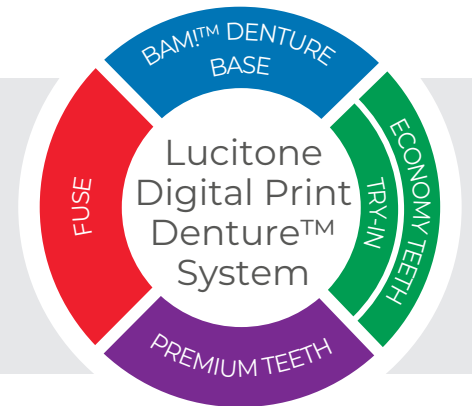




Illustrated Technique Guide

Print to Finish for Carbon® M-Series 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

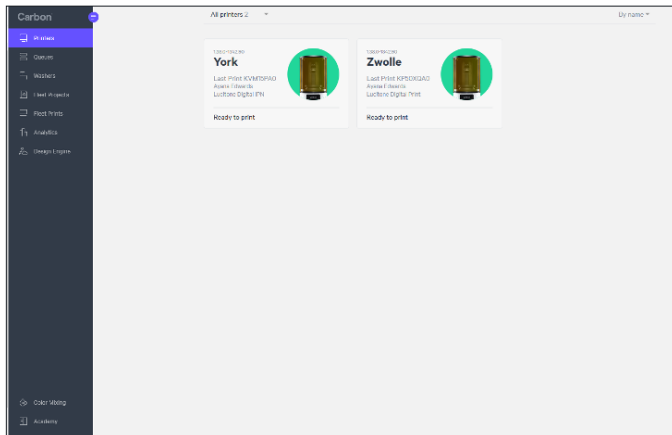
1.1 Automated Process

CAUTION:

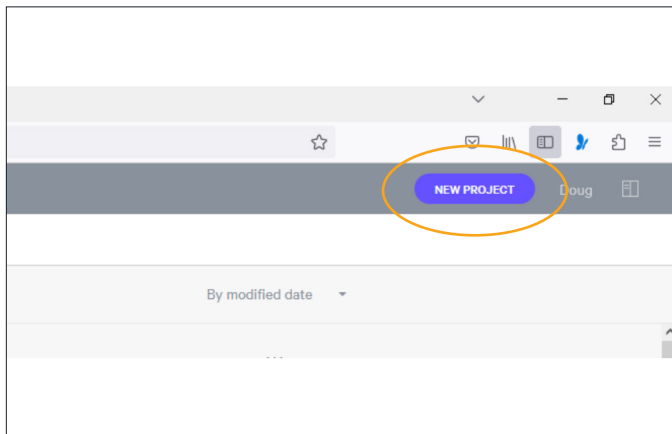
- Instructions and parameters are applicable to Lucitone Digital Print Denture System materials only.
- Refer to the printer manufacturer's Instructions for Use/User Guide for complete printer information.
- All parts printed with Lucitone Digital Print (LDP) and Lucitone Digital Value (LDV) resin are to be printed at 100 micron layer thickness. Carbon's material print parameters have this as its default setting - any deviation by the user will be considered off-label.

1.1.a Denture Base and Try-In Support Strategy

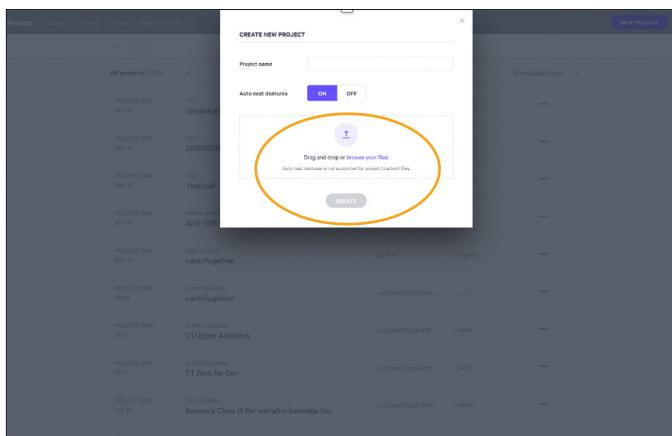
- Refer to 1.2.b for Denture Teeth Manual Process Support Strategy



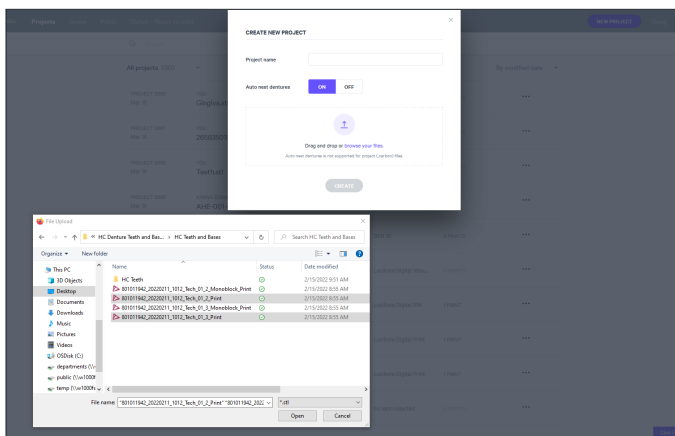
Start New Project: Log into the Carbon® software and select your printer. [1]



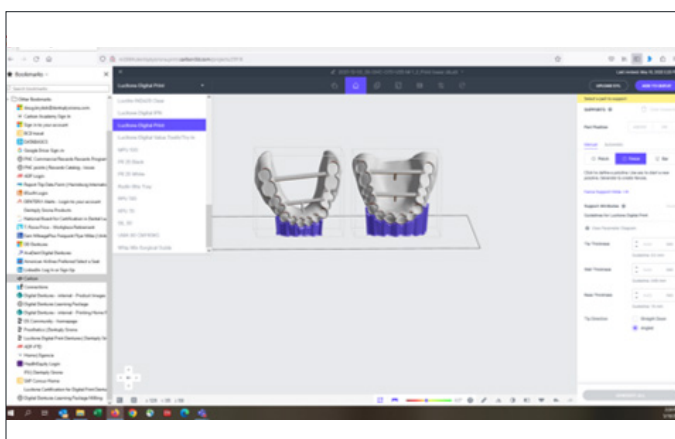
Select “New Project” (top right corner of the page).



Select “Upload STL.”



Select the file(s) to import.



The software will autonest the print job.

Confirm the material selection. See the resin drop-down menu on the top left corner of the menu bar:

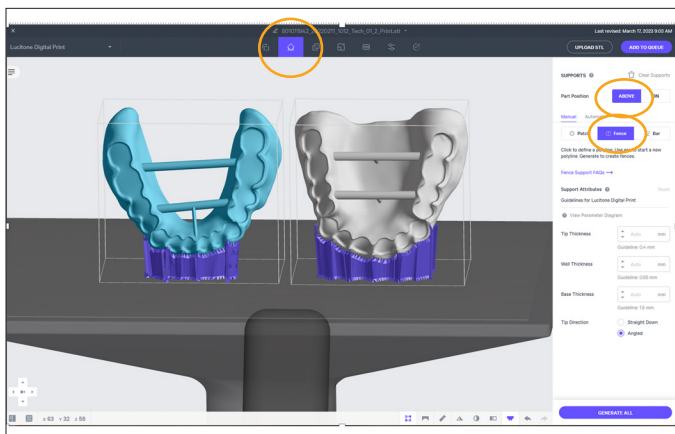
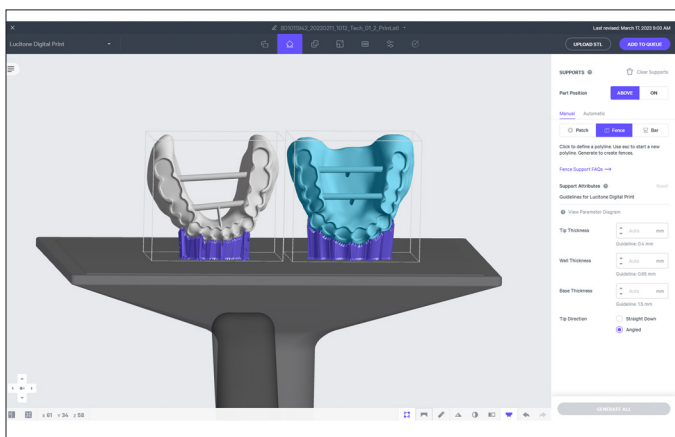
- To print a denture base, select **Lucitone Digital Print**
- To print a try-in, select **Lucitone Digital Value Tooth/Try-In**

When using the polishing cassette:

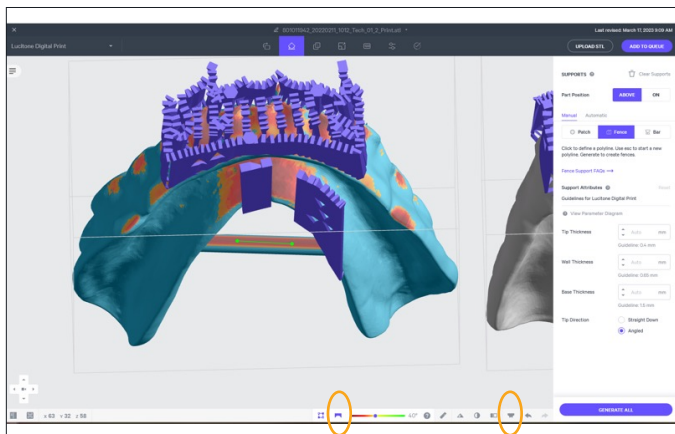
- To print a denture base, select **AO-Polish Lucitone Digital Print**
- To print a try-in, select **AO-Polish Lucitone Digital Value Tooth/Try-In**

NOTE: Ensure the latest software version load for complete material availability.

The upper arch(es) is now ready for print. The lower arch(es) requires additional fencing.



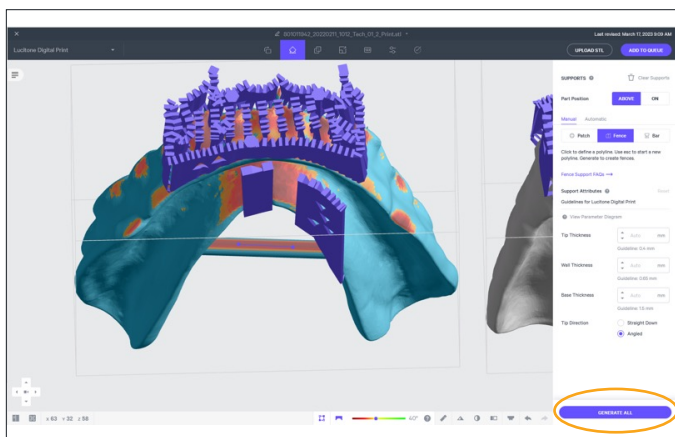
Highlight the lower arch. Select "Support" in the gray tool bar. Then select "ABOVE" and "Fence" on the right side of the screen.



