

# TECHNIQUE GUIDE

A step-by-step guide to the Dentsply Sirona Restorative  
Single-Unit Crown Procedure

For more information visit [www.singleunitrestorations.com](http://www.singleunitrestorations.com)

# **SINGLE-UNIT CROWN** **TOTAL PRACTICE SOLUTION™**

To achieve a strong foundation and long-term success, you need a solution that provides high-performance products in combination with total practice education and one-on-one service and support.

Dentsply Sirona Restorative has designed a complete solution to deliver greater efficiency, predictable clinical outcomes, enhanced auxiliary staff usage, and overall patient satisfaction.

Explore this step-by-step guide for product directions and tips.

Then visit us on-line for procedural education and support.



DID YOU KNOW?

**48%**

OF AN OFFICE'S  
RESTORATIVE REVENUE  
CAN BE ATTRIBUTED TO  
SINGLE-UNIT CROWN  
RESTORATIONS<sup>1</sup>

1. Data on file.

# Preliminary Impression



1. Apply a thin layer of adhesive to prepare the tray and secure the impression material in place.



2. Bleed first from the cartridge and then from the mixing tip.



3. Fill the tray. Then seat and stabilize in the mouth. Once retrieved, evaluate the impression to ensure good adaptation and detail capture. Once cured, the matrix may be modified or trimmed, if necessary.

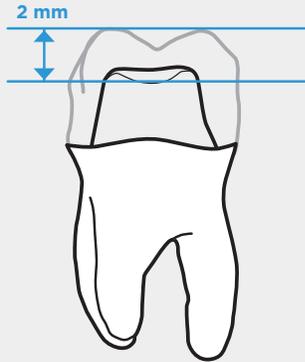


## Tips

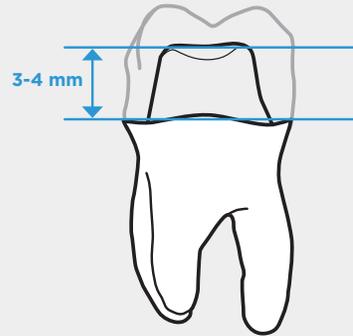
Create round bur holes on the buccal and lingual surfaces of the preliminary matrix to ensure easy removal of the provisional from the mouth.

Keep the impression on file as a safety measure in case the patient breaks or loses their provisional crown.

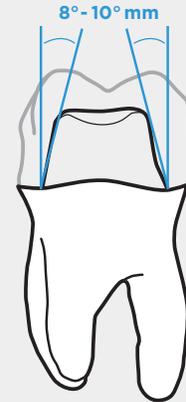
### Retentive Preparation



A preparation for an all-ceramic restoration requires a minimum of 1mm of axial reduction, 1.5mm across the occlusal surface and a full 2mm in the central fossa.



An ideal preparation should have at least 3-4mm of axial wall height.



An occlusal convergence or taper of between 8°-10° should be used to create inherent retention.

# Final Impression



1. Break off the tab with the syringe.



2. Push on the mixing tip until it snaps into place. The cartridge spur fits in square hole when assembled.



3. Load the cartridge/mixing tip/ intraoral tip (wash material only) through side opening. Push forward. Bleed through the tip prior to use. The mixing tip bends for greater access.



## Tips

Get up to 34% closer to tooth prep using the digit system for improved precision.

Use the end of the dispenser to remove the cap of the cartridge.

Ensure the mixing tip is fully inserted over the cartridge.



# Final Impression



1. Syringe the wash material around the prepared tooth using the digit® Targeted Delivery System beginning at the margin inter-proximally. Fill the tray while applying wash material to the prepared tooth.



2. Continue syringing up the axial walls and onto the occlusal surface. The remaining wash material can be placed across the adjacent occlusal surface to minimize potential for voids where the mixing tip is withdrawn.



3. Seat and stabilize it in the mouth. For fast set material, both the tray and wash material should come together before 35 seconds. The fast set material will be set in 2.5 minutes from mix and can be removed. Check the final impression to see that all detail has been recorded and that no errors have occurred.

**Aquasil® Ultra+**  
Smart Wetting® Impression Material



## Tips

Keep the tip submerged in the material at all times to prevent voids or bubbles in the final impression.

