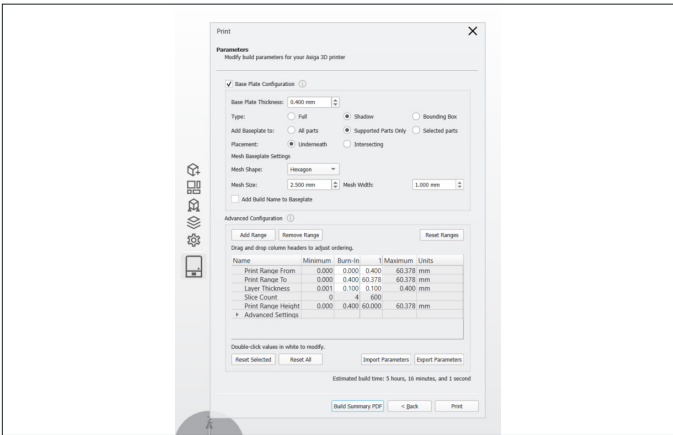
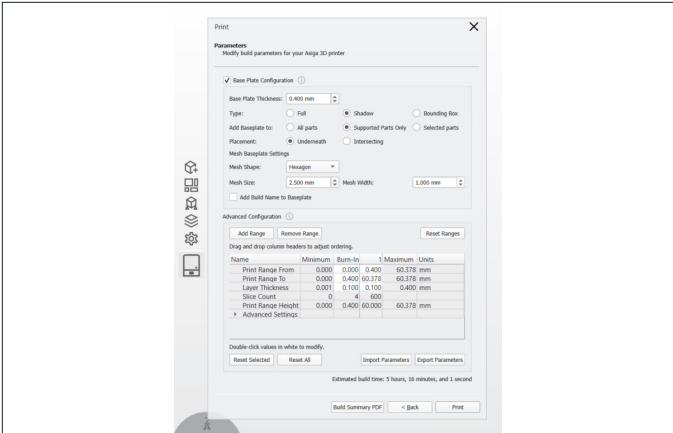
User may save the “Build Summary PDF”.

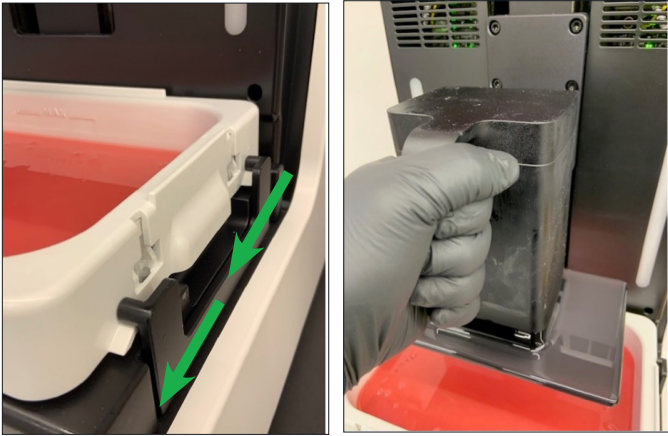
Scroll down in the Summary to find the “Total Volume” resin for the print job - this “Total Volume” reflects resin usage for the parts only. Lucitone Digital Print Denture materials require a minimum vat fill of 15mm in resin depth.

Select “Print.” The print job is now ready at the designated printer.

Select the appropriate shade of **Lucitone Digital Print Denture** denture base or try-in resin, and fill the vat with a minimum of 15mm in resin depth. Note: The ‘MAX LEVEL’ mark on build tray sticker is approximately 20mm.

CAUTION: Wear protective gloves, eye protection, and protective clothing.



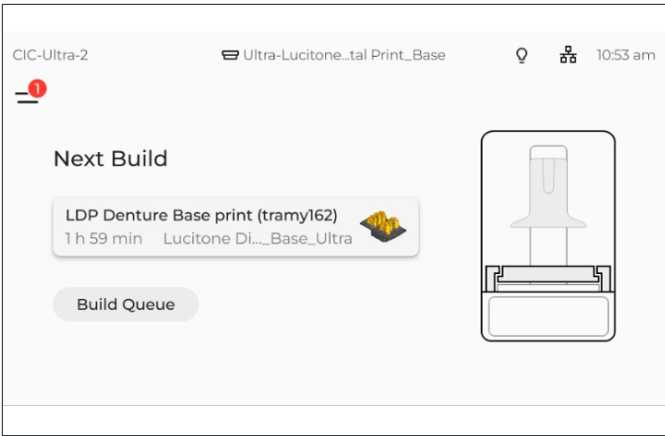


Asiga Ultra

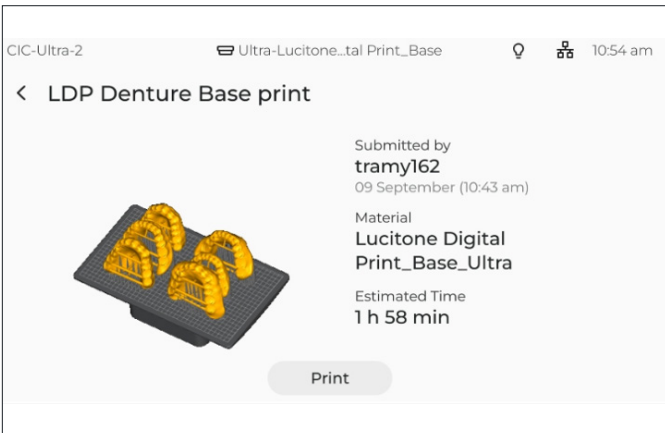
Place vat into printer making sure to secure in place by sliding both locking mechanisms forward on each side of the vat.

Fully seat build platform onto the lift arm of the printer. Platform is magnetically locked in position once print begins.

Select Next Build or from Build Queue.



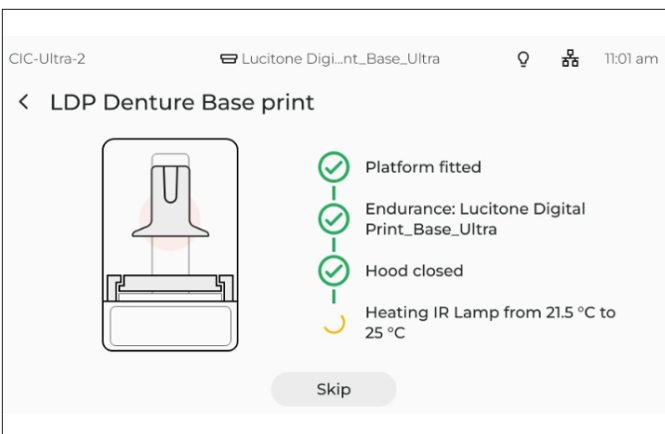
Build name, build material, and build time will be displayed. Once confirmed, select Print

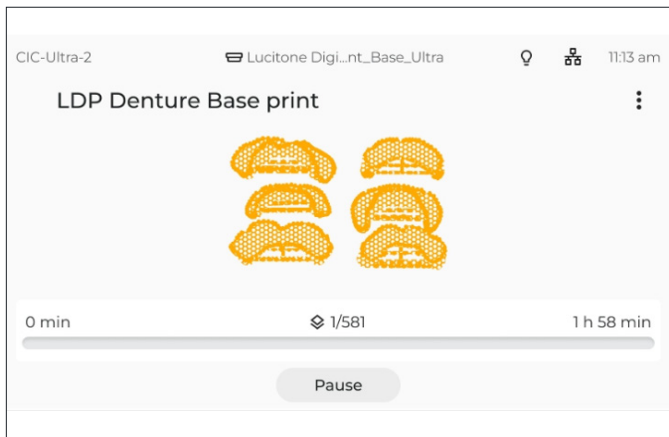


Confirm platform is properly installed and appropriate material vat is in place.

The print will begin once hood is closed.

NOTE: Do not Skip the preheat step.



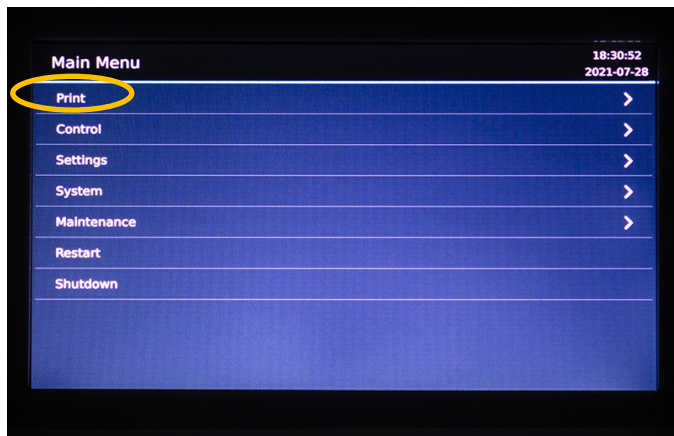


After preheat step is complete the build will begin and time remaining will be displayed.



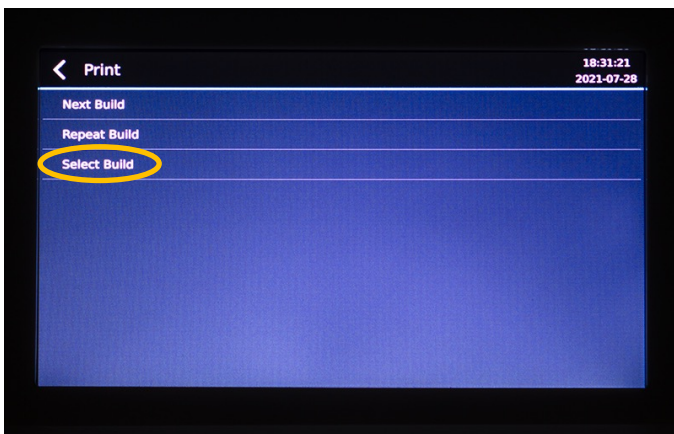
Asiga MAX/Asiga MAX 2/Pro 4K

Attach the print platform and turn the locking mechanism to secure the platform.

