

# BRIDGES

## Zeno<sup>®</sup> Tec System

# 10



**The Strength of Zirconia.  
The Precision of CAD-CAM.  
The Esthetics of Nature.**

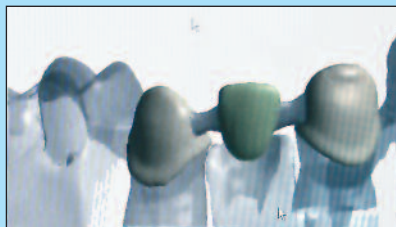
Zeno Tec<sup>®</sup> from Aurum Ceramic – the way Zirconia was meant to be used in an all-ceramic restoration. Employing the latest in innovative CAD/CAM technology and space age materials, you can now offer your patients restorations with unsurpassed strength, fit and esthetics anywhere in the mouth.

The combination of proven Zirconia frameworks (Hard-sintered flexural strength of 1300 MPa) and new generation veneering ceramics results in a whole new range of restorative possibilities. The overlay porcelains have been specifically designed to complement the natural greyish translucency (unlike the stark white of other zirconia materials) and fluorescence of the zirconium oxide core. They can be either pressed (Copings stopped one mm short of the margin, porcelain then pressed from margin to incisal edge) or layered to make your restorations come alive! The veneering ceramics feature a denser, fissure-free Nanoleucite<sup>®</sup> microstructure for greater fracture resistance and superior esthetics.

Zeno Tec is easy to work with because you can prepare and cement like an ordinary porcelain-fused-to-metal restoration (NO dentin bonding required) – a valuable chair time saver! Using precise crown and bridge chamfer preparations and traditional cementation techniques, even 14 unit metal free bridges cannot only be predictable, but highly esthetic.



### Exclusive “Smart Scanning Technology”



Zeno Tec's state-of-the-art 3Shape 3D laser scanner offers unsurpassed accuracy and precision. The prepared model is moved along three axes to capture all points on its surface (including undercuts). Un-scanned areas are automatically recognized by the unique adaptive scanning software and re-scanned from different angle capturing the entire geometry. The system's unparalleled accuracy of <math><20\ \mu\text{m}</math> ensures restorations with outstanding marginal fit and easy seating.

### Innovative Computer-Assisted-Manufacturing Techniques

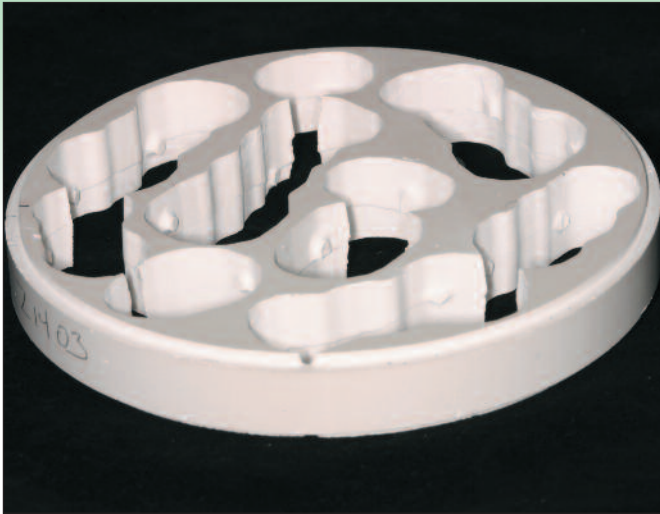


Zeno Tec frameworks are precision milled using Yttria Stabilized Zirconium (backed by over 25 years of research) that guarantees high precision and optimal fit. Use of the largest solid Zirconia disk on the market allows the milling of far larger frameworks than with competing systems. These substructures are “**hard sintered**” (for 12 hours) at a precisely defined high temperature supplying the required strength, reliability, fit and clinical performance for incredibly long span bridges.

### Features and Benefits

- The Strength of Zirconia. The Precision of CAD-CAM. The Esthetics of Nature.
- Use precise crown and bridge chamfer preparations and traditional cementation techniques.
- Prepared model laser scanned along three axes.
- Unique adaptive scanning software automatically recognizes and re-scans missed areas.
- Unparalleled accuracy of <math><20\ \mu\text{m}</math>.
- Precision milled from largest solid Zirconia disk on the market.
- Outstanding marginal integrity.
- Use your favorite C&B cement.

# Creating a Zeno<sup>®</sup> Tec Bridge – A *Pictorial Essay*



Zeno Tec Zirconia block after frames have been milled out.



Milled frame following 12 hours of "hard sintering".



Untrimmed frame shown on Master Model.



Finished frame fitted to Master Model.