Choose a delivery method that allows you to get close to the prepared tooth for precision and improved control.

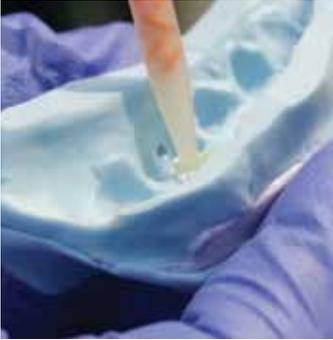
Know your work time – seating an impression after having exceeded work time can cause distortion.

See the instructions for use for assembly directions, if needed.

For double-arch impression trays, use a rigid impression material to help prevent distortion due to inadequate side-wall rigidity.



# Provisional Crown Fabrication



1. Bleed the cartridge prior to assembling the mixing tip, then again once the tip is in place to ensure equal parts of base and catalyst are dispensed. Dispense the material directly into the provisional matrix and seat in the mouth within 45 seconds of mix.



2. After 90 seconds, remove the matrix. The provisional should remain in the matrix. Self cure for 5 minutes from initial mix or light cure for 20 seconds directly in the matrix. Light curing increases strength and streamlines the work flow.



3. After light curing, or 5 minutes from the start of mix, adjust and trim the provisional with a slow speed acrylic bur and/or a high speed diamond bur. Finish and polish.



## Tips

Don't overfill the matrix. Fill approximately 2/3 of the tooth in the matrix impression.

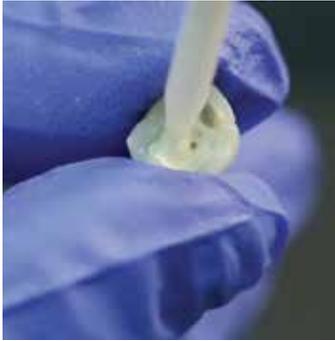
A smooth polish helps keep the surface resistant to plaque and ensure gingival health.

Always check the occlusion and occlusal fit to help prevent the remaining tooth structure from supra-erupting.

Consider making the provisional before the final impression, ensuring your provisional serves as a blueprint for the final restoration — indicating if further tooth preparation adjustments are necessary.



# Provisional Crown Cementation



1. Bleed the syringe, install the mixing tip, and then apply cement directly from the mixing tip to the entire internal surface in a thin, uniform layer. At room temperature, work times are between 1 to 1.5 minutes.



2. Immediately seat the provisional with gradual pressure. The cement will self cure within 2-3 minutes. Protect the restoration from contamination and movement during the setting time.



3. Remove gross excess from marginal areas. Use an instrument such as a blunted explorer, periodontal probe, or a clean, dry brush tip. Do not move or torque the restoration during removal. Pay special attention to remove excess inter-proximal cement using dental floss.



## Tips

Remove excess cement quickly and easily with an explorer and dental floss.

The ergonomic automix syringe delivers precise application and no longer requires hand mixing.

Integrity TempGrip material helps you avoid desiccating the prepared tooth because a dry surface is not required for the temporary cementation.



# Definitive Cementation



1. Clean and dry the permanent crown. Bleed the syringe, attach the mixing tip, and apply a thin uniform layer of cement to the entire intaglio surface of the restoration. No additional bonding agent is necessary.



2. Protect the restoration from contamination and movement until the final set of the cement. Please see the Procedure Chart for excess cement cleanup technique.



3. Following excess cement removal, exposed margins may be light cured 20-40 seconds to assist restoration stabilization. Please see the Procedure Chart for exact curing times. Then check final fit and bite.



## Tips

For excess cement cleanup, monowave LED lights like SmartLite® Focus® curing light with a single peak output of 470nm are recommended. High power, dual, or broad spectrum lights may cause premature hardening. Check curing light effect prior to clinical use.

Remove floss horizontally through interproximals during cleanup so as not to dislodge the restoration.

Follow lab or manufacturer's directions for use for pretreatment of the intaglio surface of the restoration.

