Tizian Blank

Tizian
Zirconia Reinforced Composite
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Inspired by Nature

This innovative combination of materials offers both the advantages of high-performance acrylics and zirconium dioxide: The CAD/CAM material is moderately flexible yet abrasion-resistant and very comfortable to wear.

The Tizian Zirconia Reinforced Composite is slightly elastic exactly like the natural tooth and adopts a kind of “buffer function”. Chewing forces are spread out in the jaw which reduces the selective stress on the bones. The bones remain intact. In combination with the veneering composite dialog Vario Occlusal, you can rebuild the physics of the natural tooth as authentically as possible.

Due to its hardness, the dialog Vario Occlusal applied to the framework of Tizian Zirconia Reinforced Composite creates an accurate likeness to the natural enamel. Together, the two materials recreate the physics of the natural tooth. This is also referred to as the “bionic principle”. The system is wear-resistant and abrasion-resistant whilst being gentle on the jaw joint and the antagonists.

The system is perfectly suited for the treatment of implant-supported cases.

Also suitable for Table-Tops and partial crowns e.g. for the treatment of bruxism patients.
Indications

Just one layer to create a “bionic restoration“

Permanent restoration

- Up to 3-unit bridges
- Individual crowns
- Inlays
- Onlays
- Veneers

Long-term temporaries, up to 2 years

- Crown and bridge structures with up to 16 units
- Up to 2 bridge units in the side-tooth area
- One premolar pontics with cantilever bridges

Your benefits at a glance

1. Accurate likeness to the physics of the natural tooth
2. Suitable for milling in all current open CAD/CAM systems with a blank holder for 98 mm blanks
3. Very high flexural strength and therefore suitable for bridges
4. Extremely gentle on the antagonists and on the jaw - ideal for bruxism and TMD patients
5. X-ray visibility = safe to use
6. Suitable for intra-oral and extra-oral repairs with composites
7. Highly abrasion-resistant
8. Dry milling = clean work
9. Excellent polishing qualities

Composite veneering required

Composite veneering optional
Technical Data

Tizian Zirconia Reinforced Composite

Chipping and breakage is reduced thanks to optimal physical properties such as the minimal E-module and a coordinated Vickers hardness.

Models

<table>
<thead>
<tr>
<th>Colors</th>
<th>A1, A2, A3, A4, B2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>98 mm</td>
</tr>
<tr>
<td>Height</td>
<td>16 and 20 mm</td>
</tr>
</tbody>
</table>

E-Module

The lower the E-module, the more flexible the material. Consequently, Tizian Zirconia Reinforced Composite is very well suited for implant-supported restorations.

Physical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-module</td>
<td>3.050 MPa</td>
</tr>
<tr>
<td>Flexural strength</td>
<td>72 MPa</td>
</tr>
<tr>
<td>Vickers hardness</td>
<td>196 MPa</td>
</tr>
<tr>
<td>Water solubility</td>
<td>1.6 μg/mm³</td>
</tr>
<tr>
<td>Residual monomer count</td>
<td>&lt; 1.0 %</td>
</tr>
</tbody>
</table>

Comparative Vickers hardness values

The Vickers hardness of the system is specially coordinated with the natural tooth. This ensures that the “bionic restoration” with Tizian Zirconia Reinforced Composite is abrasion-resistant, long lasting and protects the jaw bone, antagonists and TMJ.

<table>
<thead>
<tr>
<th>Material</th>
<th>Hardness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural enamel</td>
<td>approx. 550 MPa</td>
</tr>
<tr>
<td>“Bionic restoration” with Tizian Zirconia Reinforced Composite and dialog Vario Occlusal</td>
<td>560 MPa</td>
</tr>
<tr>
<td>Zirconium dioxide</td>
<td>1.200 MPa</td>
</tr>
<tr>
<td>Lithium disilicate glass</td>
<td>5.800 MPa</td>
</tr>
</tbody>
</table>
A Permanent Restoration, Step by Step

Just one layer to create a “bionic restoration”

1. Planning

The restoration is planned out using e.g. the Tizian Creativ RT CAD Software.