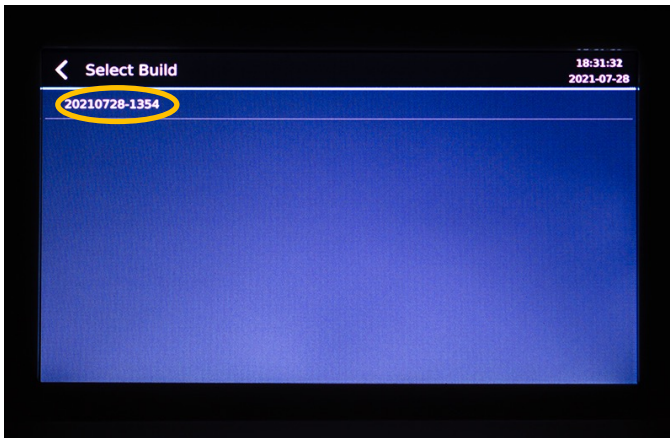


Follow the printer screen instructions:

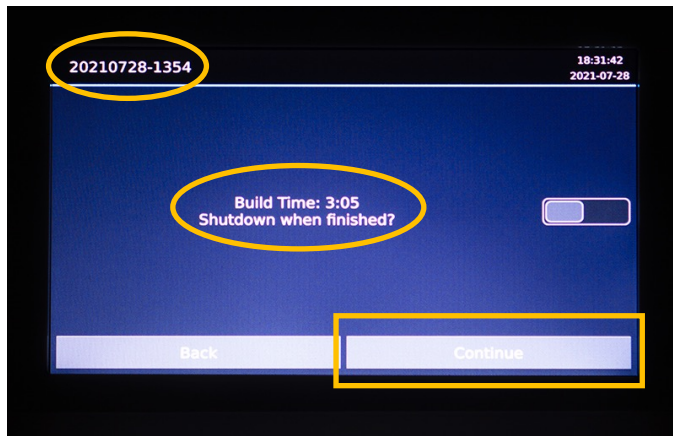
- Select "Print."



- Select "Select Build."

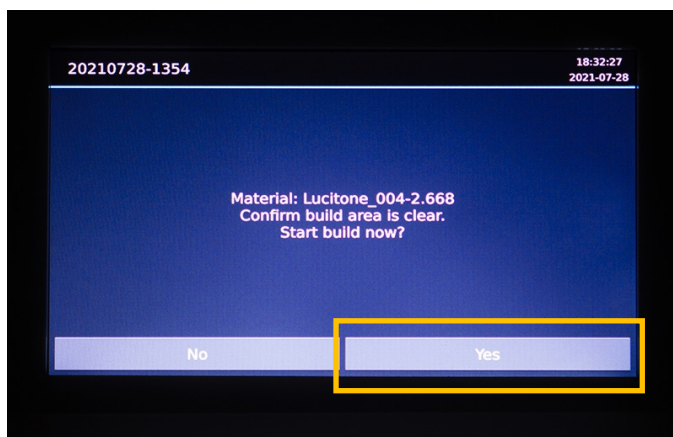


Select the print job from the display list.



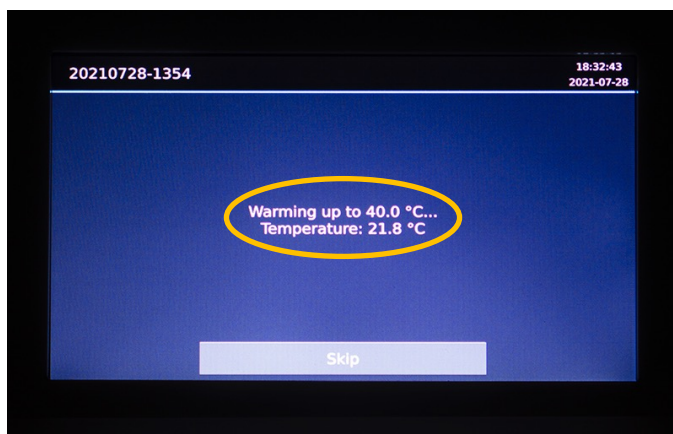
The printer display will identify the print job and estimate the print completion time.

Confirm the vat fill level is adequate for the print job and select "Continue." (Fill the vat with a minimum of 15mm in resin depth. **Note:** The 'MAX LEVEL' mark on build tray sticker is approximately 20mm.)

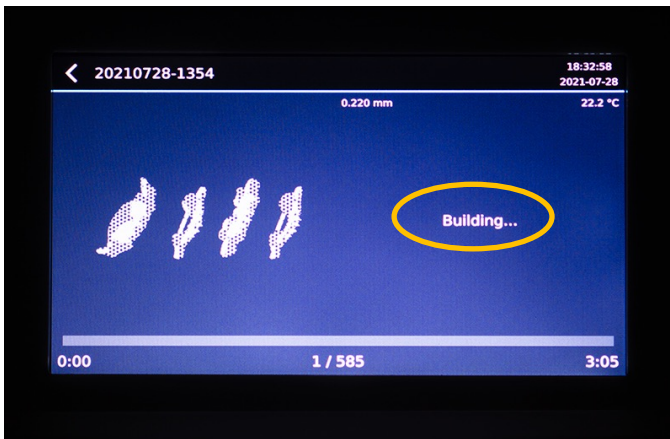


Confirm the platform/build area is clear.

Select "Yes."



Wait for the printer to warm up – Do not select "Skip."



The printer will start “Building,” and the finish time will display on the screen.



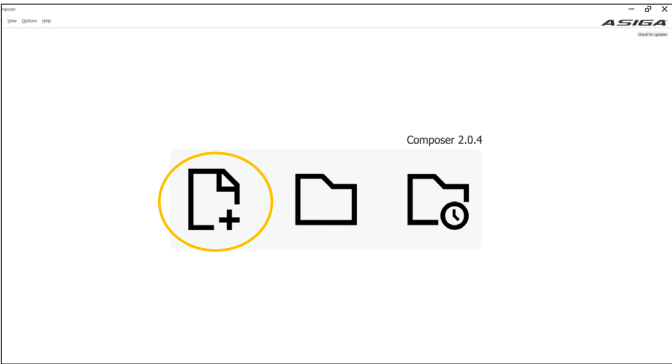
Once the print job is complete, the platform will automatically raise from the vat.

Unlock the print platform, and proceed to the Recycle and Clean Steps.

1.2 Denture Teeth Support Strategy

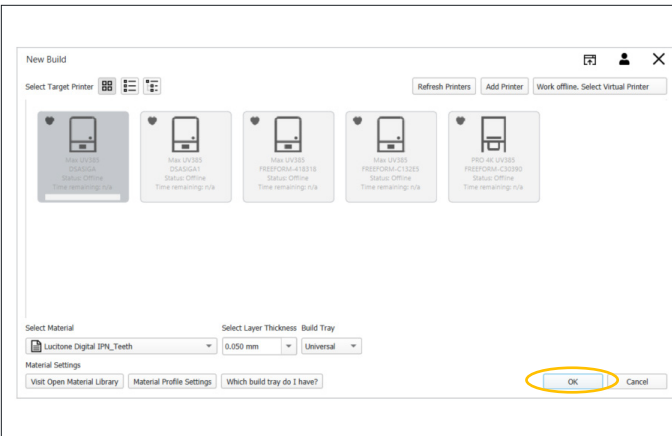
CAUTION:

- Instructions and parameters are applicable to Lucitone Digital Print Denture System products only.
- Designate a separate tray for each material type (e.g., one tray for Lucitone Digital IPN and a separate tray for Lucitone Digital Value). Do not mix material types and trays.
- Refer to the printer manufacturer's Instructions for Use/User Guide for complete printer information.



Open Asiga Composer.

- To start a new build, select the plus folder icon.
- To open a previous build, select the middle folder icon.



Select the printer from the "Target Printer" list. Next, select the applicable "Material" and then the "Slice Thickness":

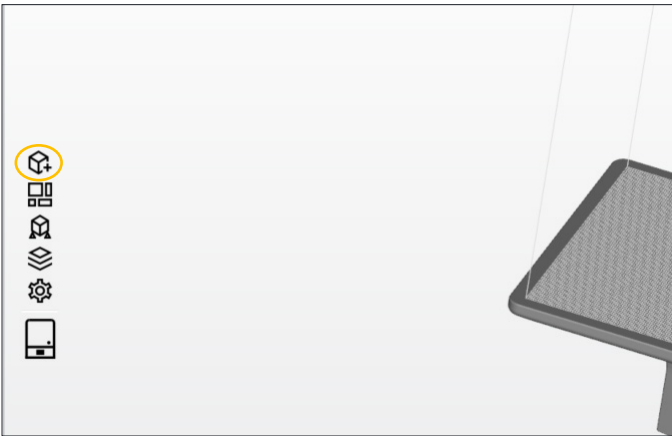
Lucitone Digital IPN	MAX UV, MAX 2 PRO 4K, ULTRA	Lucitone Digital IPN_Teeth
	Slice Thickness	0.050 mm
Lucitone Digital Value	MAX UV, MAX 2 PRO 4K, ULTRA	Lucitone Digital Value_Teeth
	Slice Thickness	0.100 mm

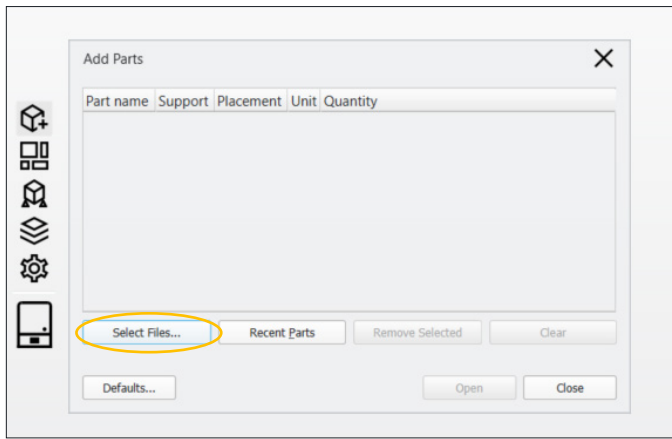
Select "OK."

