

# Fabrication of a screw-retained, implant-supported bridge

Yuki Momma<sup>1</sup>

Efficient staining and minimal layering

Monolithic IPS e.max<sup>®</sup> ZirCAD Prime restoration with layered pink gingiva on six implants

## 1. Patient situation

Temporary patient restoration

Due to a trauma during childhood, the patient already had a fixed, six-unit bridge from tooth 13 to 23. The upper anterior region showed significant bone resorption.



Figure 1. Patient situation before treatment



Figure 2. Temporary patient restoration

The posterior teeth were extracted due to extensive prior periodontal disease. A bilateral sinus lift was performed during placement of 6 implants.

After the healing interval and exposure of the implants, a provisional bridge was placed on multi-unit abutments and the remaining tooth, 11, was extracted.

The patient was already delighted with the appearance of the temporary and did not feel limited by it.

That's why I began the final restoration.

## 2. Framework design

IPS e.max<sup>®</sup> ZirCAD Prime



The implant-supported Prime zirconia bridge after milling – the correct design of the sintering support structure is important to ensure a precisely fitting restoration and to prevent stresses within the framework during sintering.



The IPS e.max ZirCAD Prime bridge after sintering.

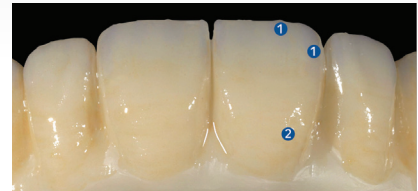


After sintering.

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### 3. 1st firing cycle

IPS e.max® Ceram, IPS Ivocolor



After fitting the IPS e.max ZirCAD Prime restoration on the master model, finishing of the restoration could begin.

In the first step, the teeth were individualized by staining using IPS Ivocolor stains.

By using IPS Ivocolor S11 in the incisal area, I achieved a slight blue colouration of the incisal area, while IPS Ivocolor SD3 made the cervical area appear more chromatic.



For reproduction of the gingival portion of the bridge, I used IPS e.max Ceram G3 and mixed it with IPS e.max Ceram E22 (aubergine) to accentuate the appearance.

The result after the first firing cycle.

1 = IPS Ivocolor Shade Incisal S1 2 = IPS Ivocolor Shade Dentin SD3 3 = IPS e.max Ceram G3 + IPS e.max Ceram E22

### 4. 2nd firing cycle

IPS e.max® Ceram, IPS Ivocolor



For the second firing, I used IPS e.max Ceram PD BL2 in the papillary area to create the lighter areas. For the pink areas of the gingiva, I used IPS e.max Ceram G3 and mixed it with IPS e.max Ceram E21 (berry). For the first glaze firing of the teeth, I used IPS Ivocolor Glaze Paste.

The result after the second firing cycle.

1 = IPS Ivocolor Glaze Paste  
2 = IPS e.max Ceram PD BL2  
3 = IPS e.max Ceram G3 + IPS e.max Ceram E21

### 5. 3rd firing cycle

IPS e.max® Ceram, IPS Ivocolor



In the next firing, I created slight enamel cracks on the anterior teeth using IPS Ivocolor SD0. To finish gingival layering, I mixed IPS e.max Ceram G3 with transparent IPS e.max Ceram T (clear) and, again, IPS e.max Ceram E21 (berry).



The result after the third firing cycle

- 1 = IPS Ivocolor SD0
- 2 = IPS e.max Ceram G3, IPS e.max Ceram G3, IPS e.max Ceram E21

### 6. After firing

IPS Ivocolor



After firing, I finished the gingival part of the restoration and adjusted the transitions to the anatomical conditions.



In the final step, I created a natural-looking surface using IPS Ivocolor E01 (white) and IPS Ivocolor E02 (cream). Before the final firing, I glazed the bridge once again with IPS Ivocolor Glaze Paste.



Final restoration on the master model.

- 1 = IPS Ivocolor Shade Incisal S1
- 2 = IPS Ivocolor Shade Dentin SD3

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The final restoration in situ.