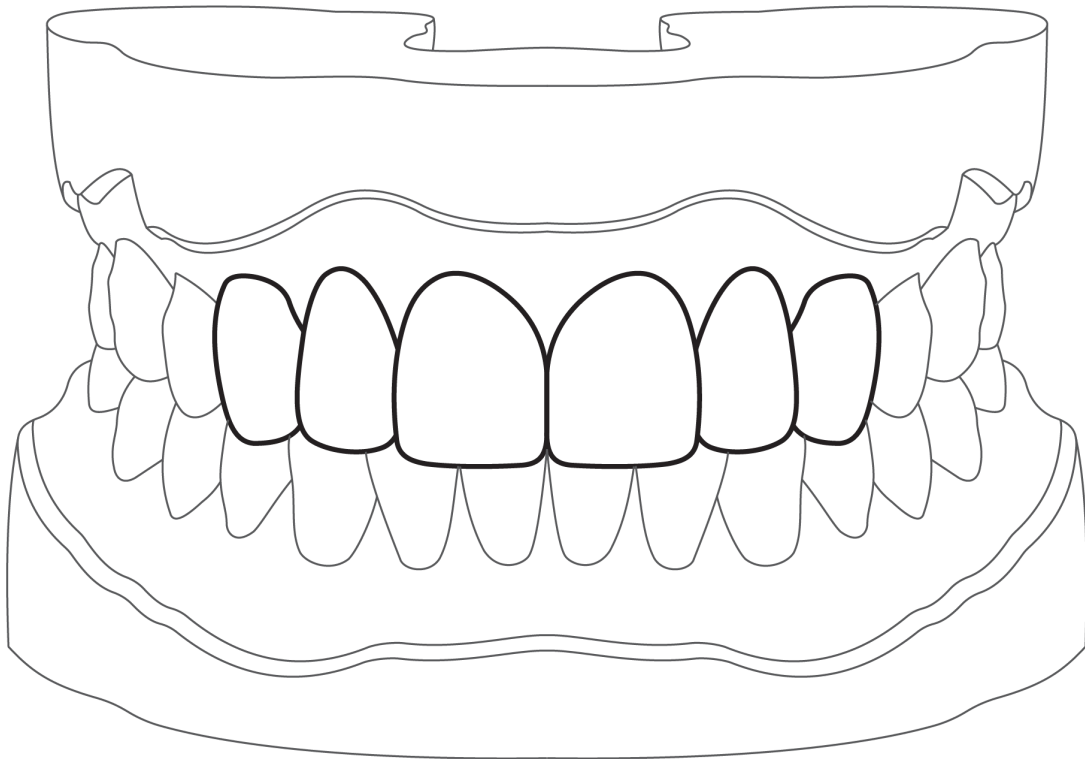


Workflow Guide:

3D Printing for Veneers

For prepped and no-prep cases



With 3D printing, you can deliver veneers to more patients thanks to the incredible accuracy and outstanding minimum thickness of 3D printing. With SprintRay in your office, more patients can be a candidate for veneers, increasing access to aesthetic treatments patients want.

This guide will walk you through the full process, from scanning to printing to placement.



This guide is designed for use with SprintRay Ceramic Crown resin. Other resins can be used, but the protocols for washing, curing, luting, and placement may vary.

Workflow at a Glance

1. Capture Patient Data



Time:

15 mins



Tools:

- Intraoral scanner
- Camera

2. Submit Design Request



Time:

5 mins

Tools:

- Computer with internet
- Patient data
- SprintRay account

3. Create a Print Job



Time:

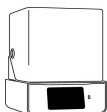
5 mins

Tools:



- Computer with internet
- SprintRay account

4. 3D Print



Time:

15 mins

Tools:



- SprintRay Pro S 3D printer
- SprintRay Ceramic Crown resin
- Crown Kit (Optional)

5. Handwash with IPA



Time:

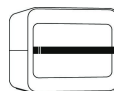
5 mins

Tools:



- IPA 91%
- Micro applicator
- Compressed air

6. Post Cure



Time:

7 mins

Tools:

- SprintRay ProCure 2

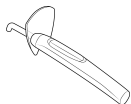
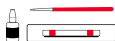
7. Prepare for Placement



Time:

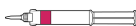
20 mins

Tools:



