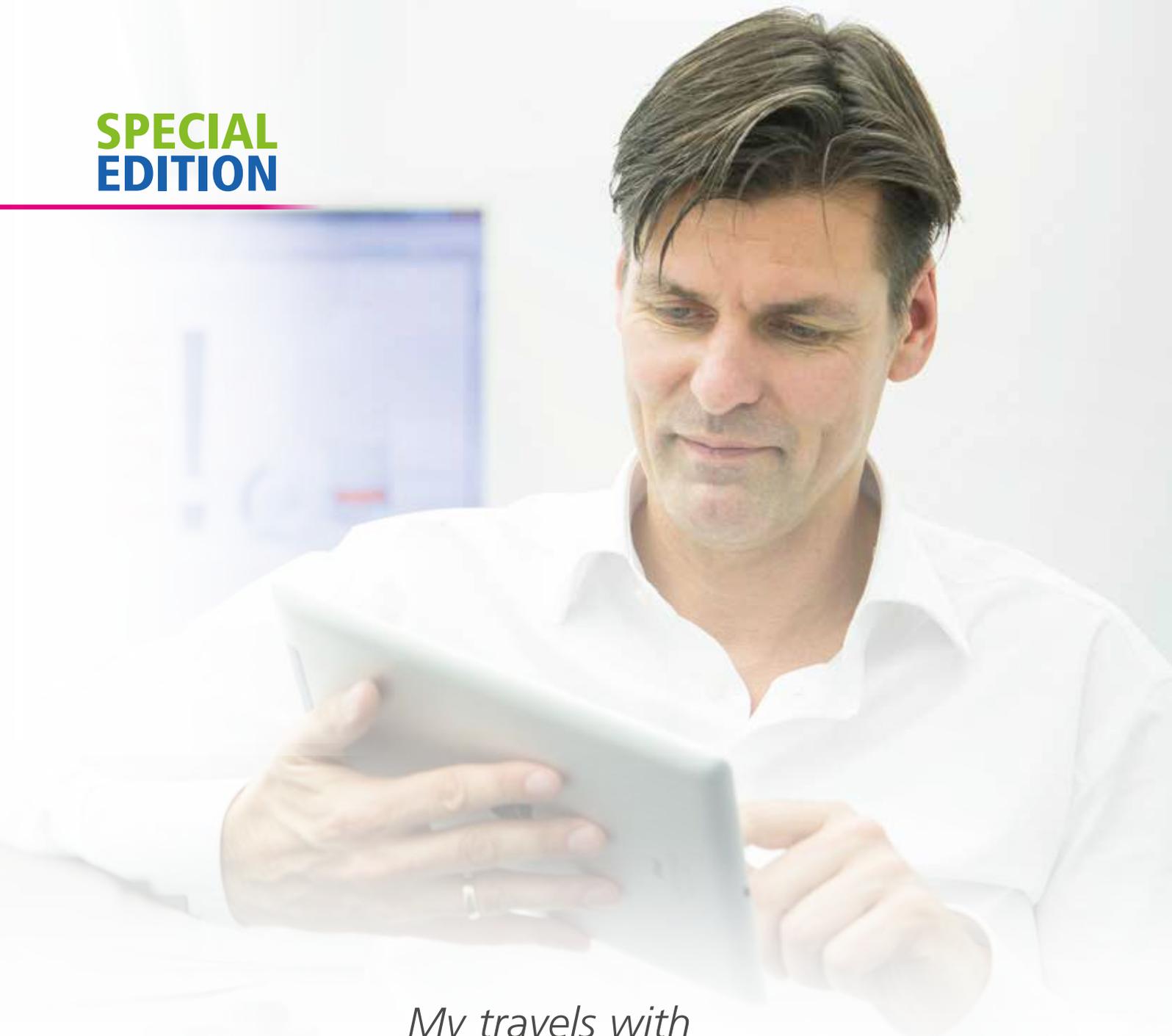


**SPECIAL  
EDITION**



*My travels with*

# IPS Style<sup>®</sup>

*Oliver Morhofer*

**MAKE IT  
STYLE  
YOUR!**

**ivoclar<sup>®</sup>  
vivadent<sup>®</sup>**  
passion vision innovation

# My itinerary:

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## *A good dental technician is a good listener*

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By listening carefully I have gathered valuable information for this personal account of my travels with IPS Style® in this Special Edition. I invite you to accompany me on my trip from Recklinghausen to Munich in Germany and finally to Osaka in Japan.