Add parts using one of the following methods:

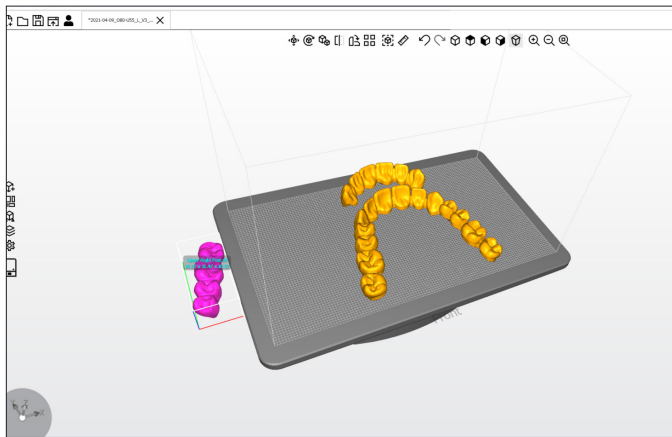
- Select "File" then "Add Parts..."
- Select the "Add Parts" icon from the toolbar
- Drag and drop .stl files from any folder location into the composer program

NOTE: Multiple files can be added at one time.

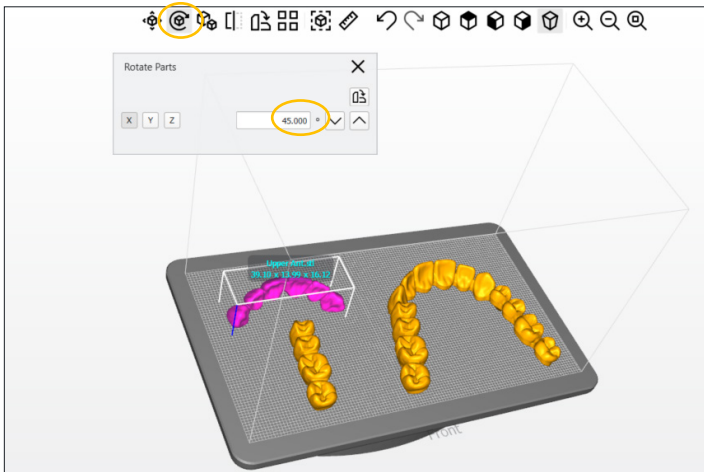




Once the “Add Parts” pop-up window opens, select “Select Files” and browse for the tooth segment/full arch .stl file location. Select the file(s) and then select “Open.”



As shown, parts inside the printable print envelope are yellow and parts outside the printable print envelope are magenta/pink.



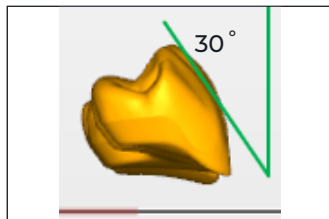
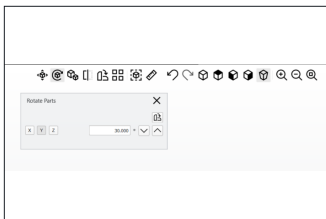
Anterior Orientation - Segment or Single Tooth

Select the anterior part(s) for orientation. Orient the part(s) so the basal (ridge-lap) surface of the teeth are facing the platform. In the "Transform Panel" select the appropriate "Rotate:" axis to orient the lingual surface of the teeth towards the platform. Confirm the 45° increment (this parameter auto generates).

Select an arrow to rotate the anterior part(s) 45°. If the part(s) rotates the wrong way select the opposite arrow twice (first to re-orient back to the original position, second to rotate 45° in the correct direction).

NOTE: Once the anterior part(s) rotates to 45° the part(s) may appear magenta/pink. The part(s) will correct at the Generate Support step.

Repeat steps to orient all anterior part(s) to 45°.

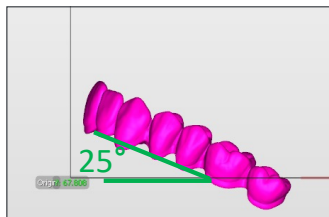
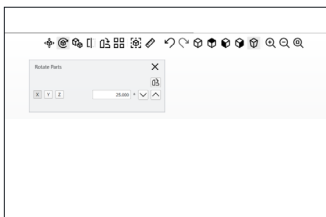


Posterior Orientation - Segment or Single Tooth

Select the posterior part(s) for orientation. Orient the part(s) so the basal (ridge-lap) surface of the teeth are facing the platform. In the "Transform Panel" select the appropriate "Rotate:" axis to orient the lingual surface of the teeth towards the platform. Replace the 45° increment with 30°.

Select an arrow to rotate the posterior part(s) 30°. If the part(s) rotates the wrong way select the opposite arrow twice (first to re-orient back to the original position, second to rotate 30° in the correct direction).

Repeat steps to orient all posterior part(s) to 30°.



Full Arch Orientation

Select the full arch for orientation. Orient the arch so the basal (ridge-lap) surface of the teeth are facing the platform. In the "Transform Panel" select the appropriate "Rotate:" axis to orient the lingual surface of the teeth towards the platform. Replace the 45° increment with 25°.

Select an arrow to rotate the full arch 25°. If the part rotates the wrong way select the opposite arrow twice (first to re-orient back to the original position, second to rotate 25° in the correct direction).

NOTE: Once the full arch rotates to 25° the part may appear magenta/pink. The part(s) will correct at the Generate Support step.

Repeat steps to orient all full arches to 25°.

Generate Support: Lucitone Digital IPN (LDI) / Lucitone Digital Value (LDV)

Select “Generate Support” from the left toolbar. The Generate Support pop-up box will open and auto generate parameters:

Support Setting	MAX/Pro 4K		Ultra		MAX 2	
	LDI	LDV	LDI	LDV	LDI	LDV
Height leveling	2.0 mm	2.0 mm	2.0 mm	2.0 mm	2.0 mm	2.0 mm
Self-support angle	45°	45°	45°	45°	45°	45°
Support spacing	3.0 mm	2.0 mm	3.0 mm	2.4 mm	2.6 mm	2.4 mm
Contact width	0.3 mm	0.4 mm	0.4 mm	0.5 mm	0.5 mm	0.5 mm
Island width	0.8 mm	0.7 mm	0.8 mm	0.8 mm	0.7 mm	0.7 mm
Over-shoot	1.5 mm	1.5 mm	1.5 mm	1.5 mm	1.5 mm	1.5 mm
Maximum width	2.0 mm	1.5 mm	2.0 mm	2.0 mm	1.8 mm	2.0 mm
Aspect ratio	2.0	2.0	2.0	2.0	2.0	2.0

Select “All” to add supports to all parts or select “Selected” to add supports to an individual part. **NOTE:** When selecting “All,” the new supports will replace the existing supports.

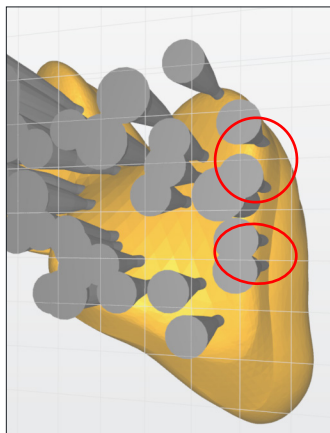
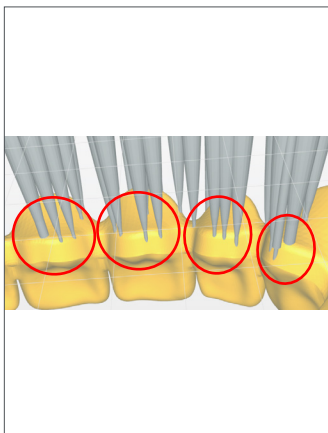
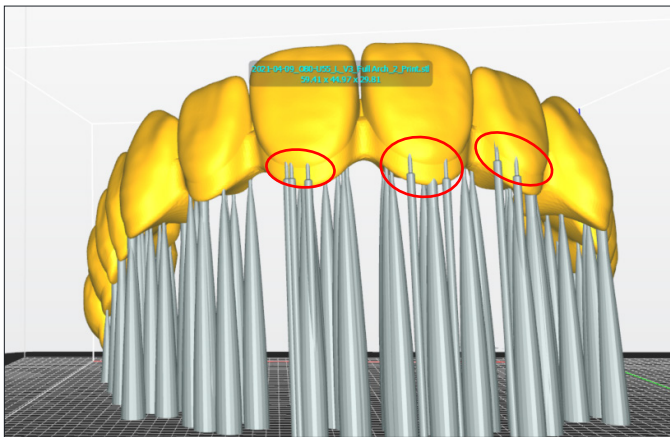
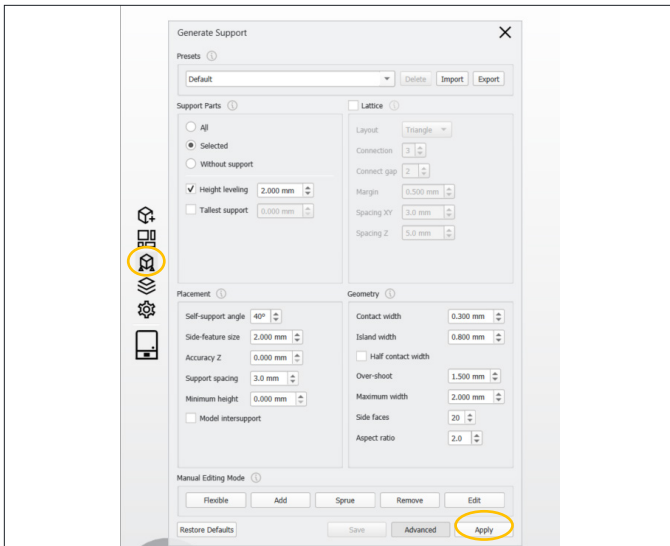
Select “Apply.” Do not close the Generate Support menu.