<b>PROCEDURE CHART</b>	<b>Self Cure</b>	<b>Dual Cure – Non-Light Transmissible Restorations</b>	<b>Light Cure – Light Transmissible Restorations</b>
Type of Restoration	All	PFM, Zirconia, Alumina, opaque ceramics & composites	Translucent ceramics & composites
1. Fill and seat crown	up to 2 min	up to 2 min	up to 2 min
<b>Protect restoration from movement during gel phase cleanup through final set</b>			
2. Remove excess: Gel stage from seating Gel Duration	1-2 min 1 min	up to 5 sec per surface <sup>1</sup> light cure 45 sec	up to 5 sec per surface <sup>1</sup> light cure 45 sec
3. Stabilize	Constant occlusal pressure	Light cure margins 20-40 sec	Light cure margins 20-40 sec
4. Final set	6 min from start of mix	6 min from start of mix	Upon completion of light curing each surface <sup>2</sup> 10 sec

1. Buccal and lingual 2. Buccal, lingual, and occlusal

**AQUASIL® ULTRA+**  
SMART WETTING® IMPRESSION MATERIAL

- 678645 **digit® XLV Fast Set Small Cartridge Refill**  
50 Unit Doses  
50 Mixing Tips  
50 Intraoral Tips
- 678642 **digit® LV Fast Set Small Cartridge Refill**  
50 Unit Doses  
50 Mixing Tips  
50 Intraoral Tips
- 678670 **XLV Fast Set 4-Pack Cartridge Refill**  
4 Cartridges (50mL ea)  
12 Mixing Tips, 6 Intraoral Tips
- 678672 **LV Fast Set 4-Pack Cartridge Refill**  
4 Cartridges (50mL ea)  
12 Mixing Tips, 6 Intraoral Tips
- 678676 **Heavy Fast Set 4-Pack Cartridge Refill**  
4 Cartridges (50mL ea)  
12 Mixing Tips
- 678678 **Rigid Fast Set 4-Pack Cartridge Refill**  
4 Cartridges (50mL ea)  
12 Mixing Tips
- 678684 **DECA™ Heavy Fast Set Standard Pack**  
2 Cartridges (380mL ea)  
20 Dynamic Mixing Tips  
1 Bayonet Locking Ring
- 678688 **DECA™ Rigid Fast Set Standard Pack**  
2 Cartridges (380mL ea)  
20 Dynamic Mixing Tips  
1 Bayonet Locking Ring

**ALGIN•X™ ULTRA**  
ALGINATE ALTERNATIVE

- 61E800 **4-Pack Refill Cartridge – Fast Set**  
4 Cartridges (50mL ea)  
6 Mixing Tips
- 61E801 **Bulk Refill Cartridge – Fast Set**  
24 Cartridges (50mL ea)
- 61E810 **DECA™ Standard Pack – Fast Set**  
2 Cartridges (380mL ea)  
20 Dynamic Mixing Tips  
1 Bayonet Locking Ring

**CALIBRA® UNIVERSAL**  
SELF-ADHESIVE RESIN CEMENT

**Dual Cure AutoMix Syringe Refill Package**

- 2 Automix Syringes (4.5g ea)  
20 Mixing Tips
- 607402 Shade Light
- 607403 Medium
- 607405 Translucent
- 607406 Opaque
- 607407 Bleach
- 607086 **AutoMix Syringe**  
**Mixing Tip Refill (50)**

**INTEGRITY® TEMPGRIP®**  
TEMPORARY CROWN & BRIDGE CEMENT

- 666450 **Syringe Refill Package**  
2 Syringes (9g each)  
20 Mixing Tips
- 666460 **Mixing Tips Refill Package (50)**

**INTEGRITY® MULTI•CURE**  
TEMPORARY CROWN & BRIDGE MATERIAL

- 666650 **Introductory Kit**  
1 Cartridge Shade A2 (76g)  
15 Mixing Tips  
2 Syringes Integrity TempGrip Cement (9g ea)  
20 Mixing Tips for Integrity TempGrip Cement  
1 10:1 Cartridge Dispenser

**Cartridge Refill**

- 1 Cartridge (76g)  
15 Mixing Tips
- 666600 Shade A1
- 666610 A2
- 666670 A3
- 666620 A3.5
- 666630 B1
- 666640 BW
- 666680 C2
- 666280 **Cartridge Mixing Tips Refill (20)**



For Dental Use Only



Caution, consult  
instructions for use



www.dentsply.com  
www.dentsply.com/ifu