- Vita Akzent LC kit
- Lab handpiece
- Handheld curing light
- Abrasive fiber wheel

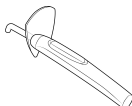
8. Lute the Veneers



Time:

20 mins

Tools:



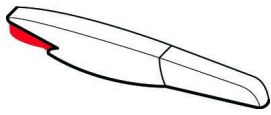
- Panavia V5 Resin Cement
- Panavia V5 Tooth Primer
- Clearfil Ceramic Primer Plus
- Handheld curing light

1. Capture Patient Data

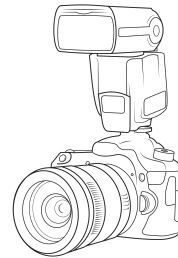
Time

15 minutes

Tools



Intraoral scanner



Camera

1.1 Patient Photo

Capture a photo of the patient smiling. This should be completed before any prep work is done.



1.2 Intraoral Scans

For **no-prep veneers**, take upper and lower scans of the patient. A bite scan is also recommended to ensure the best possible occlusion with the final product.

For **prepped veneers**, complete the scan after you prep the teeth. Our design team will need to see the patient's final anatomy to design the veneers.



Upper scan



Lower scan



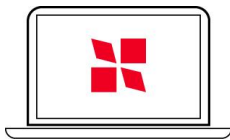
Bite scan

2. Request Treatment Design

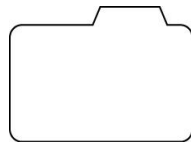
Time

5 minutes

Tools



Computer with internet
access



Patient data



SprintRay account

2.1 Submit Request on Cloud Design

Visit dashboard.sprintray.com and sign in with your SprintRay account.

Select or add your patient, then choose the 'Veneer' treatment. Choose between the 'Prep' and 'No-prep' option. Choose your design style, select which teeth you'll be treating, and let us know how to best meet the patient's desired outcome.

Submit the patient photo and scans, then sit back and relax.

2.3 Review and Approve Treatment

Within two business days, you'll receive the veneer designs. You can approve the files right away or, if you'd like changes, work with our designer until things are just right.

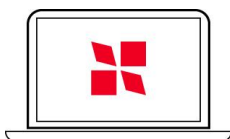
For best results, use the 'Direct Print' button, which allows you to print the veneers with the exact orientation and supports that our print team recommends.

3. Create a Print Job

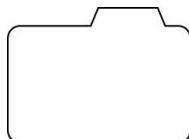
Time

5 minutes

Tools



Computer with internet
access



Veneer design files



SprintRay account

3.1 Build Print Job Job in RayWare

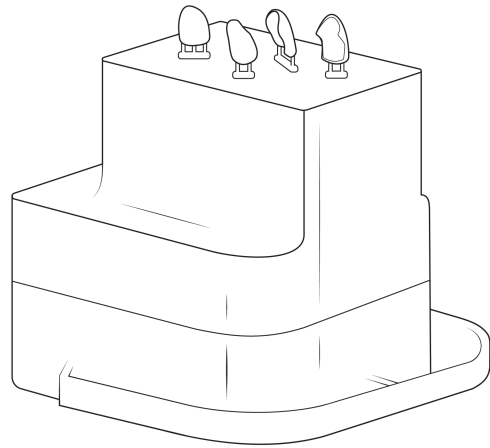
Visit rayware.sprintray.com and sign in with your SprintRay account. Go to Cloud Design and select the veneer case you're printing, then press the 'Print Now' button.



Using the 'Print Now' button automatically sets up the print job. If you're importing the files manually, check to make sure your files are oriented and supported properly.

Verify the Print Setup:

- **Job Type:** → Veneers
- **Printer:** Pro95 S or Pro55 S
 - **Kit:** Crown Kit recommended
- **Material:** SprintRay Ceramic Crown
- **Orientation:** Vertical from the incisal edge
- **Supports:** Enabled, supported from the incisal edge, no supports in the intaglio



3.2 Send to Printer

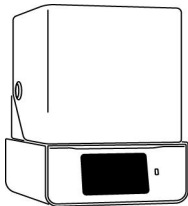
Once you're satisfied with the print job, use the 'Send to Print' button, then select your printer. Click the 'Send to Queue' button to send it to the printer.