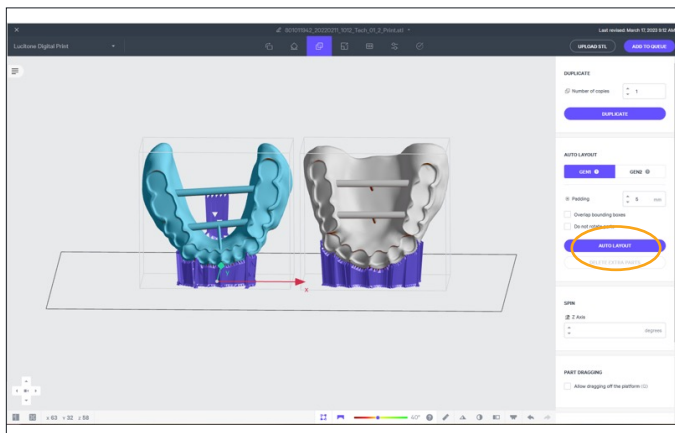
Select “Fence,” then select “Toggle-off Platform.”

Select “Overhang Detection.”

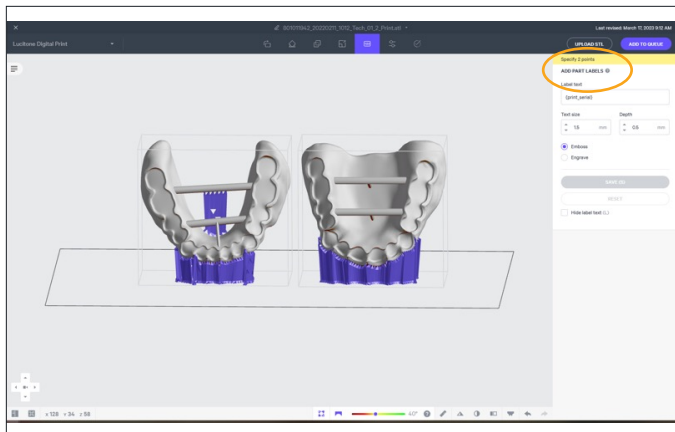
Left click and place two points on the posterior support bar as shown.



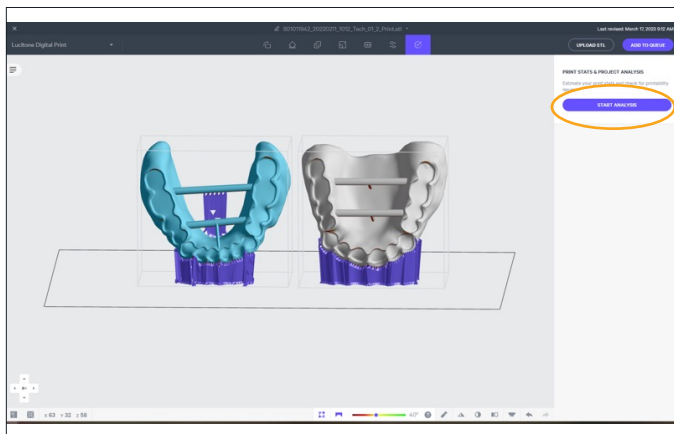
Select the escape key. The green fence points will transition from green to purple. Select “GENERATE ALL” in the lower right corner. The fence support will generate. Select “DONE.” Repeat steps for all lower arches.



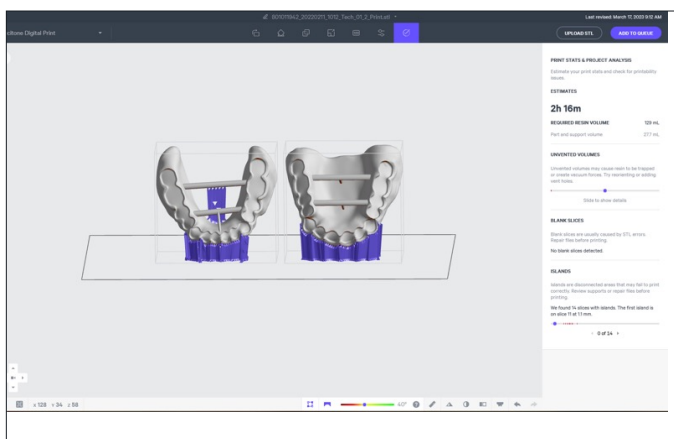
Select “AUTO LAYOUT” to manually position or auto layout arches on the print platform.



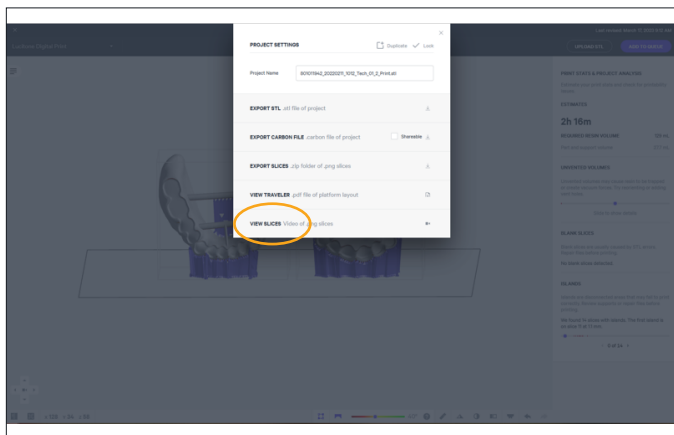
Select “ADD PART LABELS” to add identifiers.



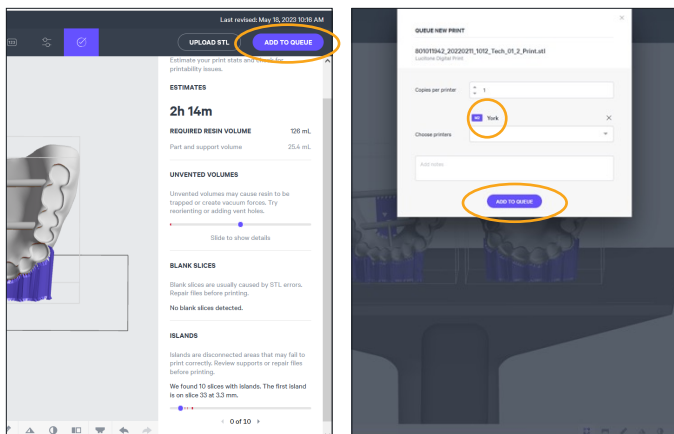
Select “START ANALYSIS.”



“ESTIMATES” print time and “REQUIRED RESIN VOLUME” will display.

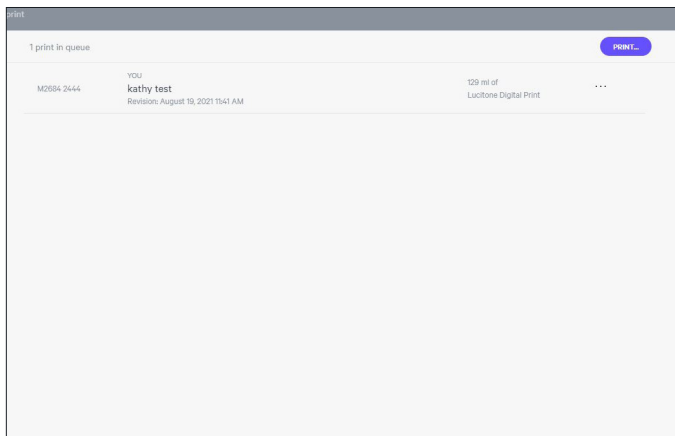


Select “PROJECT SETTINGS” then select “VIEW SLICES” videos. The video provides print job verification to ensure successful print.



Select “ADD TO QUEUE.”

Select printer. Select “ADD TO QUEUE.”



Print jobs will now display in queue.



Open the printer door and pour the required resin volume into the cassette for the print job. Close the printer door and select "Start Print Job."

NOTE: Ensure correct cassette is loaded in the printer.

1.2 Manual Process

CAUTION:

- Instructions and parameters are applicable to Lucitone Digital Print Denture System materials only.
- Posterior orientation: ensure that the denture base/try-in has an additional third support bar. See the Digital Denture Design in 3Shape Illustrated Technique Guide for instructions.
- Refer to the printer manufacturer's Instructions for Use/User Guide for complete printer information.
- All parts printed with Lucitone Digital Print (LDP) and Lucitone Digital Value (LDV) resin are to be printed at 100 micron layer thickness. Carbon's material print parameters have this as its default setting - any deviation by the user will be considered off-label.

1.2.a Denture Base/Try-In Support Strategy

- There is one deviation for the Try-In Support Strategy - Support Anterior Facial Region. See specific Try-In Instructions for this step.
- Refer to 1.2.b for Denture Teeth Support Strategy



Select Resin

Start New Project: Log into the Carbon software and upload the print file(s). Begin by specifying a material. Select the resin drop-down menu on the top left corner of the menu bar:

- To print a denture base, select **Lucitone Digital Print**
- To print a try-in, select **Lucitone Digital Value Tooth/Try-In**

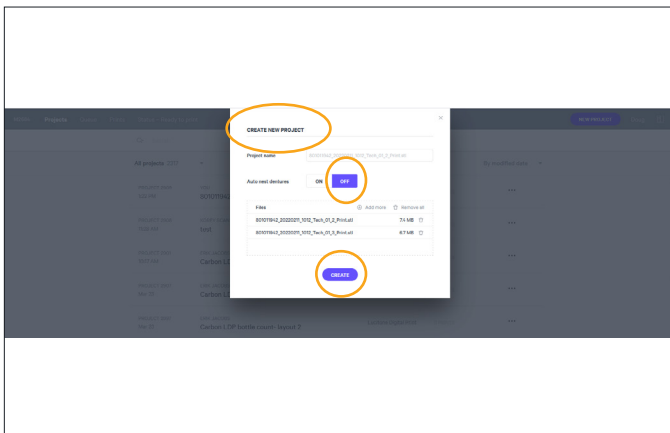
When using the polishing cassette:

- To print a denture base, select **AO-Polish Lucitone Digital Print**
- To print a try-in, select **AO-Polish Lucitone Digital Value Tooth/Try-In**

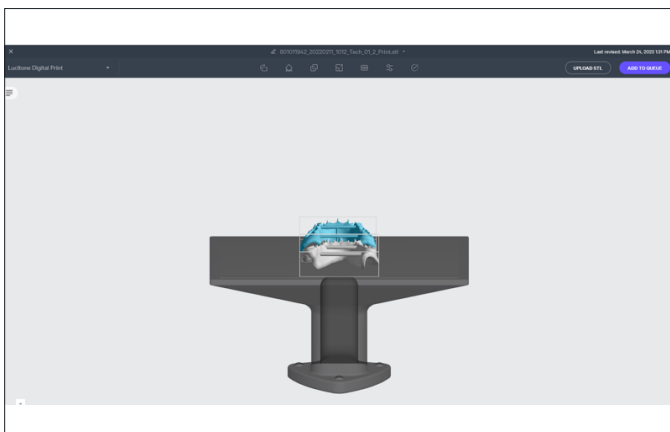
NOTE: Ensure the latest software version load for complete material availability.