On this trip, I participated in three courses, which involved the treatment of actual patients. These cases allowed me to use and experiment with IPS Style in very different ways. I gathered a wealth of experience in the process, which I would now like to share with you in the present Special Edition. I would like to thank Michael Donhauser, the Head of Dental Lab Education at Ivoclar Vivadent. He is a great proponent of live patient courses and therefore provides us with many opportunities to share our knowledge and experience with other professionals.



# 1<sup>ST</sup> PART

*Recklinghausen – Munich, Germany*

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# MAKE IT EASY.

## The first hands-on patient course with IPS Style®

“ This restoration formed part of the first live patient course that I attended in Munich. I used IPS Style to fabricate it. The patient wished to have more attractive central incisors 21 and 11.

In the anterior tooth region, we generally like to use the all-ceramic material IPS e.max®. In this case, therefore, I produced an IPS e.max CAD LT crown for the vital tooth 21. I then restored the devitalized tooth 11 with an IPS e.max CAD Bleach crown. In order to harmonize the appearance of the two crowns, I coloured the IPS e.max CAD crown and subsequently coated it with a mixture of IPS e.max Ceram Impulse Occlusal Dentin OD orange, IPS e.max Ceram Impulse Mamelon MM light and IPS e.max Ceram Deep Dentin A2. The basic restorations were fabricated in our laboratory in Recklinghausen. I finalized them later on during the hands-on course in Munich and then tried them in on the patient.

How is this case related to IPS Style? You'll find out shortly...

”

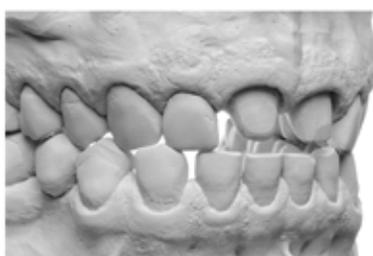
- **Dentist:**  
Dr Baris Yanik
- **Case planning/Photographic documentation:**  
Joachim Werner, Oliver Morhofer
- **Dental lab work:**  
Oliver Morhofer  
(all from Germany)



A polarizing filter helps to reduce any reflections and facilitates the analysis of internal structures.

## *Initial situation*

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## **An innate feeling for the perfect smile**

The functional and model cast analysis establish the basis for the reconstruction of the teeth. Dental technicians often define the perfect restoration or smile with reference to a certain ideal or standard. In the end, however, it is the patients who determine what they feel is perfect for them.

## The result

I checked the space available for the ceramic layers with a matrix. In designing the IPS e.max crowns, I referred to the shape and colour of the neighbouring teeth and the teeth in the lower jaw. Their natural colouring and texture was quite straightforward.



The black-and-white image reveals the uniform brightness of the two IPS e.max crowns. The surface structure of the restorations harmonizes with the adjacent teeth.



### **Tip:**

*No matter what kind of material is used – be it all-ceramics or metal-ceramics: The relationship of the dentin and incisal portions must be balanced, without needing any major adjustments.*



**Tip:** When I select the restoration shade, I always use a polarizing filter to evaluate the chroma. Natural fluorescence is visible under ultraviolet light.



The layered and characterized IPS e.max CAD LT and IPS e.max CAD Bleach crowns

## Variation

### Now, how is this case related to IPS Style®?

Before I attended the live patient course, I was given an IPS Style Ceram Starter Kit to try. As a result, I had the idea of solving this case not only using an all-ceramic, but also a metal-ceramic material. In parallel to the IPS e.max crowns, therefore, I created restorations for tooth 11 and 21 with IPS Style in our laboratory in Recklinghausen prior to the course.



This allowed me to critically assess the new IPS Style ceramic materials in the patient's mouth in Munich at a later stage.