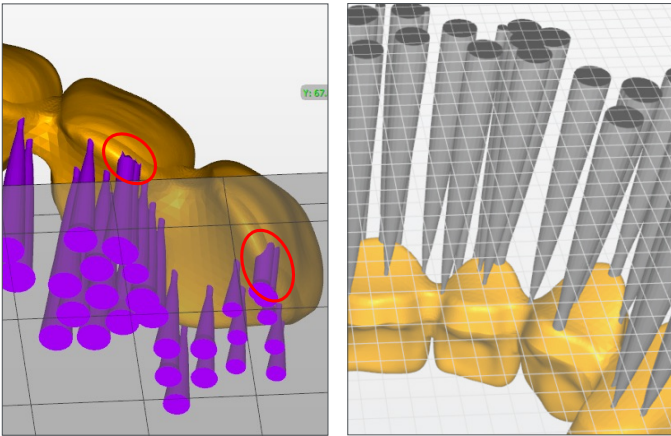
Select “Remove” to remove any supports from the facial or the cervical junction of the teeth.

Replace the removed supports using the “Add” function to add supports to the basal surface near the removal area. An adequate number of supports is critical to ensure a successful print.

Viewing the teeth from the basal side, select “Remove” to remove any supports from the cervical junction of the teeth as shown.

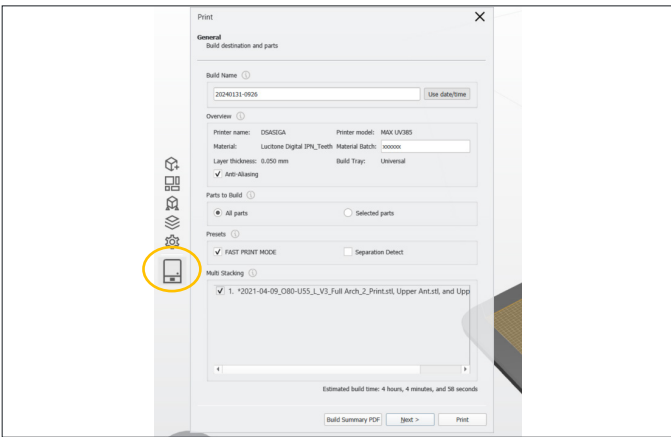
Replace the removed supports using the “Add” function to add supports to the basal surface near the removal area. An adequate number of supports is critical to ensure a successful print.





The left image shows the supports before the removal from the cervical junction of the teeth.

The right image shows the removal of the supports on/overextending the cervical junction of the teeth, and the adequate replacement of new supports with correct positioning (not on/overextending the cervical junction of the teeth).

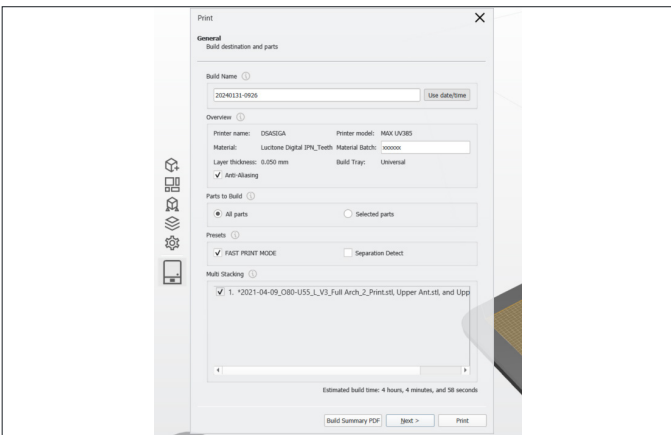


Select the “Print” icon from the toolbar.

On the “General” page:

- Enter “Build Name”, which may be a case pan number or another unique case/laboratory identifier
- Enter “Material Batch” (or material lot number) and shade (optional)

An Estimated build time will appear.

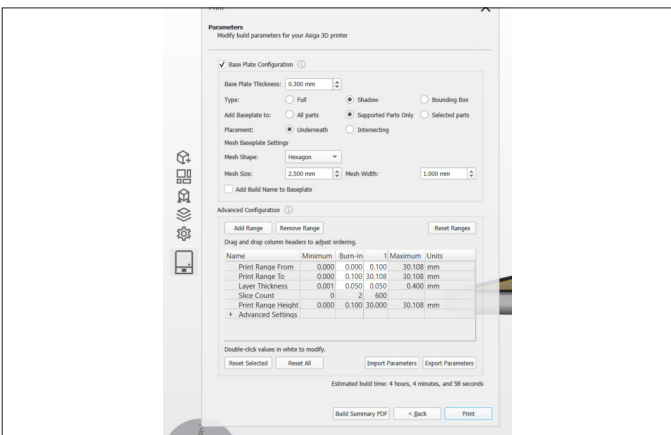


Under General, confirm the selection of the following:

	MAX/Pro 4K *for all Lucitone denture tooth resins	Ultra/MAX 2 *for all Lucitone denture tooth resins
Anti-Aliasing	Yes	Yes
All Parts	Yes	Yes
Fast Print Mode	Yes	Yes
Separation Detect	No	Yes

IMPORTANT: For MAX and Pro 4k, ensure “Separation Detect” is NOT selected.

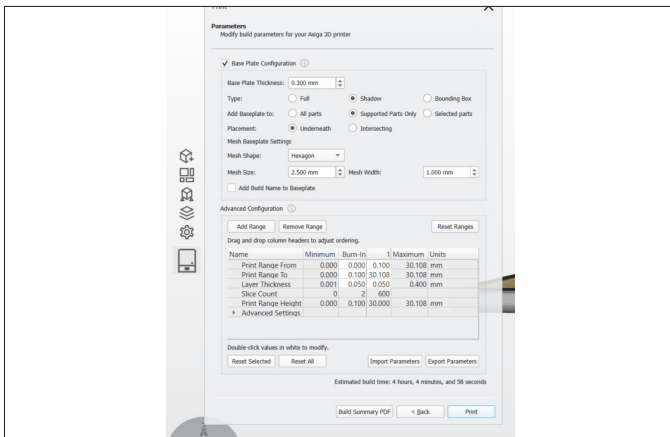
Select “Next.”



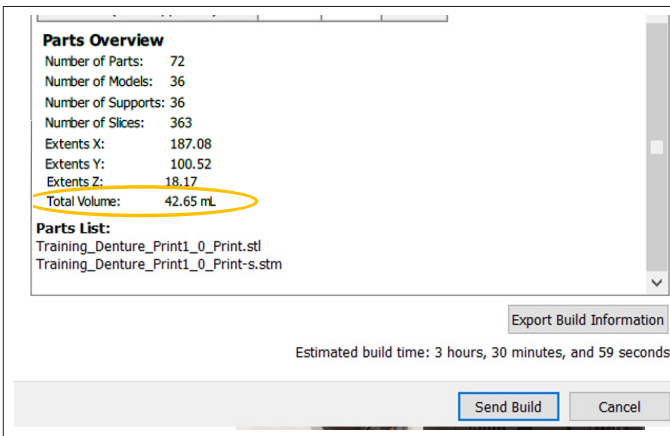
On the “Parameters” page, the settings will auto generate - **Do not modify the Parameters.** “Base Plate Configuration” settings are as follows:

	MAX/Pro 4K *for all Lucitone denture tooth resins	Ultra/MAX 2 *for all Lucitone denture tooth resins
Base Plate Thickness	0.4 mm	0.5 mm
Type	Shadow	Shadow
Add Baseplate to	Supported Parts Only	Supported Parts Only
Placement	Underneath	Underneath
Mesh Shape	Hexagon	Hexagon
Mesh Size	2.5 mm	2.5 mm
Mesh Width	1.0 mm	1.0 mm
Supported Parts		

Select “Next.”



User may save the “Build Summary PDF”.



Scroll down in the Summary to find the “Total Volume” resin for the print job - this “Total Volume” reflects resin usage for the parts only. Lucitone Digital Print Denture materials require a minimum vat fill of 15mm in resin depth.

Select “Print.” The print job is now ready at the designated printer.