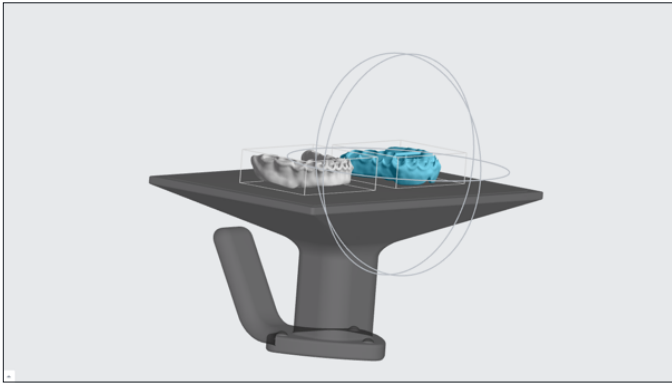
“CREATE NEW PROJECT”. Select “Auto nest dentures” OFF. Add files for printing.

Select “CREATE.”



Populated Files.





Initial Orientation

For manual orientation, select “Orient” on the top menu bar. The Orient submenu will appear on the right. Select the denture base/try-in to orient.

NOTE: As an alternative to manually entering the axis fields, use the rotation/orientation rings to orient the part(s). (The left image shows a manual input and the right image shows the rotation/orientation rings.)

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

Orientation Option 1: Anterior Placement

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

When using the rotation/orientation rings, drag and drop per the following settings:

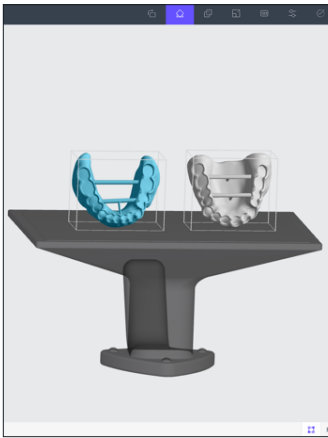
- Lower denture base/try-in X-axis = 65.
- Upper denture base/try-in X-axis = 70.

Orientation Option 2: Posterior Placement

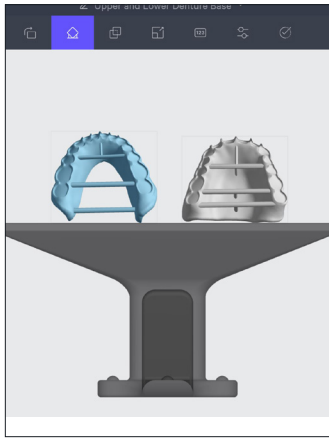
Orient the denture base/try-in with the posterior facing towards the platform edge. Ensure denture base/try-in has an additional third support bar.

When using the rotation/orientation rings, drag and drop per the following settings:

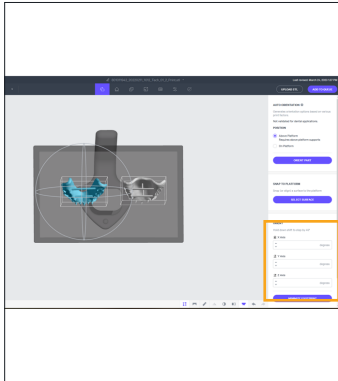
- Lower denture base/try-in X-axis = 70.
- Upper denture base/try-in X-axis = 70.



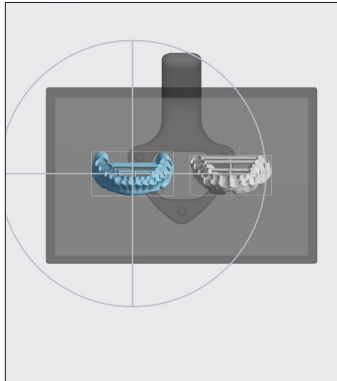
Anterior Orientation



Posterior Orientation



Anterior Orientation



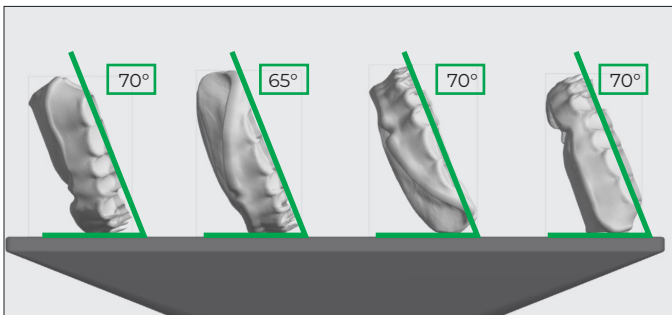
Posterior Orientation

In the X, Y, and Z axis fields, type values, in increments of 90 degrees, to orient the denture base/try-in so that the tissue side is flat against the print platform. The values may be different for each denture base/try-in.

Rotate

Find the camera direction tools in the lower left corner of the screen. Use these tools to look straight down onto the print platform. Select “Reset Camera” at the center of the tool panel to return to the default view. Now, select the up arrow to look straight down onto the print platform.

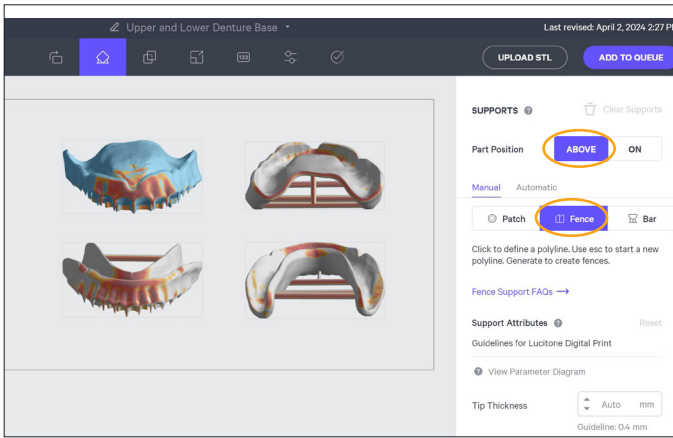
The orientation should appear as shown.



Anterior Orientation

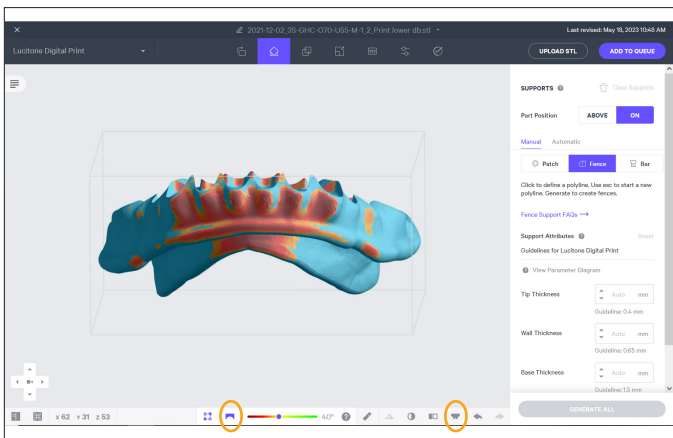
Posterior Orientation

IMPORTANT: Noted orientation angles are intellectual property of Dentsply Sirona. Use only with Lucitone Digital Print Denture products, and do not communicate this information with third parties.



Enter Support Mode

To enter Support Mode, select Supports on the top menu bar, and a submenu will appear on the right. Select “Above Platform.” Select “Fence.”

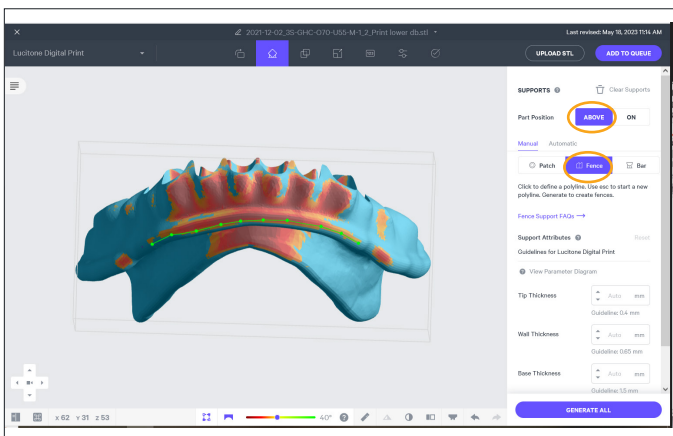


Support Setup

Select the “Toggle Platform” on the lower tool bar, or press the “B” key, to hide the platform and create better visibility while creating fences.

To find areas that need support, select the down arrow from the camera direction tools on the bottom left. Then, select “Overhang Detection” or press the “V” key.

“Overhang Detection” will appear. Check that the angle is set to the default **40** degrees. Overhang areas will show in red.

