

Technique  
■ IPS e.max ZirPress



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Singular all-ceramic system that encompasses both pressable and CAD/CAM technologies

#### Features

- Indicated for press-to-zirconia restorations
- Maximizes marginal integrity of zirconium oxide substructures
- CTE of  $9.75 \pm 0.25 \mu\text{m}/\text{m}^\circ\text{K}$
- Biaxial fracture strength is  $110 \pm 10 \text{ MPa}$
- Highly esthetic fluorapatite glass ceramic ingot

#### Packaging

The IPS e.max system includes IPS e.max CAD, IPS e.max ZirCAD, IPS e.max Press, and IPS e.max ZirPress as well as IPS e.max Ceram layering ceramic, which is compatible with all of the substructures.

# Dental Lab PRODUCTS

## Pressing to zirconia

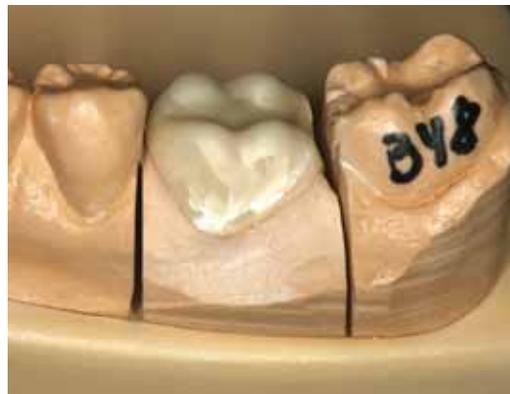
Using IPS e.max ZirPress for pressing to zirconium oxide CAD/CAM crown copings

By Nelson Rego, CDT; Smile Designs by Rego

Following are procedures for using **IPS e.max ZirPress** fluorapatite glass ceramic ingots with press-to-zirconia techniques to complete the fabrication of an IPS e.max ZirCAD crown restoration. The zirconium oxide block was processed according to standard protocol using the Sirona inLab CAD/CAM system.

CAD/CAM processing

A model was made from the impressions received from the doctor, optically scanned, and the images uploaded into a computer for processing into a digital model. The CAD program was used to establish the coping thickness and other parameters as well as finalize the coping design. The IPS e.max ZirCAD block then was placed in the



**Fig. 1** Zirconium oxide framework ready for conditioning and application of the pressable ceramic.



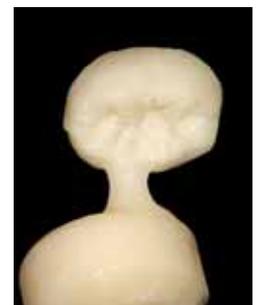
**Fig. 2** IPS e.max ZirLiner is applied to the coping to enhance esthetics and establish the bond interface.



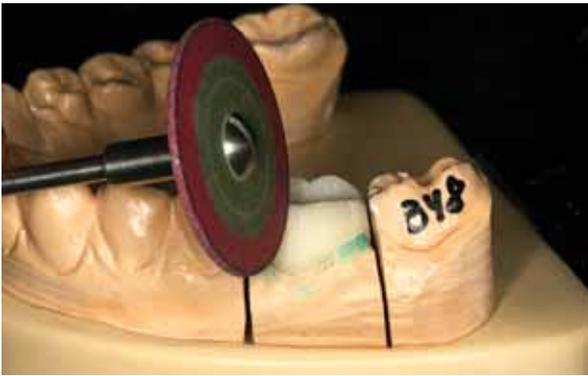
**Fig. 3** Full-contour wax-up of the restoration.



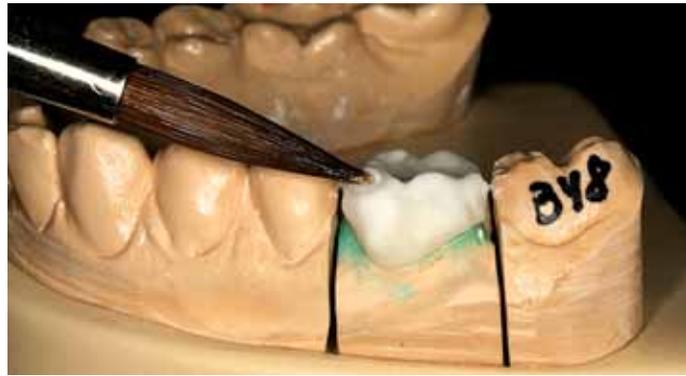
**Fig. 4** Sprued wax-up on the ZirCAD framework.



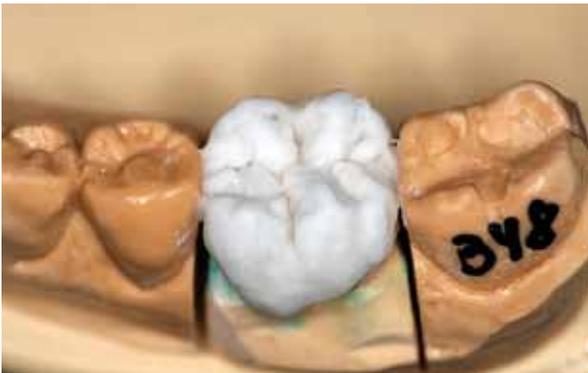
**Fig. 5** Divested, fully-shaped crown form consisting of the zirconium oxide framework and the ZirPress tooth shape.



**Fig. 6** The restoration is cut back for the application of e.max Ceram and internal characterizations.



**Fig. 7** Color, effects, and stains are applied to create natural characterizations.



**Fig. 8** Occlusal view of the restoration prior to firing and glazing.



**Fig. 9** The fit of the restoration is verified on the model after firing.



**Fig. 10** Stains and glaze are applied to the restoration, and it is then fired.



**Fig. 11** View of the final glazed restoration.

milling unit and milled, the margins were finished, and then the coping was sintered.

#### Press-to-zirconia technique

1. Place the sintered coping on the die framework to verify fit (Fig. 1).

2. To enhance the esthetics of the zirconium oxide framework and establish the bond interface, apply the IPS e.max Zir-Liner and fire according to the manufacturer's instructions (Fig. 2).
3. Fabricate a full-contour wax-up of the restoration (Fig. 3), similar to what would be completed for any pressed restoration. Perform a rough cut-back in wax to gain a perspective on what will later be created using the ZirPress ceramic.
4. Sprue the wax-up and the zirconium oxide coping (Fig. 4).
5. Invest the wax-up/coping, burn it out, and press the appropriately colored IPS e.max ZirPress ingot onto the coping (Fig. 5). *Note:* Once complete, you now have a full crown that is essentially two

layers: the zirconium oxide framework and the external tooth shape in e.max Zir-Press material.

6. Cut back the crown restoration using a rubber wheel to develop primary contours and create room for the application of effects and internal characterizations (Fig. 6).
7. Apply appropriate e.max Ceram powders (Fig. 7) to create natural characterizations in the restoration (Fig. 8).
8. Fire the restoration in an oven according to the manufacturer's instructions, and verify the fit of the restoration on the model (Fig. 9).
9. Stain and glaze the restoration using the IPS e.max Shade Pastes, Paste Stains, and glazes (Fig. 10) and fire to impart a natural luster in the restoration (Fig. 11). **DLP**