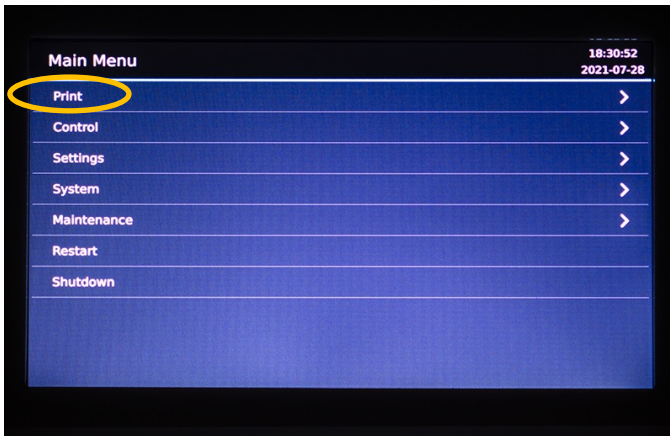


Select the appropriate shade of Lucitone Digital IPN or Lucitone Digital Value denture tooth resin, and fill the vat with a minimum of 15mm in resin depth. Note: The ‘MAX LEVEL’ mark on build tray sticker is approximately 20mm.

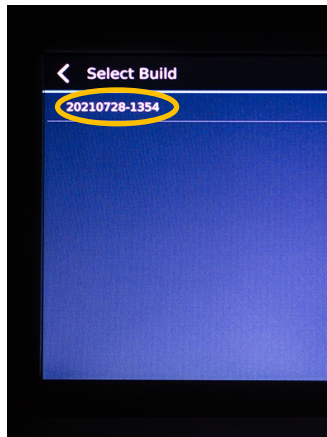
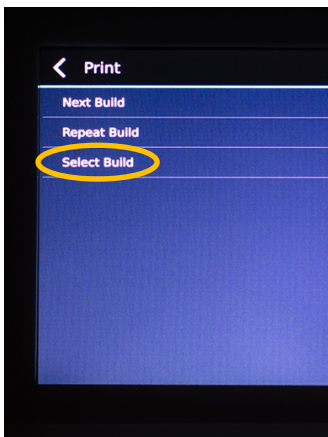
CAUTION: Wear protective gloves, eye protection, and protective clothing.



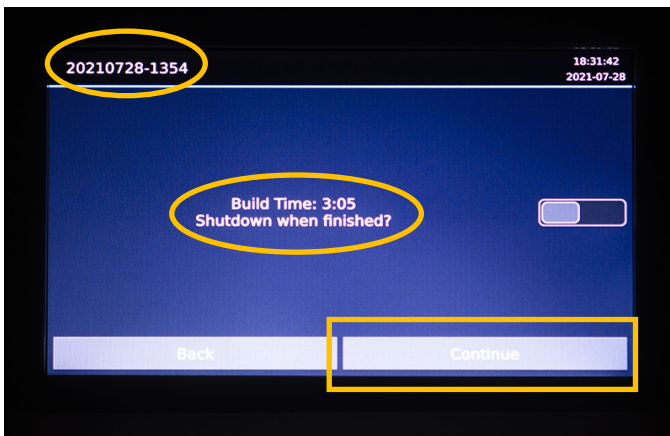
Attach the print platform and turn the locking mechanism to secure the platform.



Follow the printer screen instructions: Select "Print."

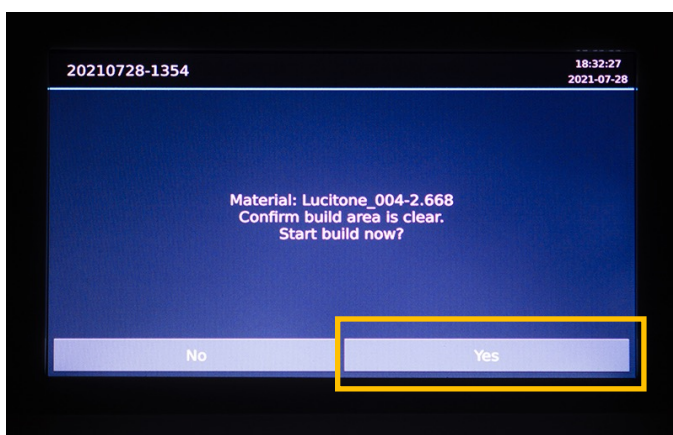


Select "Select Build" and then select the print job from the display list.



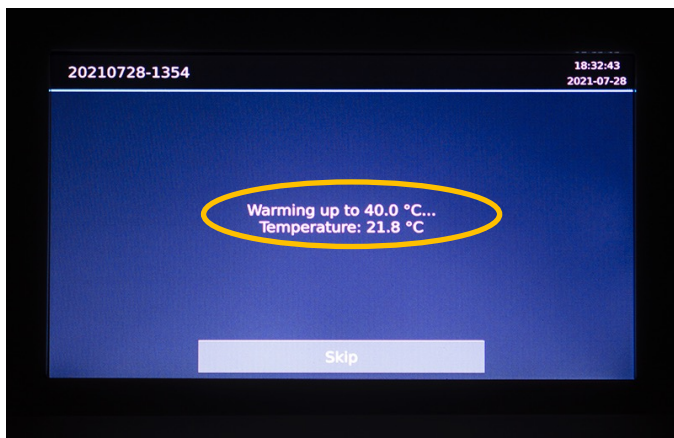
The printer display will identify the print job and estimate the print completion time.

Confirm the vat fill level is adequate for the print job and select "Continue." (Fill the vat with a minimum of 15mm in resin depth. Note: The 'MAX LEVEL' mark on build tray sticker is approximately 20mm.)

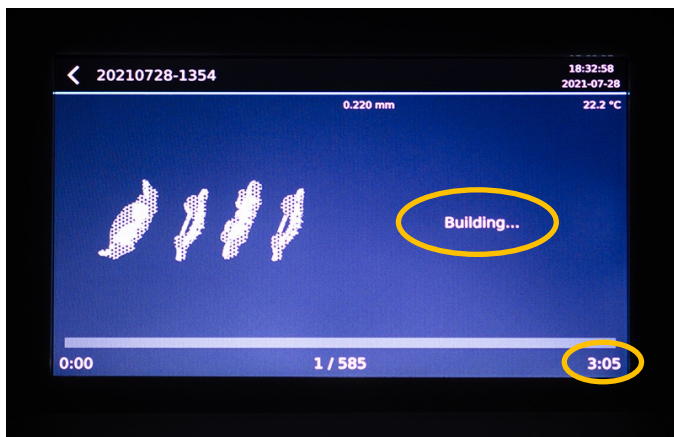


Confirm the platform/build area is clear.

Select "Yes."



Wait for the printer to warm up – Do not select “Skip.”



The printer will start “Building,” and the finish time will display on the screen.



Once the print job is complete, the platform will automatically raise from the vat.

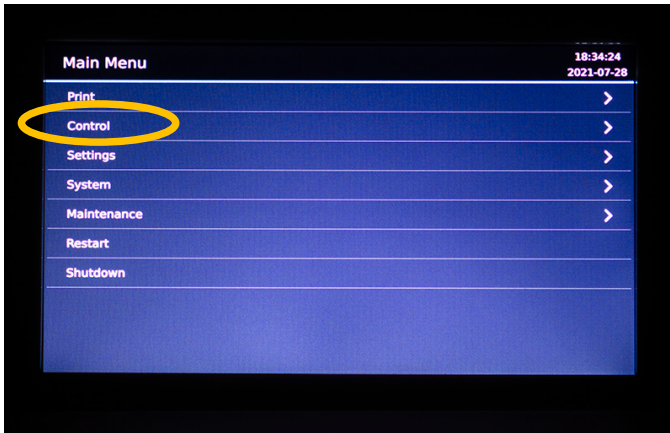
Unlock the print platform, and proceed to the Recycle and Clean Steps.

2.0 Recycle

CAUTION:

- Follow the printer manufacturer's Instructions for Use.
- Do not leave resin in the cassette/vat for an extended period of time; minimize the exposure to ambient light with resin in the cassette/vat, and pour resin back into the bottle immediately after the print job is complete.
- Do not mix resin shades.
- Wear protective gloves, eye protection, and protective clothing.

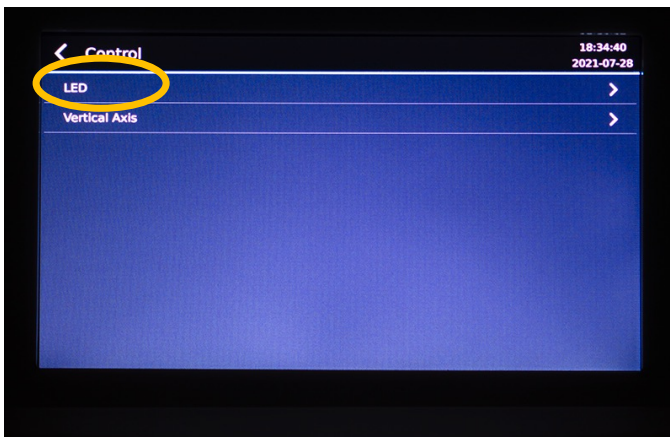
Flash Process



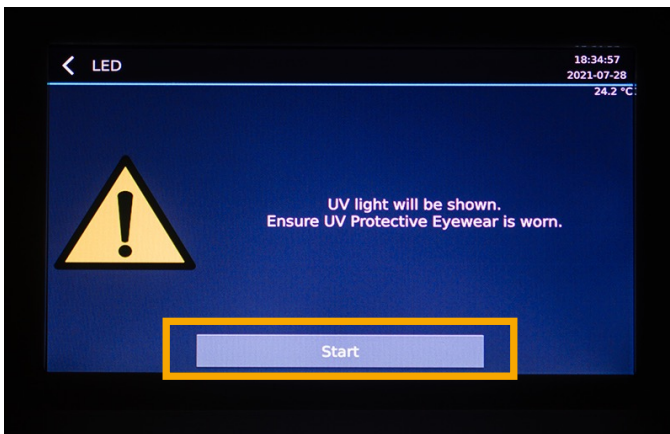
The Flash Process removes any partially-cured resin, parts or misprints from the vat.