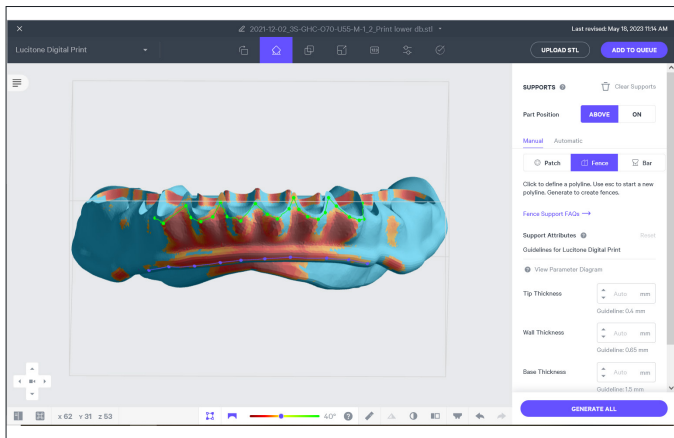


Anterior Orientation - Lower Denture Peripheral Border

Create the peripheral border fence. Select “Above Platform.” Select “Fence” on the top menu bar. Define the fence by selecting a series of points along the denture base/try-in border.

To complete a fence, select the escape key. The next point selection on the denture base/try-in will begin a new fence.

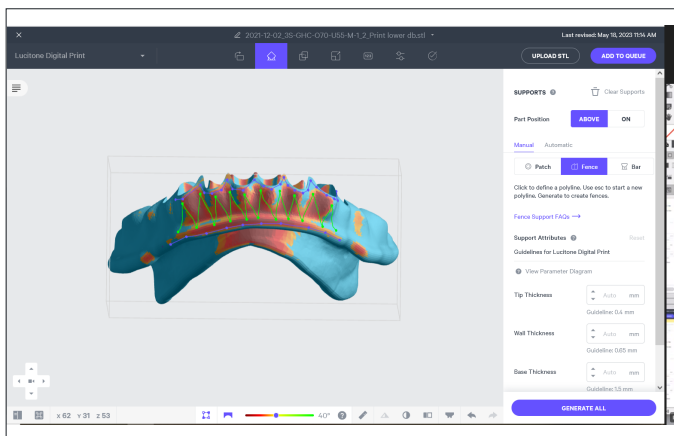
TECHNICAL RECOMMENDATION: To adjust a position of a point, hold down the “E” key, select the point, and move it to the desired position.



Anterior Orientation - Lower Support Below Tooth Pockets

Support the area along the gingival line of the anterior region. Add fence points under all pockets that have overhangs. Ensure the fence points support the triangular area between the teeth. When the fence support is complete, press the escape key.

CAUTION: Do not create supports within the denture tooth pockets, or place support on the intaglio (tissue surface).

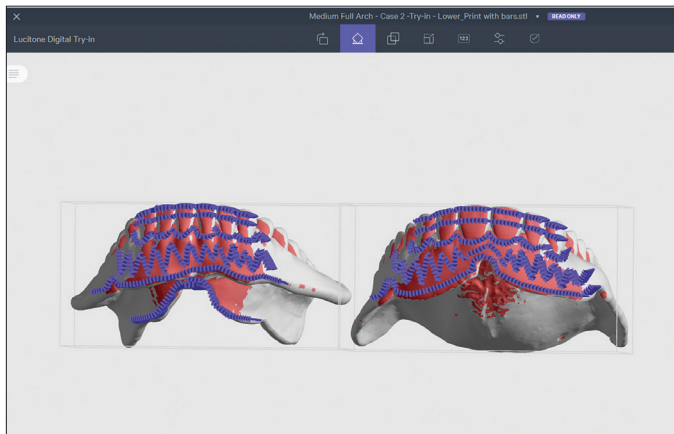


Anterior Orientation - Lower Support Anterior Facial Region

Denture Base

The third fence support will be in the anterior facial region where there is a large overhang that requires dense fence supports. Use a zig-zag pattern to support this area. Cover as much of the area as possible with fence supports. When the fence support is complete, press the escape key.

NOTE: Provide enough space between supports to prevent them from merging into a solid mass.

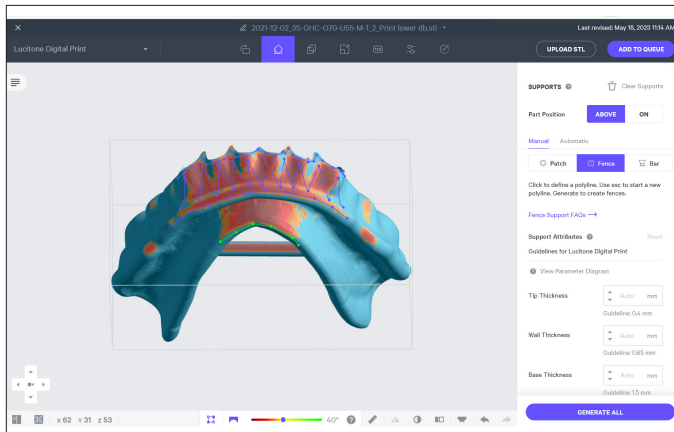


Anterior Orientation Try-In

The third fence support will be in the anterior facial region where there is a large overhang that requires dense fence supports. Use a zig-zag pattern to support this area. Cover as much of the area as possible with fence supports. Create two lines of fence supports across the facial surface of the anterior teeth to ensure a proper print. When the fence support is complete, press the escape key.

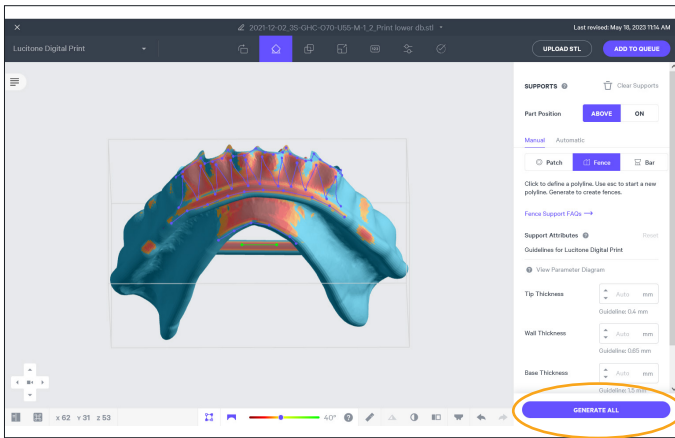
NOTE: Provide enough space between supports to prevent them from merging into a solid mass.

CAUTION: Not supporting facials of the anterior teeth will result in deformation of the try-in.



Anterior Orientation - Lower Support Lingual Peripheral Border

The fourth fence supports the lingual peripheral border. Place fence points along the overhang, and press the escape key when complete.

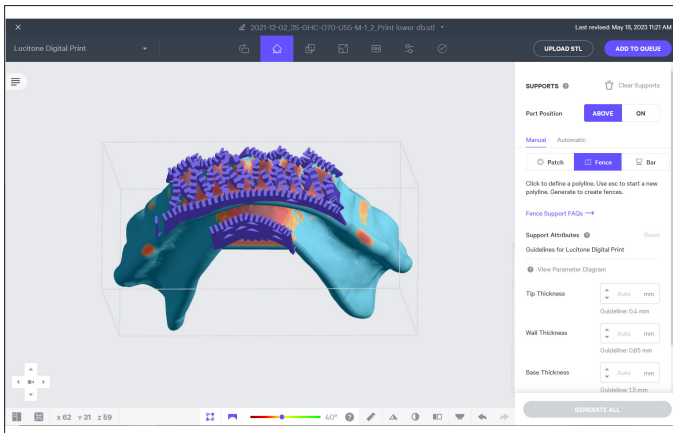


Anterior Orientation - Lower Support Bar

The last lower denture base/try-in fence will support the bar. Only support the bar located in the posterior region. Place two or more fence points on the upper bar to build the fence.

Select “GENERATE ALL” to create the fence geometry.

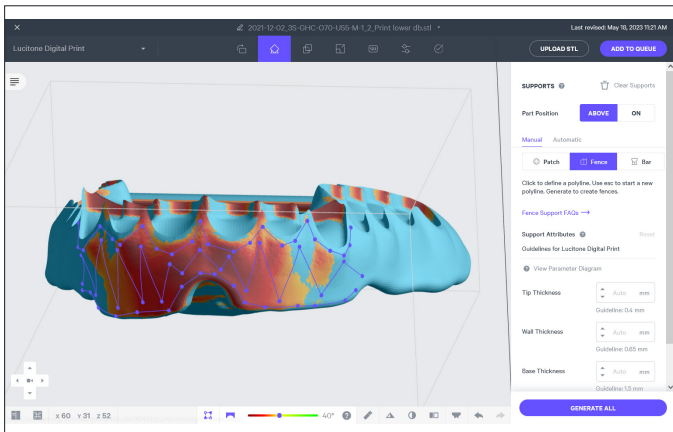
CAUTION: If the bar is not visible from this view, rotate the view to add support to the bar. The support bar should connect to the denture base/try-in rather than the platform.



To Edit a Support

To remove a fence support, hover over the fence so that it turns red. Select the red fence support to delete it.

To exit the editing view, select “DONE.”

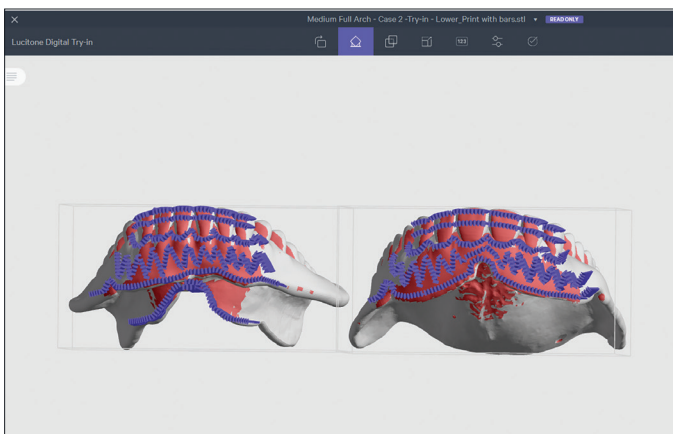


Anterior Orientation Upper Support Strategy

Denture Base

- Support the peripheral border.
- Support the area along the anterior gingival line with the overhang indicated in red.
- Support the anterior facial region between the teeth.