4. 3D Print

Time

15 minutes

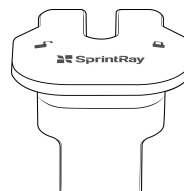
Tools



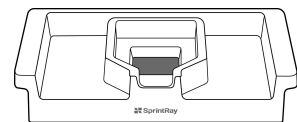
SprintRay Pro S



Ceramic Crown resin



Crown Platform



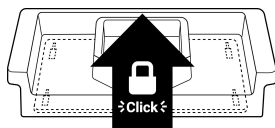
Crown Tank

4.1 Install the Crown Kit

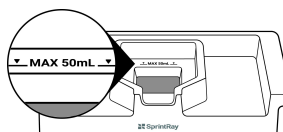
Install the Crown Kit, following the onscreen prompts to set up.



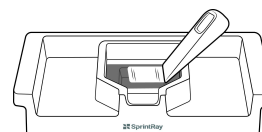
Platform is clean,
locked, and ready



Resin tank is seated
in its cradle



Tank filled to below
the max line



Resin stirred with
Crown Kit squeegee

4.2 Start the Print Job

On the printer touchscreen, go to the 'Queue' tab and locate the print job. Select 'Start Print'. It may take a few minutes before the printer arm starts to lower, depending on whether or not the resin tank and/or build platform need to be heated up.

You can view the progress of your print on the printer's touchscreen, including how much time is left before your job is complete. This information can also be viewed via RayWare Cloud.

5. Handwash with IPA

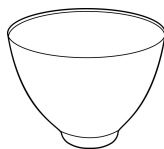
Time

5 minutes

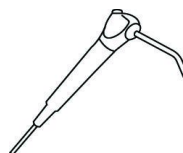
Tools



Micro brush



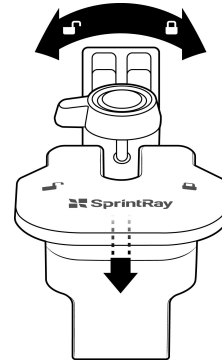
Bowl with IPA 91%



Compressed air

5.1 Remove From the Build Platform

Unlock the build platform and gently pull it toward you to release it from the printer.



Use the scraper to carefully remove the veneers. They are very fragile before post curing. Leave the supports on, for now.

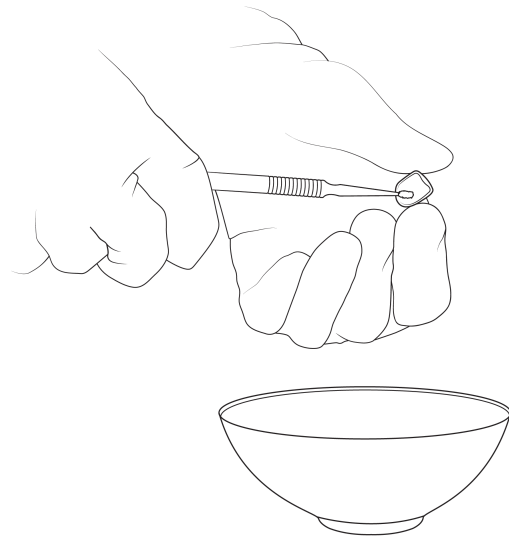


Veneers are very fragile before post curing, handle with care! Once you remove them, you may want to reprint the job so you have an extra set on hand in case of breakage.

5.2 Clean

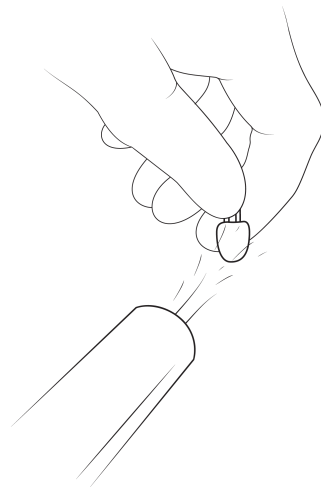
Hand washing is recommended for most of the materials compatible with this workflow, including Ceramic Crown. Resins with high ceramic content can develop a chalky surface if left in contact with IPA for too long.

Fill a small bowl with IPA 91%. Submerge the veneers and brush all the surfaces, especially the intaglio, but don't leave them in the bowl for more than 30 seconds at a time.