Refer to the applicable Asiga printer model Instructions for Use for additional information.

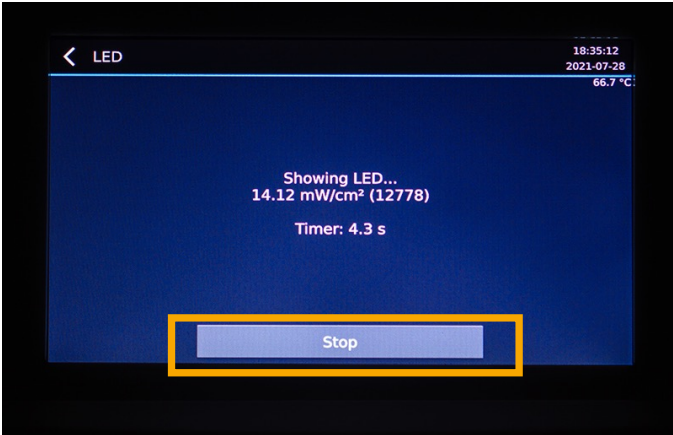
From the Main Menu, select "Control."



Select "LED."



Ensure UV protective eyewear is worn and select "Start."



The light will turn on, allow **15 seconds** before selecting “Stop.”



Remove the flashed/cured sheet. Dispose of the sheet in a hazardous materials container. The vat is now ready for the Filter Process.

Filter Process



Place a disposable paper filter in a lab stand with a metal ring. Pour the resin into the filter over the original container. Use a spatula to ensure complete resin removal from the vat.

NOTE: Reuse resins per the chart below.

Material	Recycle Timeframe
Lucitone Digital Print - 3D Denture Base	up to 3 months
Lucitone Digital Value - 3D Economy Tooth & Trial Placement	
Lucitone Digital IPN - 3D Premium Tooth	

3.0 Clean

CAUTION:

- 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.

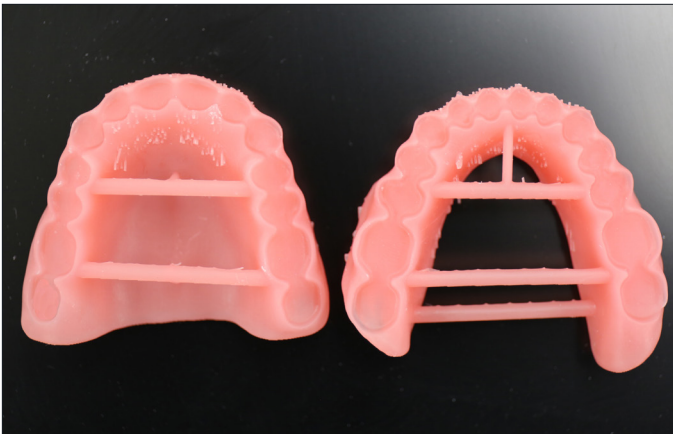


Remove the print job from the printer.

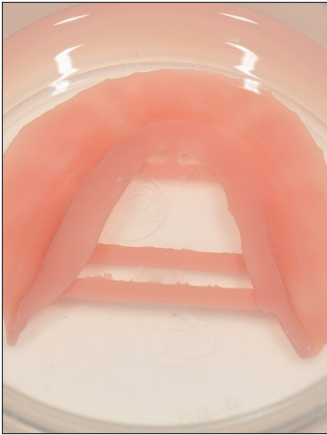
Detach the parts by hand, using moderate pressure, or use a spatula/scrapper.



Remove the support structures using hand pressure or a cutting tool. Do not remove the bar supports (denture bases/try-ins) - removal will occur after the post-cure step.



Part preparation is complete.



Place the part(s) in a plastic container. Add $\geq 99\%$ IPA to fully submerge the part(s) and then seal with the container lid.

IMPORTANT: Use new IPA for both cycles.

Cycle 1:

Place the container in an ultrasonic bath for **2 minutes**. Remove the container and clean the part(s) using a brush soaked with $\geq 99\%$ IPA to remove the residual resin. Dispose of the IPA.



Cycle 2:

Using new IPA, return the part(s) in the sealed container to the ultrasonic bath for **1 minute**. Once the cycle is complete, remove the container and check the part(s) for residual resin. Use a brush soaked with $\geq 99\%$ IPA to remove any residual resin.

IMPORTANT: Ensure removal of all residual resin.



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

Cover with a paper towel so that residual moisture can evaporate (do not place in plastic bag). Avoid sunlight.

4.0 Fuse

- For Try-In appliances, skip to 5.0 Cure

IMPORTANT: It is recommended to wait 30 minutes prior to fusing.

Fuse Process by Tooth Material - Table Summary



	Process Steps	Lucitone Digital IPN	Lucitone Digital Value	DS Multilayer PMMA	IPN 3D
4.1	Tooth Preparation for Milled Denture Teeth	Not Applicable	Not Applicable	See Tooth Preparation for Milled Denture Teeth	Not Applicable
4.2	Tooth Preparation for Printed Denture Teeth	See Tooth Preparation for Printed Denture Teeth	See Tooth Preparation for Printed Denture Teeth	Not Applicable	Not Applicable
4.3	Dry Fit	See Single Teeth or Segments/ Full Arch	See Segments/ Full Arch	See Segments/ Full Arch	See Single Teeth
4.4	Lucitone Digital Fuse Step 1 - 3D Tooth Conditioning Agent	Not Applicable	Not Applicable	See DS Multilayer PMMA	See IPN 3D
4.5	Lucitone Digital Fuse Step 2 - 3D Denture Bonding Resin	See Single Teeth, Segments or Full Arch	See Segments or Full Arch	See Segments or Full Arch	See Single Teeth
4.6	Lucitone Digital Fuse Step 3 Total - 3D Sealer	See Lucitone Digital IPN / Lucitone Digital Value	See Lucitone Digital IPN / Lucitone Digital Value	See DS Multilayer PMMA/IPN 3D	See DS Multilayer PMMA/IPN 3D

4.1 Tooth Preparation for Milled Denture Teeth

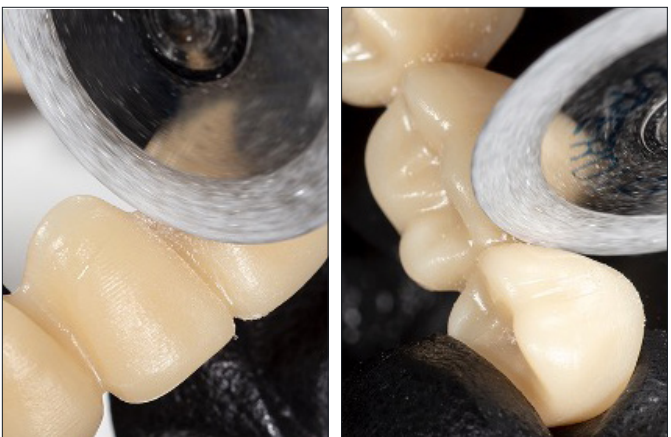
- For Printed Denture Teeth skip to 4.2



Use a carbide bur to remove the tooth segments or full arch from the disc.



Remove the sprues using a carbide bur.



Use a cutting disc to open the interproximal areas.



Shape and contour the teeth as desired.



Polish per laboratory standards.



Clean the tooth segments or full arch using an ultrasonic bath.

4.2 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.

4.3 Dry-Fit



Single Teeth (Lucitone Digital IPN and IPN 3D)

Place each tooth into the respective denture base pocket to verify fit.



Segments/Full Arch (Lucitone Digital IPN, Lucitone Digital Value and DS Multilayer PMMA)

Place the tooth segments or full arch into the denture base. Some gaps may be visible within the pockets - these gaps will be filled with Fuse Step 2 resin. (Lucitone Digital Value shown.)

4.4 Lucitone Digital Fuse Step 1 – 3D Tooth Conditioning Agent

- For Lucitone Digital IPN and Lucitone Digital Value printed teeth, skip to section 4.5

CAUTION:

- Only use validated hotplates: VWR® Hotplates (REF #906235 and 906237) and OHAUS® Guardian™ 5000 Hotplates (REF #906236 & 906238.) [2,3]
- Use proper ventilation.
- Wear protective gloves, eye protection, and protective clothing.
- Keep the metal container and the foam insert free of any solid buildup. Buildup can compromise the tooth bond strength.



VWR



OHAUS

Preheat

Plug in the hotplate and set the temperature per below.
Preheat for 10 minutes.

VWR Hotplates: Temperature setting 90°C

OHAUS Hotplates: Temperature setting 60°C



Metal Container Placement

IPN 3D

Shake the bottle and pour Step 1 into the Metal Container. Place the foam insert into the Metal Container. Use Tweezers to place the teeth into the insert holes - ridge lap down and complete submersion into the liquid. Place the lid on the container.