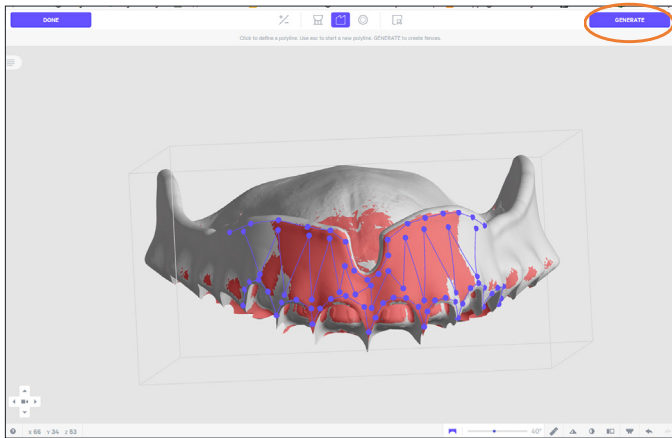
CAUTION: Do not create supports within the denture tooth pockets, or place support on the intaglio (tissue surface).



Anterior Orientation Try-In

- Support the peripheral border.
- Support the area along the anterior gingival line with the overhang indicated in red.
- Create two lines of fence supports across the facial surface of the anterior teeth to ensure a proper print. This step is the same for both the upper and the lower try-ins.

CAUTION: Not supporting facials of the anterior teeth will result in deformation of the try-in.

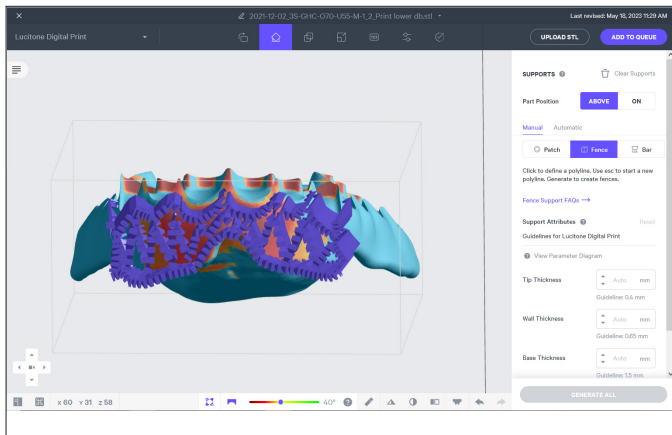


Build the first fence support along the peripheral border. Press the escape key.

Build the second fence support along the anterior gingival line. Press the escape key.

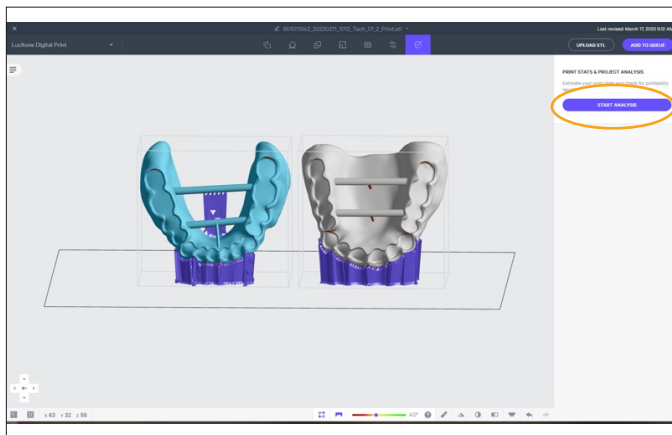
Build the third fence support using the zig-zag method in the facial anterior region. Press the escape key.

IMPORTANT: There is no need to support the T-bars for an upper denture base/try-in.

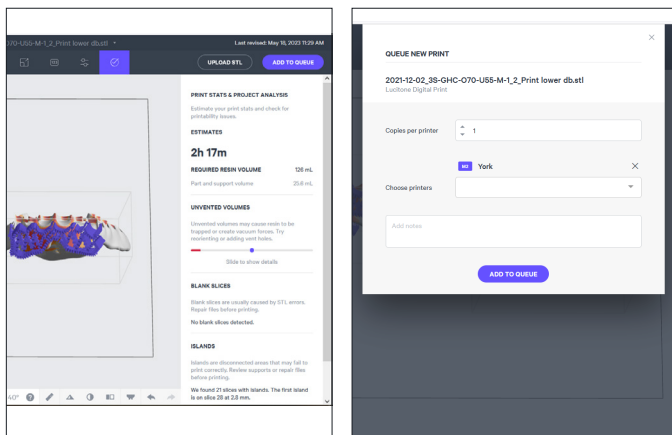


When the supports are complete, select “GENERATE ALL.”

Select “Part Labels” to add identifiers.



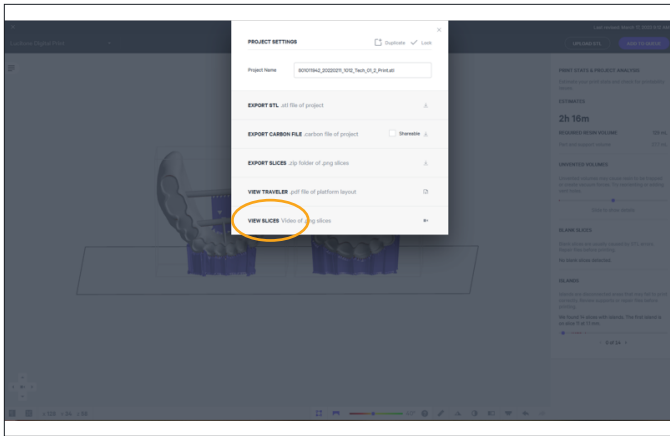
Select “START ANALYSIS.”



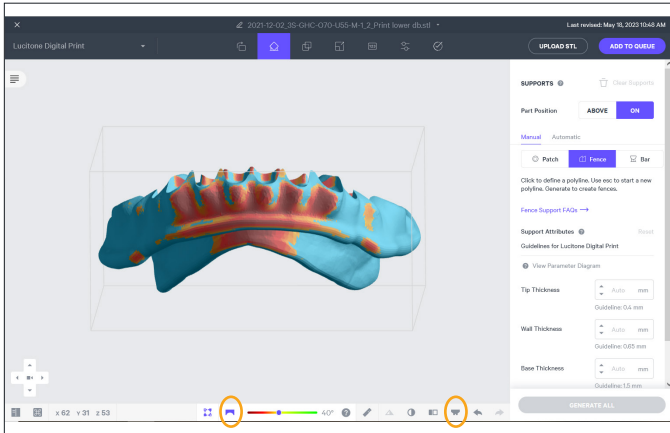
“ESTIMATES” print time and “REQUIRED RESIN VOLUME” will display.

Select “ADD TO QUEUE.”

Select printer. Select “ADD TO QUEUE.”



Select “PROJECT SETTINGS” then select “VIEW SLICES” videos. The video provides print job verification to ensure successful print.

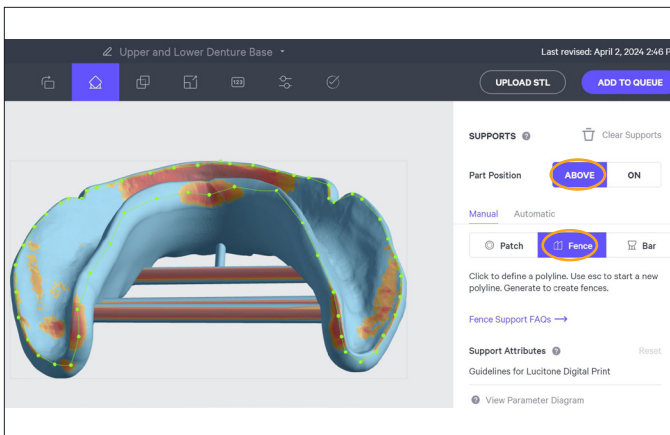


Support Setup

Select the “Toggle Platform” on the lower tool bar, or press the “B” key, to hide the platform and create better visibility while creating fences.

To find areas that need support, select the down arrow from the camera direction tools on the bottom left. Then, select “Overhang Detection” or press the “V” key.

“Overhang Detection” will appear. Check that the angle is set to the default **40** degrees. Overhang areas will show in red.



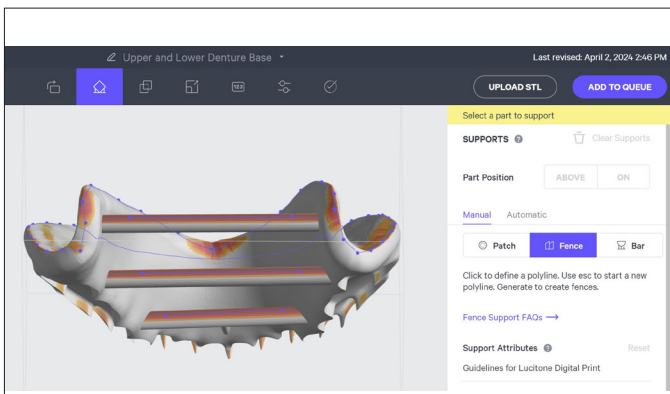
Posterior Orientation - Upper and Lower Denture

Peripheral Border

Create the peripheral border fence. Select “Above Platform.” Select “Fence” on the top menu bar. Define the fence by selecting a series of points along the denture base/try-in border.

To complete a fence, select the escape key. The next point selection on the denture base/try-in will begin a new fence.

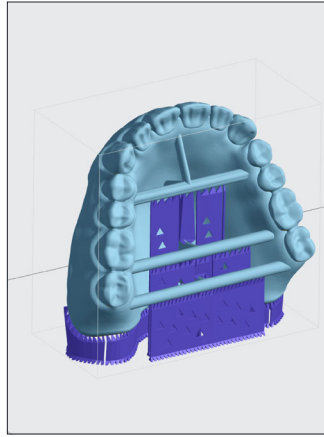
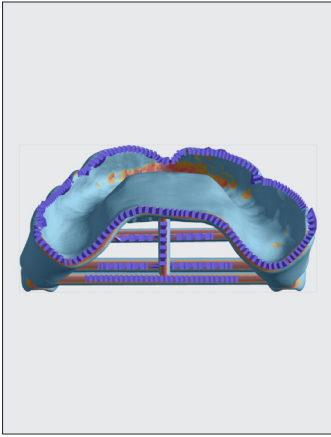
TECHNICAL RECOMMENDATION: To adjust a position of a point, hold down the “E” key, select the point, and move it to the desired position.



Posterior Orientation - Upper and Lower Support Bars

Support the three support bars.

CAUTION: Make sure you create supports along the peripheral border; do not extend into the intaglio surface of the denture.



Posterior Orientation Try-In

For try-in, follow denture base support strategies.

NOTE: Provide enough space between supports to prevent them from merging into a solid mass.



Open the printer door and pour resin, per the print stats, into the cassette for the print job. Close the printer door and select "Start Print Job."