Do not let IPA stand on the surface of the veneers for more than 30 seconds at a time, otherwise they may develop a chalky surface finish.

Thoroughly dry the veneers with compressed air, then pat them dry with a soft towel. Make sure the veneers are totally dry and there is no IPA residue remaining.

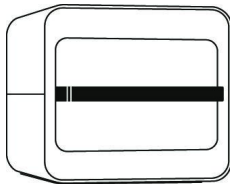


6. Post Cure

Time

13 minutes

Tools



ProCure 2

6.1 Cure in ProCure 2

Place the veneers in ProCure 2 along the center line. On the touchscreen, select the profile for the resin you're using, then select Bolt Mode for the fastest curing speed. If you are signed in on all your devices, simply check the queue for this job.

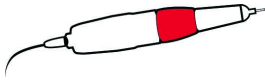
If you're using ProCure 1, consult the IFU for the material you're using for the time and temperature recommendations.

7. Prepare for Placement

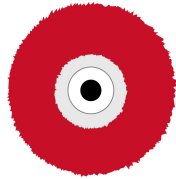
Time

20 minutes

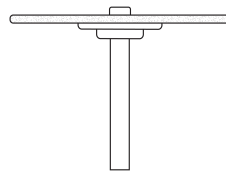
Tools



Lab handpiece



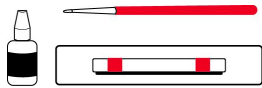
Polishing wheel



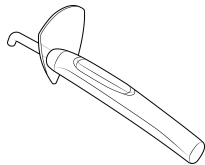
Cutting disc



Carbide bur



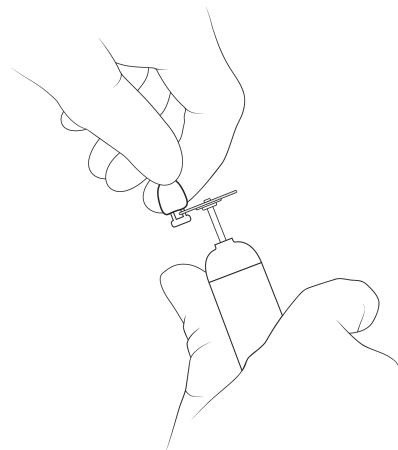
GC OptiGlaze™ kit



Handheld curing light

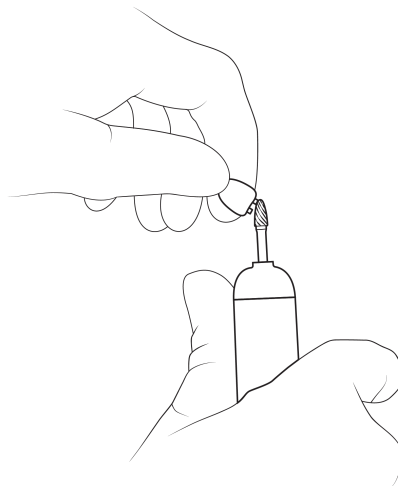
8.1 Remove Supports

Use a cutting disc to carefully remove supports from the veneers. Don't cut too close - you'll refine the surface later.



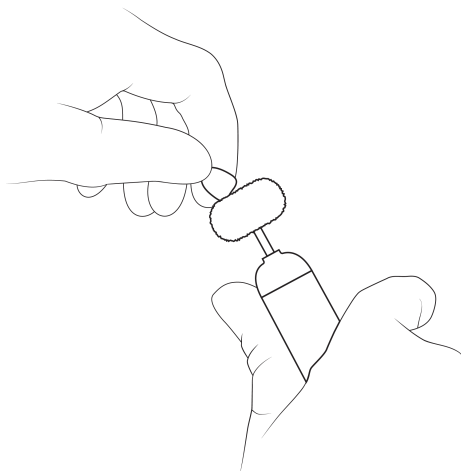
8.2 Deburr the Veneers

Use a carbide bur attachment to remove any remaining support stumps. Be careful not to cut the veneer itself.



8.3 Smoothen the Veneers

Use a polishing wheel attachment to create a smooth, even surface along the incisal edge of the tooth.