2. Milling

Next the work is milled in the CAD/CAM system. The Tizian Zirconia Reinforced blanks are suitable for milling in all current open CAD/CAM systems e.g. Tizian Cut 5 smart.

3. Separate the bridge

The bridge is separated from the blank using a pointed mill.

4. Fitting the work

The work is fitted using clean, cross-toothed, hard metal mills.

5. Cutting edges

If desired, you can reduce the structure on the cutting edge and create the appearance of mamelons. This will make the restoration more translucent and increases authenticity.

6. Surface conditioning

The surface conditioning is carried out through sand blasting with aluminium oxide (max. 110 μm, 2 bar, in an obtuse angle). The surface must be clean, dry and grease-free before continuing. Take care not to overheat the surface when steam-cleaning.
In this next stage, the bonding agent e.g. dialog Bonding Fluid is applied. The coated base can be cured with a standard light-curing device e.g. 30 seconds in Spektra LED. This makes the surface slightly sticky (layer of dispersion) and ensures that the chemical bonding between the base and the composite is safely carried out.

Allow 3 minutes for the final polymerization of your work if using the light-curing device Spektra LED.

If desired you can individualize your work by applying dialog Vario Chroma Flow Intensive Colors as you wish. This will give the restoration a very natural characterization.

**Possible characterization**

(Depending on the color of the tooth)

- **Fissures**
  - Dark Brown (selective, for in-depth effects), Light Brown, Khaki, Yellow (recommended with B1 and A1) and Orange

- **Neck/Body of the tooth**
  - Light, Dark Brown, Khaki (works well with A-colors)

- **Mamelons**
  - Blue (for “Window effect”), White (for enamel cracks)

- **Inter-dental areas**
  - Light Brown, Khaki, Yellow, Orange

**Tip:** The colors should be applied using a thin brush and can be mixed with the other colors. dialog Vario Chroma Flow can also be mixed with composite pastes.

Now apply dialog Vario Occlusal thinly, which imitates the natural enamel. Allow the bonding agent to flow softly up to the neck of the tooth to allow for a natural color gradient. The light-curing time for the intermediate polymerization should take between approx. 60-90 seconds per layer for all colors.

**Recommended colors**

for Tizian Zirconia Reinforced Composite blanks

<table>
<thead>
<tr>
<th>Tooth shade</th>
<th>Recommended color for incisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>dialog Vario Occlusal S 58</td>
</tr>
<tr>
<td>A2</td>
<td>dialog Vario Occlusal S 58</td>
</tr>
<tr>
<td>A3</td>
<td>dialog Vario Occlusal S 59</td>
</tr>
<tr>
<td>A4</td>
<td>dialog Vario Occlusal S 60</td>
</tr>
<tr>
<td>B2</td>
<td>dialog Vario Occlusal S 59</td>
</tr>
</tbody>
</table>

Allow 3 minutes for the final polymerization of your work if using the light-curing device Spektra LED.
Give your work its final shape and structure with a diamond mill. The white lens is suitable for surface preparation and polishing. Use a goat-hair brush and our dialog Vario Polish polishing paste for the preparatory polishing. Next polish the restoration to a high gloss finish using the cloth polishing brush.

The final side-tooth bridge characterized with dialog Vario Chroma Flow Intensive Colors.

"You will have your bridges completed in just a few minutes. And this won't compromise the aesthetic either. What's more, the "bionic principle" offers you a high level of safety. Even your dentists will be astonished at how accurately your restoration imitates the natural tooth."

The import of TMJ movements measured with the zebris system (for functional diagnostic) is possible with the Complete Digital Workflow. This ensures that the natural TMJ movement is included right from the beginning when creating a restoration. This reduces your grinding times and also saves time for the dentist.
Call us on:
+49 (0) 6003 814-365

More information under:
http://sdent.eu/zirco