NOTE: Ensure correct cassette is loaded in the printer.

1.2.b Denture Teeth Support Strategy

CAUTION:

- All parts printed with Lucitone Digital IPN (LDI) are to be printed at 50 micron layer thickness and Lucitone Digital Value (LDV) resin are to be printed at 100 micron layer thickness. Carbon's material print parameters have this as its default setting - any deviation by the user will be considered off- label.



Select Resin

Start New Project: Log into the Carbon software and upload the print file(s). Begin by specifying a material. Select the resin drop-down menu on the top left corner of the menu bar:

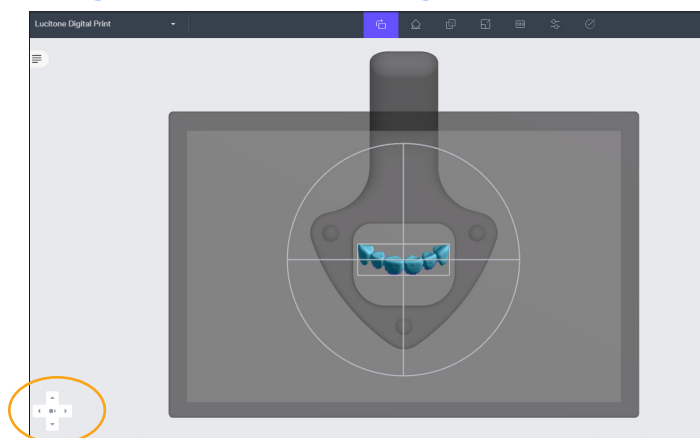
- To print premium denture teeth, select **Lucitone Digital IPN**
- To print economy denture teeth, select **Lucitone Digital Value Tooth/Try-In**

When using the polishing cassette:

- To print premium denture teeth, select **AO-Polish Lucitone Digital IPN**
- To print economy denture teeth, select **AO-Polish Lucitone Digital Value Tooth/Try-In**

NOTE: Ensure the latest software version load for complete material availability.

Single Teeth/Tooth Segments



Single Teeth/Tooth Segments: Anterior & Posterior Orientation

NOTE: As an alternative to manually entering the axis fields use the rotation/orientation rings to orient the part(s).

Orient the **anterior or posterior tooth/segment(s)** so the basal (ridge lap) side is facing the platform (anterior segment shown). Position the camera to look straight down onto the platform:

- Select "Reset Camera" in the lower left corner of the screen to return to the default view.
- Select the up arrow to look straight down onto the platform.

Each **tooth/segment** should be mostly parallel with the front edge of the platform (X-axis); to adjust, enter values in the Z-axis field.

Anterior

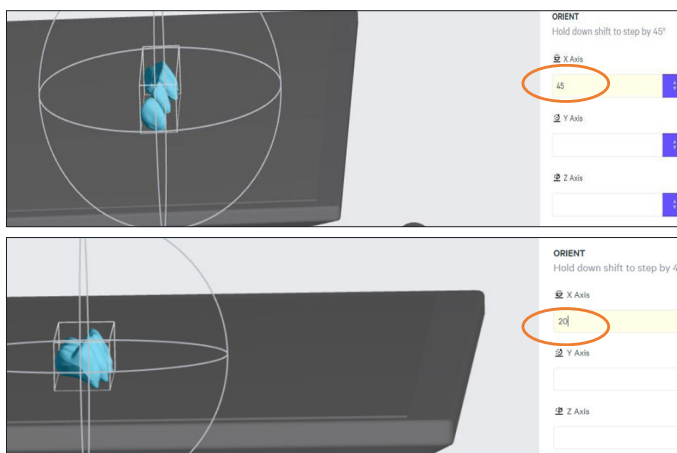
Enter **45** in the X-axis field or use the rotation/orientation rings to position the part to 45 degrees. The lingual side of the tooth/segment(s) will rotate 45 degrees toward the platform.

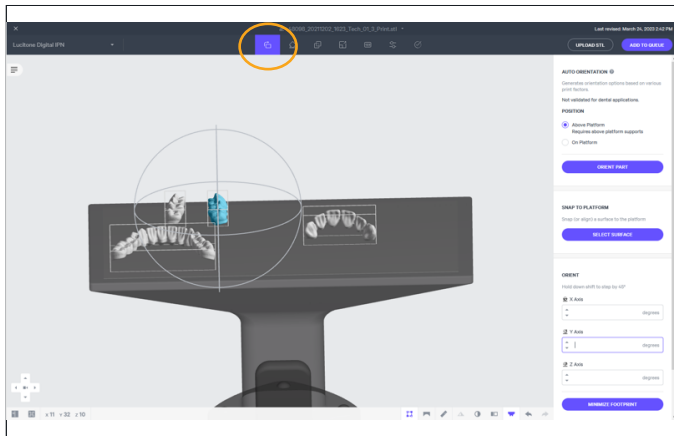
Ensure the lingual region of each tooth/segment is facing the lower portion of the screen.

Posterior

Enter **20** in the X-axis field or use the rotation/orientation rings to position the part to 20 degrees.

Ensure the lingual region of each tooth/segment is facing the lower portion of the screen.



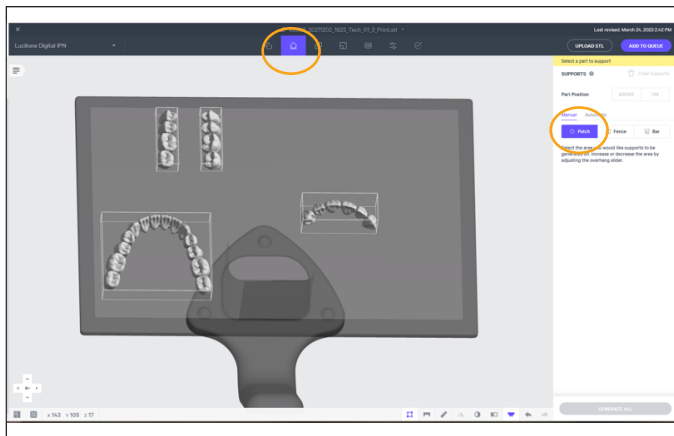


Single Teeth/Tooth Segments: Anterior & Posterior Supports

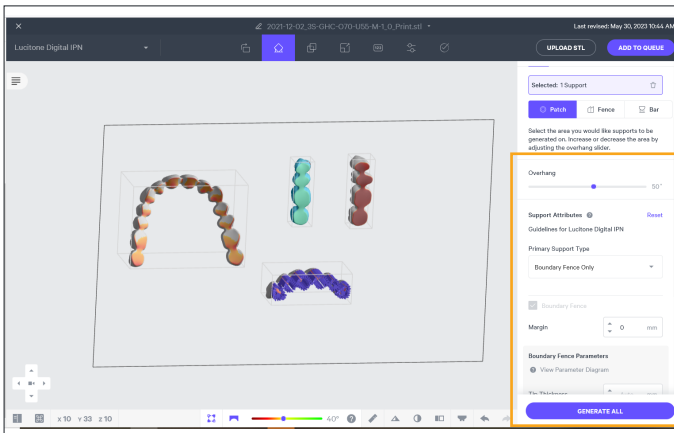
Select "Orient" in the dark gray bar. Then select "Above Platform" to lift the tooth/segment off the platform.

Select "Manually Add" to advance to the support editing interface.

IMPORTANT: Do not use the Auto Support Method.



Select "Support" in the dark gray bar and then select "Patch Selection" tool.



Select the following parameters to support the basal side of the tooth/segment:

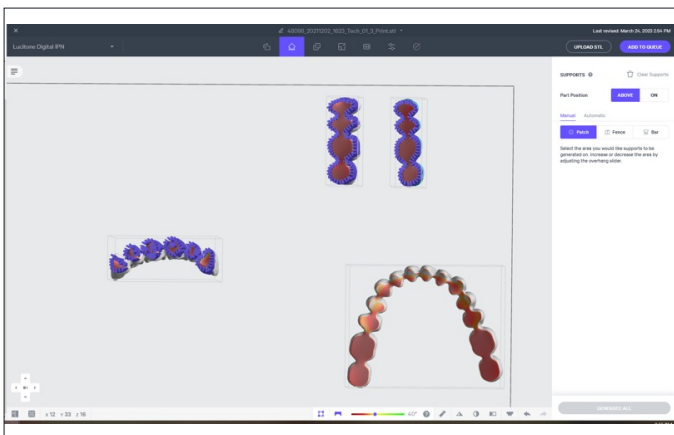
Anterior & Posterior

Overhang Angle = **50°**

Primary Support Type = **Boundary Fence Only**

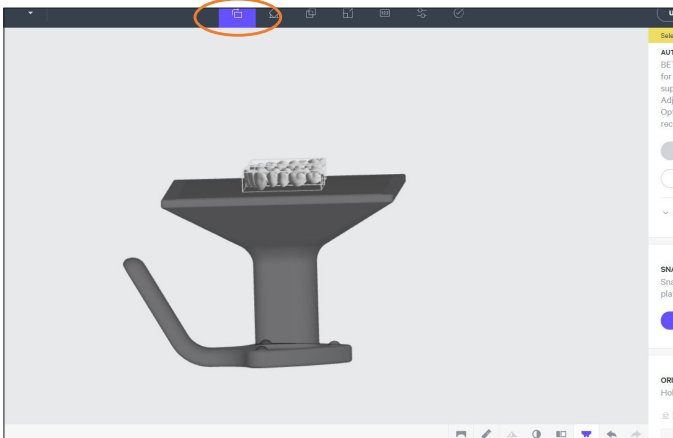
Margin = **0mm**

Select "GENERATE ALL" to generate the supports.



Supports will now generate across the entire tooth/segment.

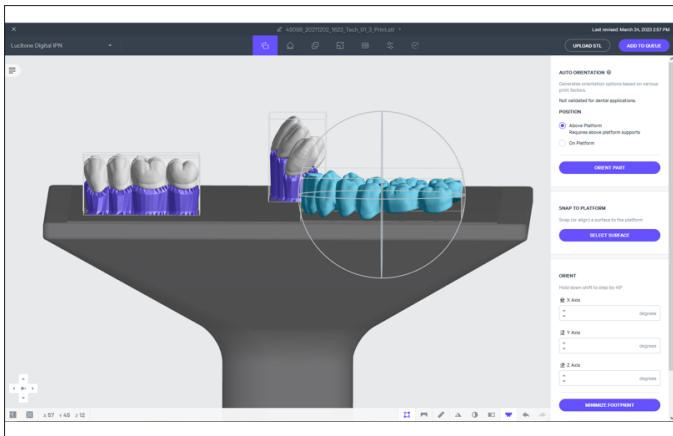
Full Arch



Full Arch: Orientation

Orient the **full arch(es)** so the basal (ridge lap) side is facing the platform.