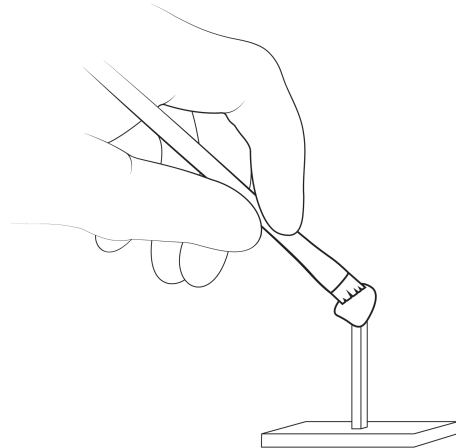


8.3 Characterize

Apply Glaze

Shake the bottle of glaze thoroughly, then pour into a dispensing dish. Apply thinly on the veneer surface with a brush. If you're applying a second coat, use an intermediate (short) cure before applying.

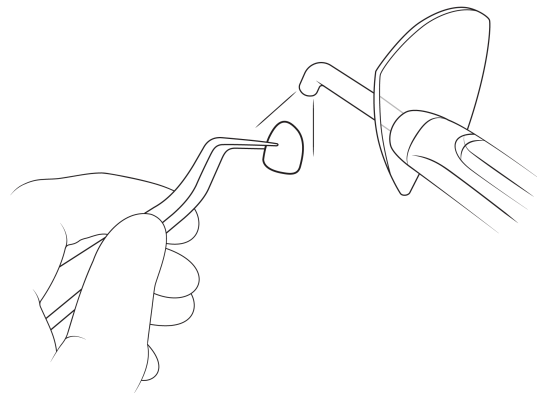
⚠ *Do not glaze the intaglio surfaces*



Light Cure

Use a handheld curing device at an approximate distance of 1 cm. Cure each coated surface, repeating as needed to fully cure any undercuts or areas in shadow.

⚠ *OptiGlaze cannot be fully cured with ProCure 2; use ProCure 1 at 0°C for 1 min or a handheld curing light*



8.4 Disinfect

Disinfect the veneers using a steamer if available, then brush lightly with dish soap. Make sure that the veneers are completely dry before cementation.

8. Lute the Veneers

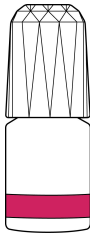
Time

20 minutes

Tools



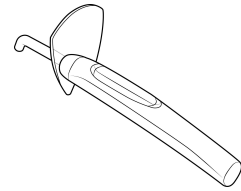
Panavia V5 Resin
Cement



Panavia V5 Tooth
Primer



Clearfil Ceramic
Primer Plus



Handheld curing light

8.1 Luting Protocol

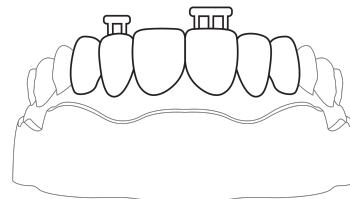
This is the SprintRay recommended workflow to maximize the strength between the resin cement and Ceramic Crown. Depending on the resin you're using, the luting recommendations may vary. If you are not using Ceramic Crown, consult the IFU for your material.



This protocol uses recommended products that maximize strength based on SprintRay research. Ceramic Crown is compatible with a wide range of cements and primers.

Fit Check

Check the fit of the veneers on the teeth. If necessary, make adjustments to the veneers to ensure a proper fit.



Clean and Prepare the Veneers

Clean and prepare the intaglio surfaces of the veneers. For maximum bond strength, you can sandblast the intaglio to create surface roughness.

Apply Primer to Veneers

Apply Clearfil Ceramic Primer Plus to the intaglio bonding surface of the veneers. Dry the adherent surfaces with compressed air.

Clean and Prepare Teeth

Follow the manufacturer's instructions for Panavia V5 Tooth Primer for priming of the teeth.

Apply Cement

Apply the cement to the intaglio surface of the veneers, distributing it evenly. Place the veneers, one at a time, on the teeth. Apply gentle pressure until fully seated.

Initial Polymerization

Remove excess cement from the margins of the veneers and light cure for 5 seconds. Remove the remaining excess cement with a dental hand instrument. Ask the patient to bite softly and hold in occlusion for 3 minutes for polymerization.

Final Check

Perform a final check to ensure that the veneers are fully seated, the margins are sealed, and the occlusion is correct.