Two anterior IPS Style crowns: on the left photographed with a polarizing filter; on the right under ultraviolet light for evaluating the fluorescence of the material

## *The result*

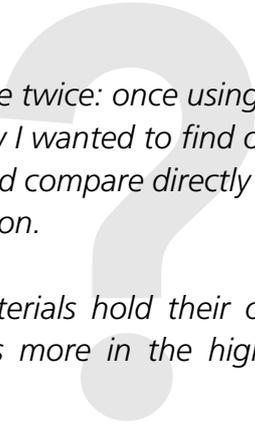


Two crowns: 11 and 21 made of IPS Style

*Short diversion*

---

***Would it be possible to combine  
IPS Style® with IPS e.max®?***



*I had solved the case twice: once using IPS e.max and once using IPS Style. Now I wanted to find out how the IPS Style metal-ceramic would compare directly next to an IPS e.max all-ceramic restoration.*

*Could the two materials hold their own if used side by side – and what is more in the highly esthetic anterior region?*

## One IPS Style® crown, one IPS e.max® crown. Which crown is which?

The “conventional solution” using IPS e.max served as the reference to answer the above question: I removed the IPS e.max crown from the devitalized tooth 11 and exchanged it for a crown made of IPS Style. The IPS e.max crown on tooth 21 remained in place.

Both materials looked almost identical in the patient’s mouth – even though, as previously mentioned, I only had a limited assortment of materials at my disposal. In this case, IPS Style was definitely capable of competing with IPS e.max. The brightness level of the IPS e.max crown corresponded to that of the IPS Style crown.



The two ceramics side by side: Tooth 21 restored with an IPS e.max CAD LT crown and tooth 11 restored with an IPS Style crown



### Tip:

*Ultimately, it is important to assess the behaviour of the different materials in the mouth and then decide which material is the most appropriate in the given situation – irrespective of whether you prefer to use all-ceramic or metal-ceramic materials.*

## IPS Style® and IPS e.max®



Initial solution:  
Tooth 21 and 11 restored  
with IPS e.max CAD;  
photographed with a  
polarizing filter



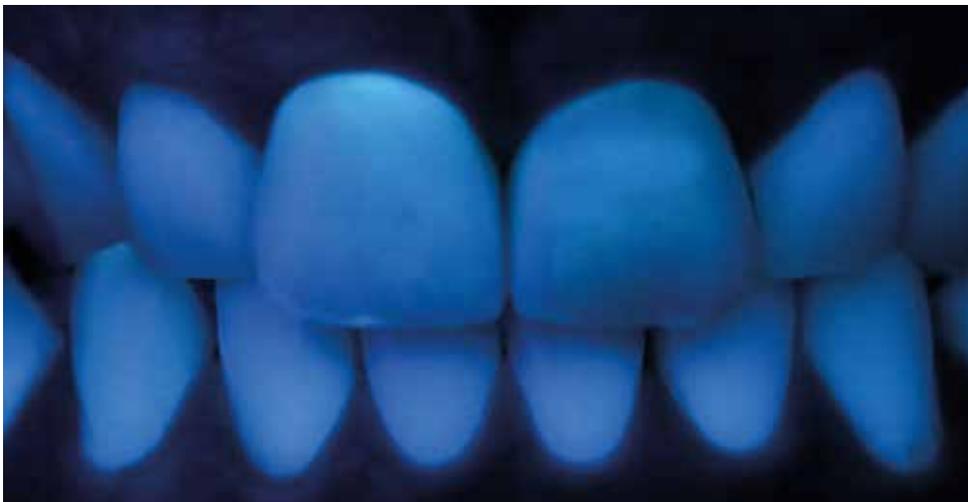
Alternative: Tooth 21 and 11  
restored with IPS Style;  
photographed with a  
polarizing filter



Combination: Tooth 21  
restored with IPS e.max and  
tooth 11 restored with  
IPS Style; photographed  
with a polarizing filter

## IPS Style® and IPS e.max®

The metal framework did not have a distinct shoulder. Nevertheless, I placed some shoulder material during the layering process in order to find out how strongly it would fluoresce: I applied the material on the metal framework before the dentin firing cycle and then fired the restoration at 840 degrees Celsius. I did not cut-back the metal framework.



Under ultraviolet light the shoulder material in the cervical area of the IPS Style crown was shown to be too intense. UV light is suitable for revealing the intensity of the fluorescent areas so that they can be adjusted accordingly.