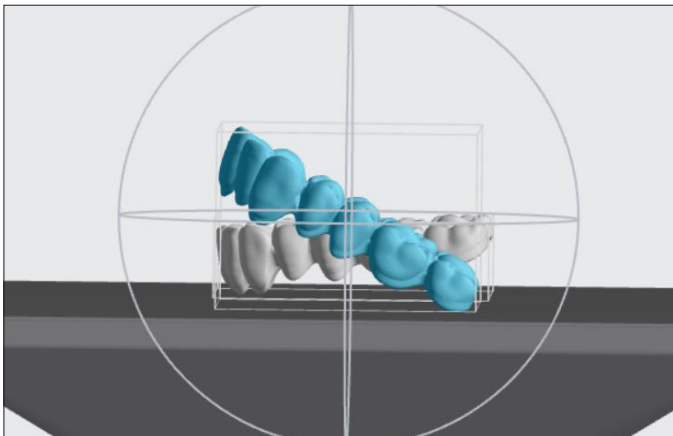
The arch(es) should be roughly parallel with the platform.



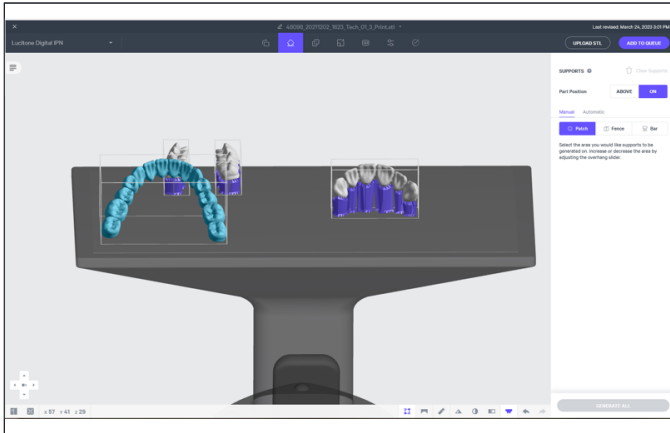
Ensure the anterior region of each full arch is facing the upper portion of the screen.

Enter **30** in the X-axis field or use the rotation/orientation rings to position the part to 30 degrees.

IMPORTANT: Do not use “SNAP TO PLATFORM” due to no well defined flat areas.



The lingual side of the full arch will rotate 30 degrees toward the platform.

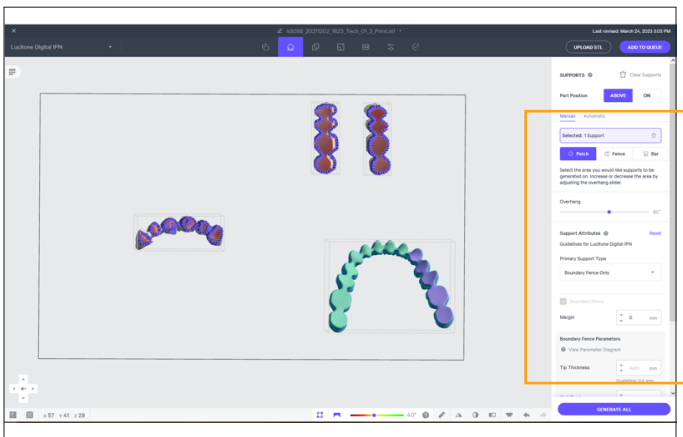


Full Arch: Supports

Select "Orient" in the dark gray bar. Then select "Above Platform" to lift the tooth/segment off the platform.

Select "Manually Add" to advance to the support editing interface.

IMPORTANT: Do not use the Auto Support Method.



Select the following parameters to support the basal side of the full arch:

Full Arch

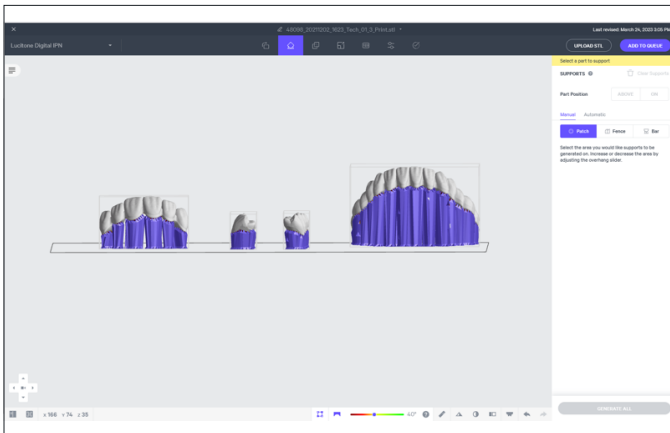
Overhang Angle = **50°**

Primary Support Type = **Boundary Fence Only**

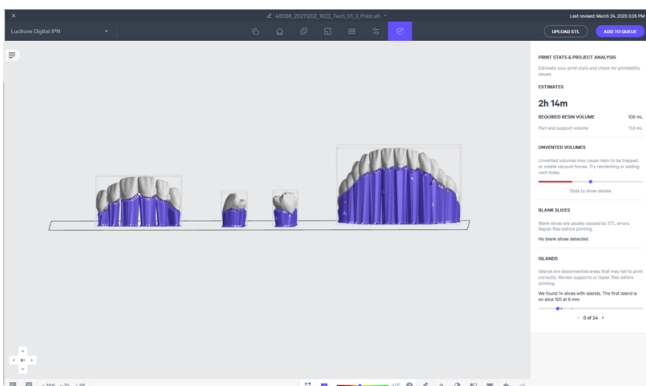
Margin = **0mm**

Select "GENERATE ALL" to generate the supports.

IMPORTANT: Ensure all the basal patches are selected with the correct parameters (may require multiple clicks).



Supports will now generate across the entire full arch.



"ESTIMATES" print time and "REQUIRED RESIN VOLUME" will display.

Select "ADD TO QUEUE."

Select printer. Select "ADD TO QUEUE."

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.



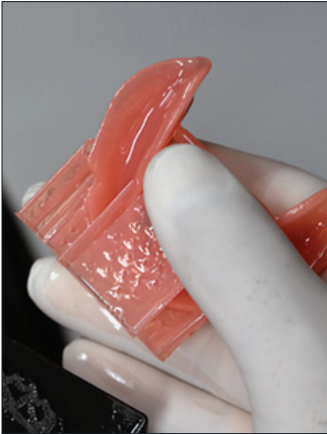
Place a cone funnel, then a disposable paper filter in the pour-back unit. Position the original resin container directly below the cone funnel and disposable paper filter. Place the cassette with the excess resin on the top of the stand. Tilt the cassette forward, pouring the excess resin into the funnel.

Material	Recycle Timeframe
Lucitone Digital Print - 3D Denture Base	up to 5 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.
- **IMPORTANT:** For polishing cassette cleaning steps, do not use Ultrasonic bath methods. Refer to Polishing Cassette section for details.



Remove the print job from the printer.

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



Break off the part fence supports. Do not remove the bar supports - removal will occur after the post-cure step.



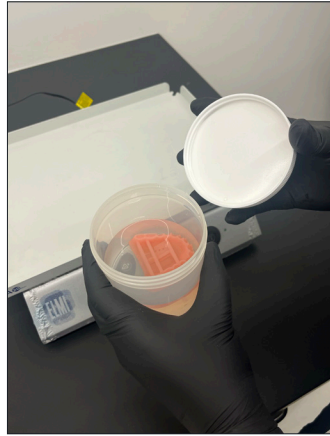
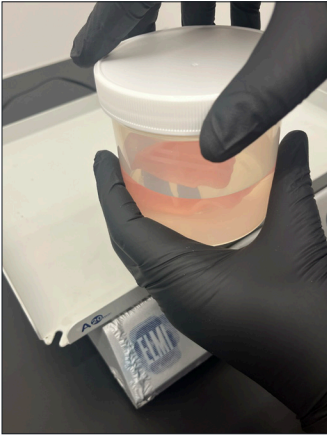
Place the part(s) in a plastic container. Add $\geq 99\%$ IPA to fully submerge the part(s) and then seal with the container lid.

Use clean IPA for both cycles.

Cycle 1: Place the container in an ultrasonic bath for two (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 one (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.

Ensure removal of all residual resin.



Polishing Cassette

Cycle 1: Place the part(s) in a plastic container. Add InovaPrint Wash to fully submerge the part(s) and then seal with the container lid. Place the container in an orbital shaker for five (5) minutes in InovaPrint Wash. Remove the container and transfer into Cycle 2.

Cycle 2: 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. Return the part(s) in the sealed container to the orbital shaker for five (5) minutes. Once the cycle is complete, remove the container.

NOTE: Do not use a brush to clean parts that have been printed using the polishing cassette. 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

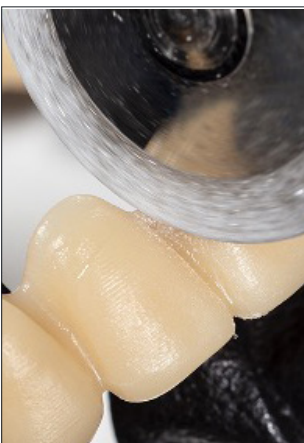
- For Printed Denture Teeth skip to 4.2



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



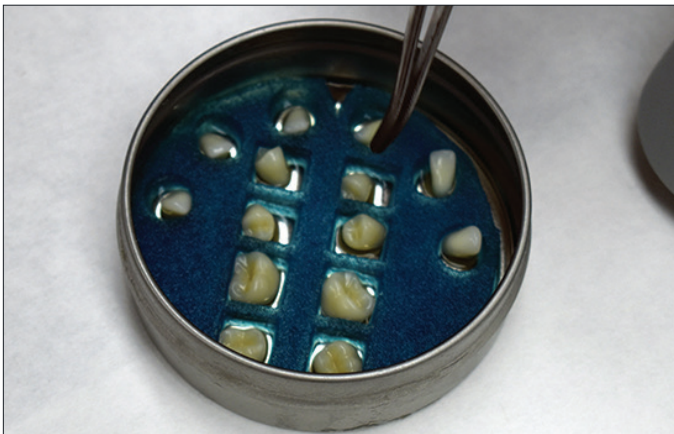
OHAUS

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

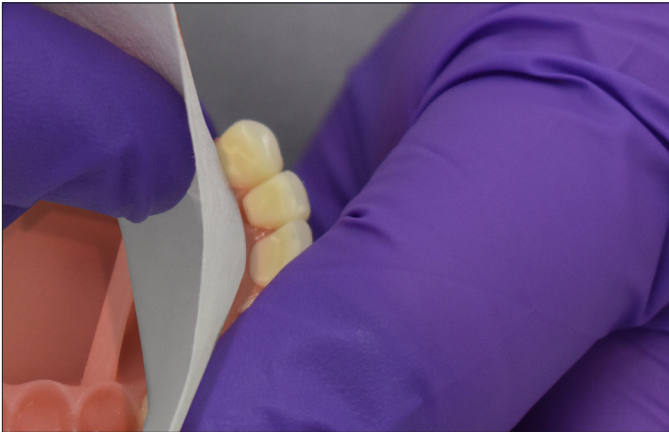
Remove the teeth (Tooth arch shown) from the Metal Container using Tweezers. Air-dry for 2 minutes. Do not wipe.