DS Multilayer PMMA

Shake the bottle and pour Step 1 into the Metal Container. Use Tweezers to place the tooth arch/segments into the Metal Container - ridge lap down and complete submersion into the liquid. Place the lid on the container.



VWR



OHAUS

Hotplate Warming

Place the Metal Container (inside the metal ring for VWR models only) on the hotplate until the temperature strip reaches 40°C - approximately 4-6 minutes.

IMPORTANT: Failure to reach 40°C or using higher warming temperatures to accelerate the process will compromise the tooth bond strength.



Removal and Air-dry

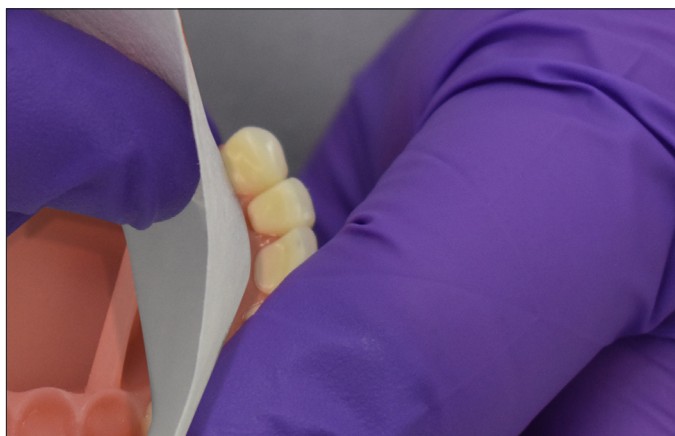
Remove the teeth (Tooth arch shown) from the Metal Container using Tweezers. Air-dry for 2 minutes. Do not wipe.

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

Single Teeth



Apply Step 2 resin to the tooth pockets two at a time avoiding adjacent pockets.



Insert teeth, 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 teeth.

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.

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.

4.6 Lucitone Digital Fuse Step 3 Total - 3D Sealer

***IMPORTANT:** When using the Dentsply Sirona Digital Cure - Large Capacity Unit for post-processing, complete the following step after the sealer application: Tack cure the sealer for one (1) minute using the UV Tack-Cure Light. Rotate the arch ensuring light exposure to all tooth surfaces for a uniform tack cure. The sealer will be slightly sticky/tacky to the touch - avoid excess handling. Following the Cure step (5.0), the appliances will be fully cured and smooth to the touch. (The one (1) minute tack-cure step is not required when using the inLab Speedcure® Processing Unit.)



Lucitone Digital IPN / Lucitone Digital Value

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: 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.*



DS Multilayer PMMA/IPN 3D

Lucitone Digital Fuse Step 3 - Total
Apply a thin layer of Total sealer to the entire tooth structures, including the cervicals, using a flocked applicator tip. Optional: 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.*

5.0 Cure

5.1 CURE UNIT OPTION 1: inLab Speedcure® Processing Unit

CAUTION:

- Only use validated post-processing units: inLab Speedcure® Processing Unit (REF # 9494800 and 9494801) and
- Digital Cure - Large Capacity Unit (REF # 909170 and 909180). Read the curing unit User Manual prior to operating the unit.
- Do not stack or position appliances in a way to allow for direct contact with post-processing unit bulbs.
- Do not cure more than two (2) appliances at one time or handle appliances before the 3-minute cooldown.
- Failure to follow specific cure instructions will result in poor appliance strength, bond, and accuracy.

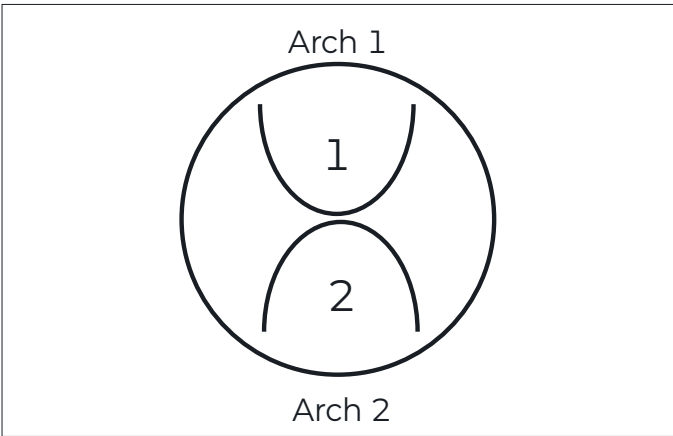
Cure Programs - Table Summary

Program (menu selection)	Cycle 1 (occlusal side up)	Cycle 2 (tissue side up)	Total Time
Try-In	10 minutes + 3-minute cooldown	10 minutes + 3-minute cooldown	26 minutes
Denture	10 minutes + 3-minute cooldown	10 minutes + 3-minute cooldown	26 minutes

The preloaded “Try-In” and “Denture” programs are validated for the following Lucitone Digital Print Denture System materials and appliances:

Application	Dentsply Sirona Digital Materials	Appliance Type
Denture Base	Lucitone Digital Print 3D Denture Base	Denture
Denture Teeth	Lucitone Digital IPN 3D Premium Tooth	
	IPN 3D Digital Denture Teeth	
	DS Multilayer PMMA Disc	
	Lucitone Digital Value 3D Economy Tooth & Trial Placement	Denture/Try-In

NOTE: For repair and reline processing, reference the Lucitone Digital Print Denture Repair and Reline Illustrated Technique Guide (REF # DP-0000502).



Appliance Placement

Place up to two (2) arches, occlusal side up, in the inLab Speedcure® Processing Unit. For two arches, position the anterior teeth towards the center of the turntable as shown.



Program Selection and Cycles

Try-In

Cycle 1: Select the menu option “Lucitone Digital” and then “Try-In.” The program will run for ten (10) minutes, followed by a 3-minute cooldown.

Cycle 2: Flip the arch(es), tissue side up, and repeat the same menu option.

Denture

Cycle 1: Select the menu option “Lucitone Digital” and then “Denture Base.” The program will run for ten (10) minutes, followed by a 3-minute cooldown.

Cycle 2: Flip the arch(es), tissue side up, and repeat the same menu option.

5.2 CURE UNIT OPTION 2: Digital Cure - Large Capacity Unit

CAUTION:

- Only use validated post-processing units: inLab Speedcure® Processing Unit (REF # 9494800 and 9494801) and Digital Cure - Large Capacity Unit (REF # 909170 and 909180). Read the curing unit User Manual prior to operating the unit.
- Do not stack appliances - correct positioning is a requirement for a proper cure.
- Appliance quantity per cure cycle varies by appliance sizes. Appliances must fit within the defined cure zone and have correct positioning. Regardless of the appliance quantity, only cure the appliance(s) in the defined cure zone.
- Allow appliances cleaned with Isopropyl alcohol to dry completely before post-processing due to flammability.
- Once the program cycle starts do not stop and restart, open the door, or add appliances; a complete, uninterrupted program run is required.
- Regardless of the appliance quantity, always use the Lucitone Digital Appliances menu selection (preset). Do not use the custom menu selection to process Lucitone Digital Print Denture appliances.
- Failure to follow specific cure instructions will result in poor appliance strength, bond, and accuracy.

Cure Program - Table Summary

Program (menu selection)	Cycle	Total Time
Lucitone Digital Appliances	The automated program cycle includes a 30-minute preheat (80°C) and a 60-minute cure (80°C).	90 minutes

The preloaded “Lucitone Digital Appliances” program is validated for the following Lucitone Digital Print Denture System materials and appliances:

Application	Dentsply Sirona Digital Materials	Appliance Type
Denture Base	Lucitone Digital Print 3D Denture Base	Denture
Denture Teeth	Lucitone Digital IPN 3D Premium Tooth	
	IPN 3D Digital Denture Teeth	
	DS Multilayer PMMA Disc	
	Lucitone Digital Value 3D Economy Tooth & Trial Placement	Denture/Try-In

NOTE: For repair and relining processing, reference the Lucitone Digital Print Denture Repair and Reline Illustrated Technique Guide (REF # DP-0000502).

Prior to denture curing, ensure the sealer tack-cure process is complete (not applicable for try-in appliances):

Tack cure the Lucitone Digital Fuse Step 3 Total for one (1) minute using the UV Tack-Cure Light. Rotate the arch ensuring light exposure to all tooth surfaces for a uniform tack cure. The sealer will be slightly sticky/tacky to the touch - avoid excess handling. Following the 5.0 Cure step (this section), the appliances will be fully cured and smooth to the touch.



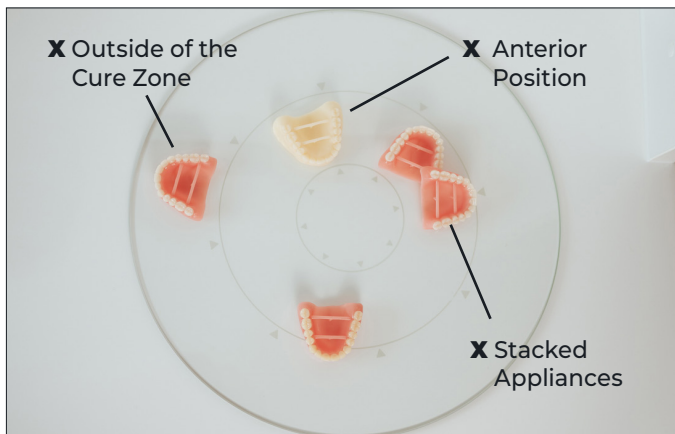
Appliance Placement

Place the appliance(s) in the **cure zone**, occlusal side up, and the posterior facing the center of the turntable.

