Take your ceramics to the next level with Zirconia

Cementation Guidelines for Labs and Dentists

Zirconia abutments with the esthetics of natural preparations can now be custom made with state-of-the-art CAD/CAM technology. Titanium interfaces (bases) from Attachments International allow you to incorporate a metal interface with the implant and the head of the screw. This concept prevents stress from being directed to the zirconia when the screw is torqued.

**Step by Step.**

1. **Waxing Sleeve**
   - Attach titanium base to implant analog in model. Create wax-up for custom abutment using waxing sleeve.

2. **Scan of Titanium Base with Guide Pin**
   - Shorten titanium base as required. Attach titanium base to analog with guide pin. Shorten guide pin if necessary to fit within the zirconia ingot/block. Block-out screw access hole. Apply occlusal spray, then scan.

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**Zirconia Abutment**

**Titanium Base**

**Screw Seat**

**Implant Interface**

**Titanium Base**

**Implant**

**Wax Pattern**

**Waxing Sleeve**

**Guide Pin**

**Titanium Base**

**Implant Analog**
Place guide pin into wax-up. Length of guide pin must fit within dimensions of zirconia ingot/block. Apply occlusal spray, then scan custom wax-up with guide pin.

Alternative to using guide pin: Block out over head of screw holding titanium base to analog of with wax. Apply occlusal spray and scan as usual. Apply occlusal spray to custom wax-up and scan. Manually expose screw access hole from machined zirconia abutment before sintering.

Use software to position connectors to zirconia abutment for milling.

Zirconia abutment is milled from ingot/block. The zirconia abutment is then shaded, sintered and finished.

Sandblast inside of zirconia abutment that will be in contact with titanium base. \( \leq 50 \text{ um} \) Aluminum oxide at 2 bar is recommended. Clean with ethanol.

Attach titanium base to implant analog and sandblast surface that will be in contact with zirconia abutment. Clean with ethanol.

First, lightly apply petroleum jelly to occlusal inside channel for screw head. Then apply dual-cure composite resin cement (shown above) to inside surface of zirconia abutment and to outside of titanium base that will be in contact.

Apply wax over head of screw prior to cementation.
Cure following cement manufacturers’ recommendations using handheld or bench top curing unit.

Scan finished zirconia abutment and design final coping.

CAD/CAM machine, shade, sinter and finish final zirconia coping. Apply ceramics and finish definitive restoration.

Titanium Bases available:

<table>
<thead>
<tr>
<th>Compatibility / Description</th>
<th>REF #</th>
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<tbody>
<tr>
<td><strong>Nobel Biocare® Compatible Select (Internal Tri-Channel Connection)</strong></td>
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<tr>
<td>Select 3.5 Engaging Titanium Base, Plastic Waxing Sleeve &amp; .050”/1.25mm Hex Screw</td>
<td>54-350602</td>
</tr>
<tr>
<td>Select 4.3 Engaging Titanium Base, Plastic Waxing Sleeve &amp; .050”/1.25mm Hex Screw</td>
<td>54-430602</td>
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<td>Select 5.0 Engaging Titanium Base, Plastic Waxing Sleeve &amp; .050”/1.25mm Hex Screw</td>
<td>54-500602</td>
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<tr>
<td>Select 3.5 Engaging Titanium Base, Plastic Waxing Sleeve &amp; Uni-Torx Screw</td>
<td>54-350607</td>
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<tr>
<td>Select 4.3 Engaging Titanium Base, Plastic Waxing Sleeve &amp; Uni-Torx Screw</td>
<td>54-430607</td>
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<tr>
<td>Select 5.0 Engaging Titanium Base, Plastic Waxing Sleeve &amp; Uni-Torx Screw</td>
<td>54-500607</td>
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<tr>
<td><strong>Zimmer® &amp; BioHorizons® Compatible Tapered Screw-Vent® &amp; BioHorizons® Internal</strong></td>
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<tr>
<td>Screw-Vent 3.25-3.75 Engaging Ti Base, Plastic Waxing Sleeve &amp; .050”/1.25mm Hex Screw</td>
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<tr>
<td>Screw-Vent 4.25-4.7 Engaging Ti Base, Plastic Waxing Sleeve &amp; .050”/1.25mm Hex Screw</td>
<td>49-400602</td>
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For more information visit www.attachments.com

These procedures are meant to be only guidelines.

**Acknowledgements**
Aesthetic Oral Arts, Livingston, MT
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