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

Single Teeth



Apply Step 2 resin to the tooth pocket(s), up to two at a time, avoiding adjacent pockets.



Insert tooth/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.

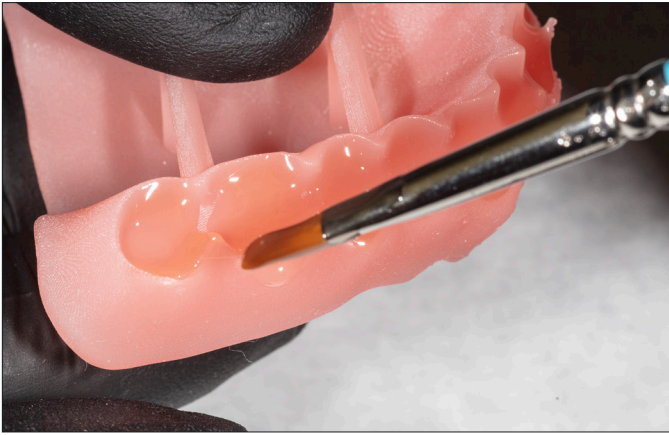


Tack cure the buccal and lingual surfaces with the UV Tack-Cure Light for ten seconds, two teeth at a time.

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), 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 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.

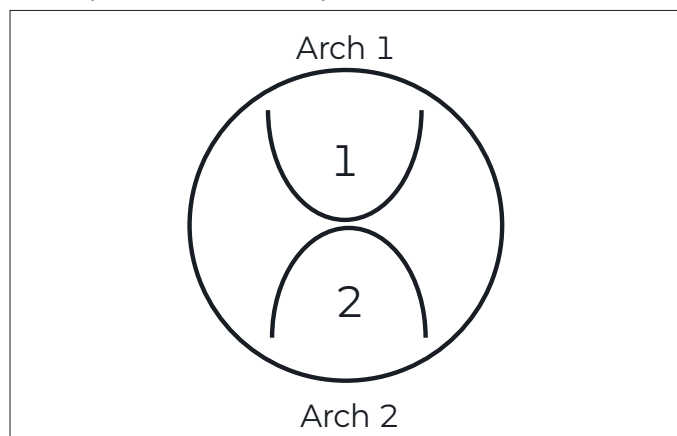
Cure Programs - Table Summary

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 relining processing, reference the Lucitone Digital Print Denture Repair and Relining 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), 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. 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.



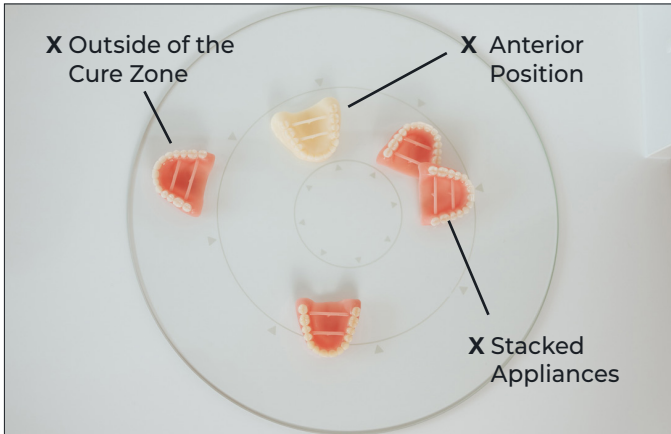
Appliance Placement

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

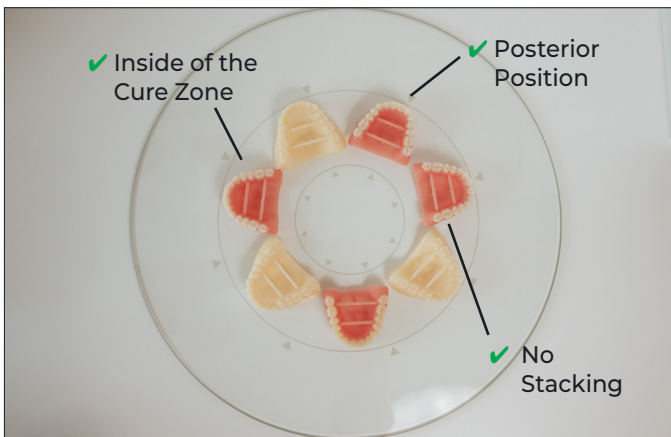
Cure zone: The Digital Cure turntable has a diameter of 39.5cm (15.6in). The cure zone is limited to the area between 5cm and 12cm as measured from the center of the turntable, and defined by the grey lines.

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.

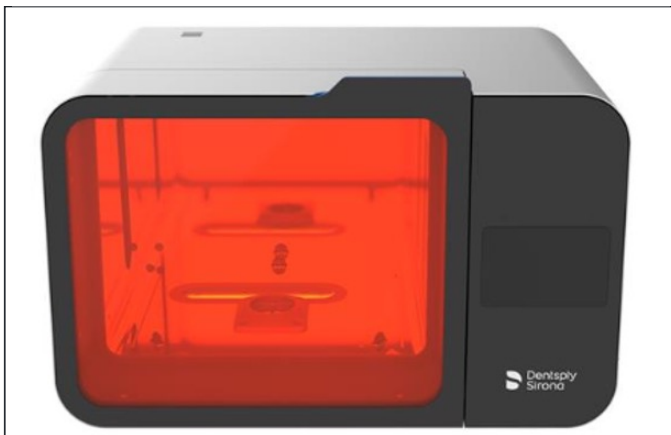
See next page for placement examples.



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.

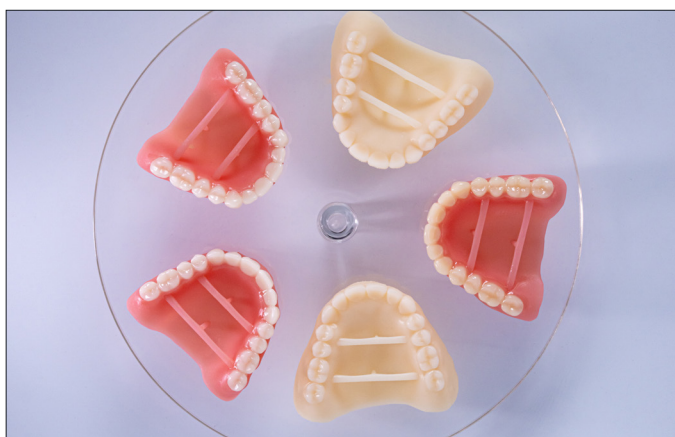
Cure Program - Table Summary

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 a 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 Reline Illustrated Technique Guide (REF # DP-0000502).



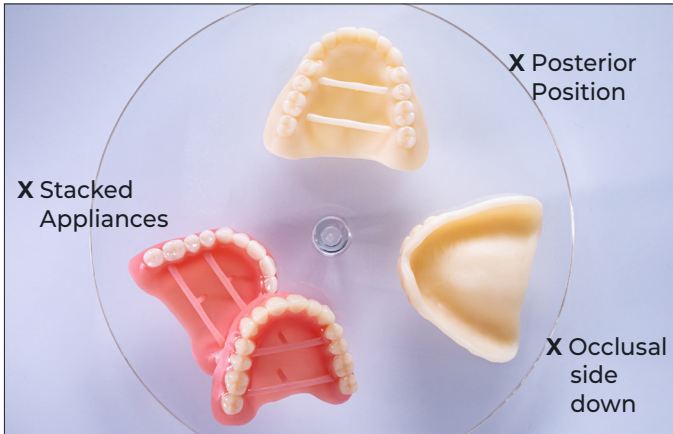
Appliance Placement

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

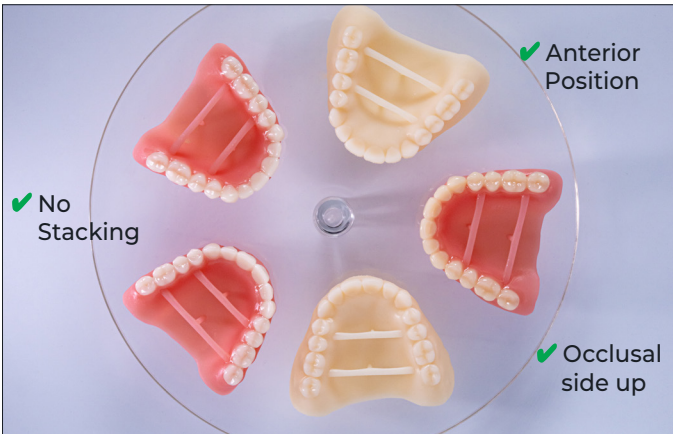
Load multiple appliances using the power button to the right of the menu dial. Hold the power button to rotate the turntable and place the appliances.

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

Dentsply Sirona | 800-243-1942 | dentsplysirona.com
DP-0000503 Rev. 3/25

[1] Carbon® is a registered trademark of Carbon, Inc.

[2] VWR is a registered trademark of VWR International, LLC

[3] OHAUS and Guardian are trademarks of OHAUS Corporation

[4] InovaPrint Wash is a registered mark of by HPdent GmbH.