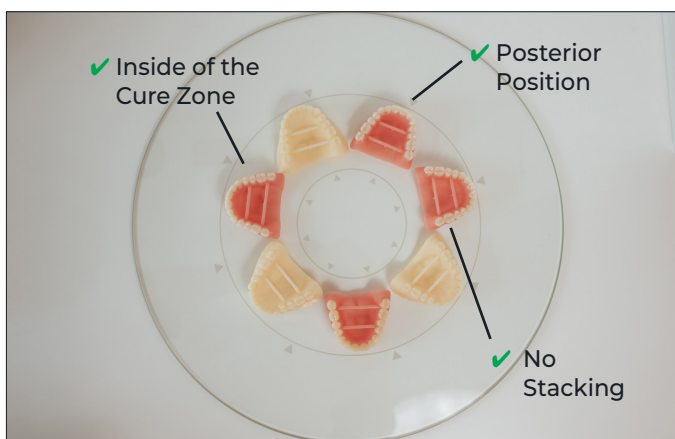
Cure zone: The Digital Cure turntable has a diameter of 39.5cm (15.6in). The cure zone is limited to the area between 5cm and 12cm as measured from the center of the turntable, and defined by the grey lines.

Ensure the appliance(s) do not overlap or extend beyond the cure zone. Regardless of the appliance quantity, only cure the appliance(s) in the defined cure zone as shown.

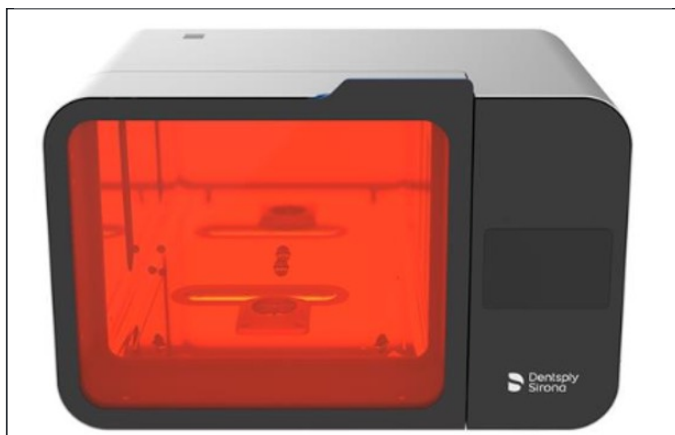
See next page for placement examples.



Incorrect appliance placement shown.



Correct appliance placement shown.



Program Selection and Cycle

Select the "Lucitone Digital Appliances" menu selection. The program cycle will automatically run for 90 minutes - "HEATING" will display on the screen when the cycle starts.

NOTE: The unit may require warming prior to the cycle start - "PRE-HEATING" will display on the screen until the unit reaches temperature. Do not stop and restart or add appliances after the start of the program (including pre-heating).

Wait until the temperature indicator in the upper right corner of the home screen reaches **50°C** before removing and finishing the appliance(s).

5.3 CURE UNIT OPTION 3: Dentsply Sirona Digital Cure

CAUTION:

- Only use validated post-processing units: inLab Speedcure® Processing Unit (REF # 9494800 and 9494801), Digital Cure - Large Capacity Unit (REF # 909170 and 909180), and Digital Cure (REF # 909188). Read the curing unit User Manual prior to operating the unit.
- Do not stack appliances - correct positioning is a requirement for a proper cure.
- Appliance quantity per cure cycle varies by appliance sizes - do not exceed five (5) appliances per cure cycle. Regardless of the appliance quantity, always place appliances with the anterior facing the center of the turntable.
- Allow appliances cleaned with Isopropyl alcohol to dry completely before post-processing due to flammability.
- Once the program cycle starts do not stop and restart, open the door, or add appliances; a complete, uninterrupted program run is required.
- Regardless of the appliance quantity, always use the Lucitone menu selection (preset). Do not use the custom menu selection to process Lucitone Digital Print Denture appliances.
- Failure to follow specific cure instructions will result in poor appliance strength, bond, and accuracy.

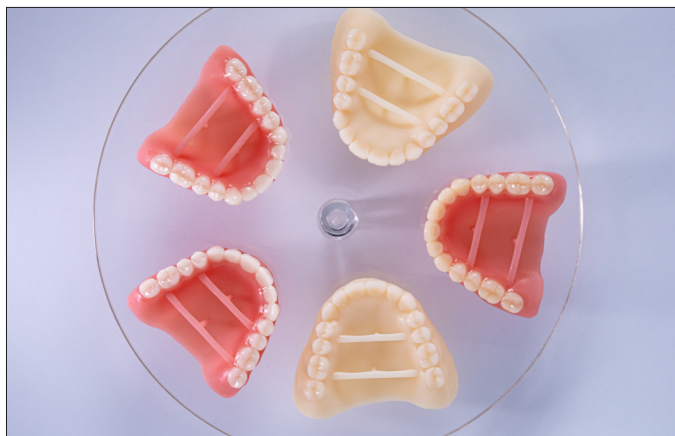
Cure Program - Table Summary

Program (menu selection)	Cycle	Total Time
Lucitone	The automated program cycle includes a 12-second tack cure, 10-15 minute heat (preheat), 25-minute cure, and up to a 30-minute cooldown.	Approximately 60 minutes (maximum 70 minutes)"

The preloaded "Lucitone" program is validated for the following Lucitone Digital Print Denture System materials and appliances:

Application	Dentsply Sirona Digital Materials	Appliance Type
Denture Base	Lucitone Digital Print 3D Denture Base	Denture
Denture Teeth	Lucitone Digital IPN 3D Premium Tooth	
	IPN 3D Digital Denture Teeth	
	DS Multilayer PMMA Disc	
	Lucitone Digital Value 3D Economy Tooth & Trial Placement	Denture/Try-In

NOTE: For repair and relining processing, reference the Lucitone Digital Print Denture Repair and Relining Illustrated Technique Guide (REF # DP-0000502).



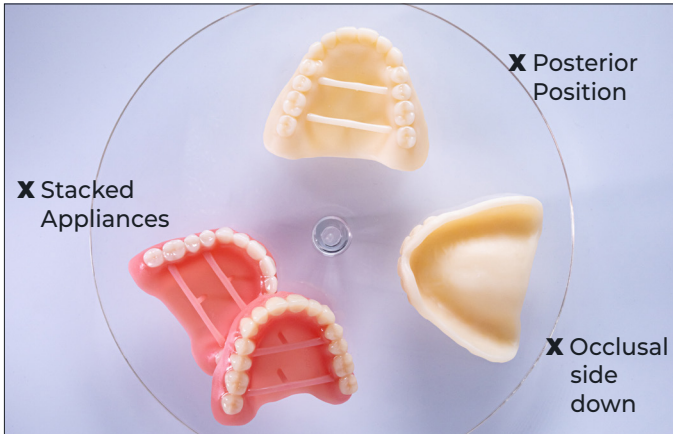
Appliance Placement

Place the appliance(s) on the turntable, occlusal side up, and the anterior facing the center of the turntable.

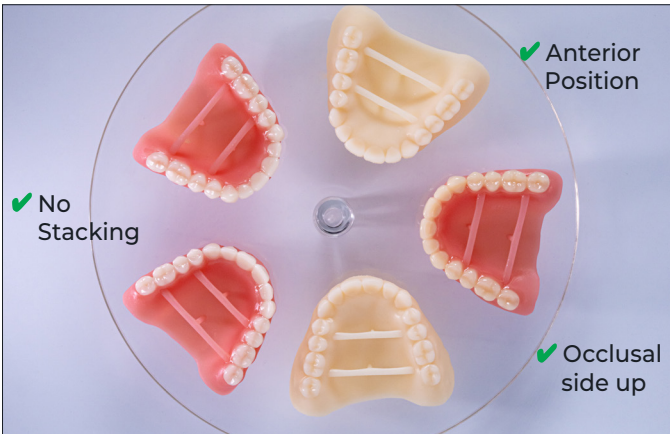
Load multiple appliances using the power button to the right of the menu dial. Hold the power button to rotate the turntable and place the appliances.

Ensure the appliance(s) do not overlap or extend beyond the turntable. Do not load more than five appliances per cycle. See next page for placement examples.

IMPORTANT: When curing one appliance, do not place the appliance in the center of the turntable covering the turntable spindle. Ensure the appliance is facing anterior towards the center and approximately 1 cm from the turntable spindle/center.



Incorrect appliance placement shown.



Correct appliance placement shown.



Program Selection and Cycle

In the home menu screen, use the menu dial to toggle and select (push menu dial) the "Preset Cycles" setting and then the "Lucitone" program. Hold the power button until the unit beeps to start the program.

The program will automatically run and advance through the following steps: **LED Test Cycle** - 20 seconds, **Tack curing** - 12 seconds, **Heating** - 10 to 15 minutes, **Curing** - 25 minutes, and **Cooling** - up to 30 minutes. Synchronous dots will appear behind the step name on the menu screen indicating the program operation. Note: the chamber is lit during the Tack Curing and Curing steps only.

Following the final step, the menu screen "Program Complete" will appear indicating the program completion. The appliances are ready for removal.

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.

Posterior Orientation

Manually remove any supports on the intaglio/tissue surface.



Finish, festoon, stipple, and polish as desired.

Dentures sealed with Lucitone Digital Fuse Step 3 - *Total* require minimal polishing.

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 using Digital HC
Genios Tooth Library



Lucitone Digital Value Denture
using Digital Portrait Tooth
Library

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