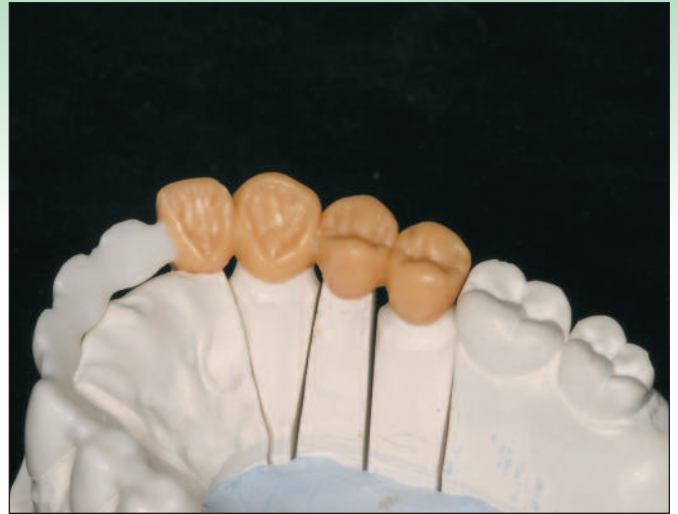
Left side of frame showing Contessa 360° butt margins ready to accept pressed ceramic.



Right side of frame showing typical porcelain to margin used in conventional porcelain build-up.



Partial wax-up of the Contessa section of the frame.



Lingual view of the partial wax-up of the Contessa section of the frame.



Overall view from basal.



Bridge after processing with pressed ceramic.



Final bridge viewed from labial.



Final bridge viewed from lingual.

## Indications:

- Anterior full-coverage crowns.
- Posterior full-coverage crowns.
- More extensive substructures than possible with competing systems.
- Implant all ceramic abutments to mask discoloration.

## Contraindications:

- Knife-edge and irregular margins.
- Insufficient preparation reduction.
- Inaccurate preparations.
- Unparalleled preparations.
- Undercuts in margin areas.
- Insufficient occlusal clearance (minimum 2 mm required).
- Veneers/Inlays/Onlays.

## Shade Selection:

- For basic shades, use the Vita Lumin, Vita 3D Master or Chromascop Shade Guides.
- For bleached shades, use the Chromascop Bleached Shade Guide, Vita 3D Master Bleached Shade Guide or Illuminé Shade Guide.

## Laboratory Requirements:

1. Thoroughly detailed prescription denoting which teeth are to be crowned, extracted and/or bridged as well as selected shade.
2. Clear and accurate upper and lower full arch impressions and study models.
3. Bite registration.

## Techniques and Tips:

### A. Preparation

- a) Zeno Tec can be fabricated on precise 360° butt or chamfer margin preparations. Clear margins are a prerequisite for an accurate restoration.
- b) Margins should be sharp, but all internal features, whether positive or negative, should be rounded as with any all-ceramic. Avoid sharp angles and undercuts.

- c) Maintain an even reduction of anatomical form.
- d) These are minimum requirements. Strength will be increased with more tooth reduction (Note: opacity will be less, translucency will be better).
- e) Zeno Tec connector sizes of 12 mm<sup>2</sup> (3 x 4 mm) minimum are sufficient to create esthetic restorations with harmonious dimension. Much more lifelike than 20 mm<sup>2</sup> (4 x 5 mm) connector dimensions demanded by other systems.
- f) Include a pre-op model for all anterior cases. Include an impression of temporaries for all anterior restorations when four or more units are involved.

### B. Cementation

- Zeno Tec crowns or bridges can be cemented with any conventional PFM cement (Glass Ionomer, Zinc Phosphate) or Composite Resin Cement (Panavia 21 or Unicem).

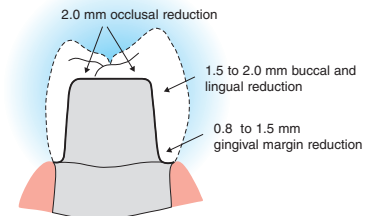
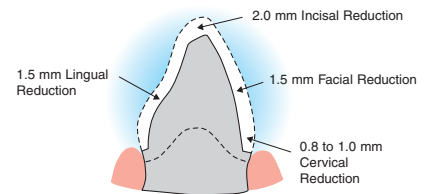
*NOTE: Cements with higher expansion rates (e.g., hybrid ionomer cements) must NOT be used.*

- Clean tooth surfaces. Tooth surface should not be dehydrated when cement is applied. Excessive drying concentrates protein debris and prevents efficient wetting of tooth surface.
- Never use varnishes to protect tooth if polyacrylic acid cements are used (prevents chemical bonding to tooth structure).
- Protect margins of cement with varnish after initial set (5 to 6 minutes). Saliva should not come into direct contact with unset cement.

### Adjustment Tips:

- Avoid internal adjustment of Zeno Tec restorations. When adjustments are necessary, adjust prepped tooth.
- Porcelain sections of the restoration may be polished with conventional ceramic polishing systems.
- Avoid use of carbide burs.

## Crown Preparation



## Bridge Framework Preparation