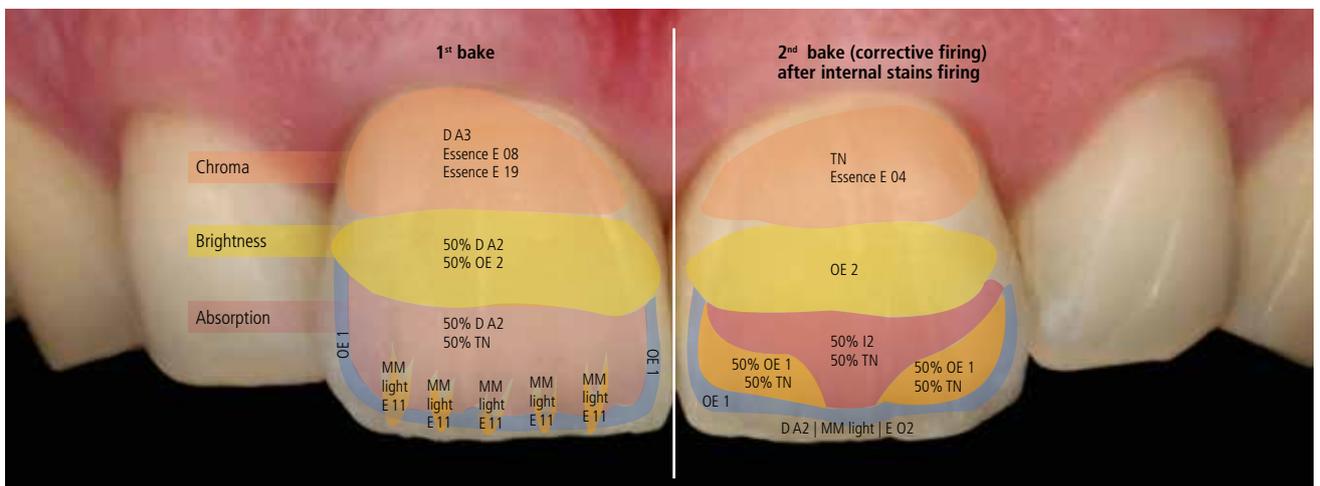


### **Tip:**

*The IPS Style Ceram Margin material is highly fluorescent. Selectively applied, it can be used to mask dark edges and impart additional brightness to the restoration.*

## The layers

Tooth 11 and 21, both restored with IPS Style®.



I layered the restorations with the materials from the test set that I was given:

- |  |   |  |  |
|--|---|--|--|
|  IPS Style Ceram Opal Effect OE 1 |  IPS Style Ceram Transpa T neutral |  IPS Ivocolor Essence E 02 cream  |  IPS Ivocolor Essence E 19 rose       |
|  IPS Style Ceram Opal Effect OE 2 |  IPS Style Ceram Incisal I2        |  IPS Ivocolor Essence E 04 sunset |  IPS Ivocolor Essence E 11 cappuccino |
|  IPS Style Ceram Dentin A2        |  IPS Style Ceram Mamelon MM light  |  IPS Ivocolor Essence E 08 khaki  |  |
|  IPS Style Ceram Dentin A3        |   |  |  |

### 1<sup>st</sup> bake

In order to impart the restoration with beautiful colour intensity, I mixed in a small amount of IPS Ivocolor Essence E08 khaki and IPS Ivocolor Essence E19 rose with the IPS Style Ceram Dentin A3. In the bright zone I used a mixture of 50 % IPS Style Ceram Dentin A2 and 50 % IPS Style Ceram Opal Effect OE 2.

I created the desaturated dentin area by using a mixture of 50 % IPS Style Ceram Dentin A2 and 50 % IPS Style Ceram Transpa T neutral. I imitated the mamelons with IPS Style Ceram Mamelon MM light and the IPS Ivocolor Essence stain E11 cappuccino. Finally, I lightly coloured the fired dentin material with IPS Ivocolor. Along the incisal margin, I applied some IPS Style Ceram Opal Effect OE1.

### 2<sup>nd</sup> bake (corrective firing) after internal stains firing

I layered the chromatic area with IPS Style Ceram Transpa T neutral, mixed with IPS Ivocolor Essence E04 sunset. I used IPS Style Ceram Opal Effect OE2 in the bright zone. I mixed 50 % IPS Style Ceram Incisal I2 with IPS Style Ceram Transpa T neutral. In addition, I worked with a mixture of 50 % IPS Style Ceram Transpa T neutral and 50 % IPS Style Ceram Opal Effect OE 1. I outlined the entire area with IPS Style Ceram Opal Effect OE 1. On the incisal edge, I applied a blend of IPS Style Ceram Dentin A2, IPS Style Ceram Mamelon MM light and IPS Ivocolor Essence E02 creme.



The completed restoration in situ: IPS Style (11) next to IPS e.max (21)



#### Tip:

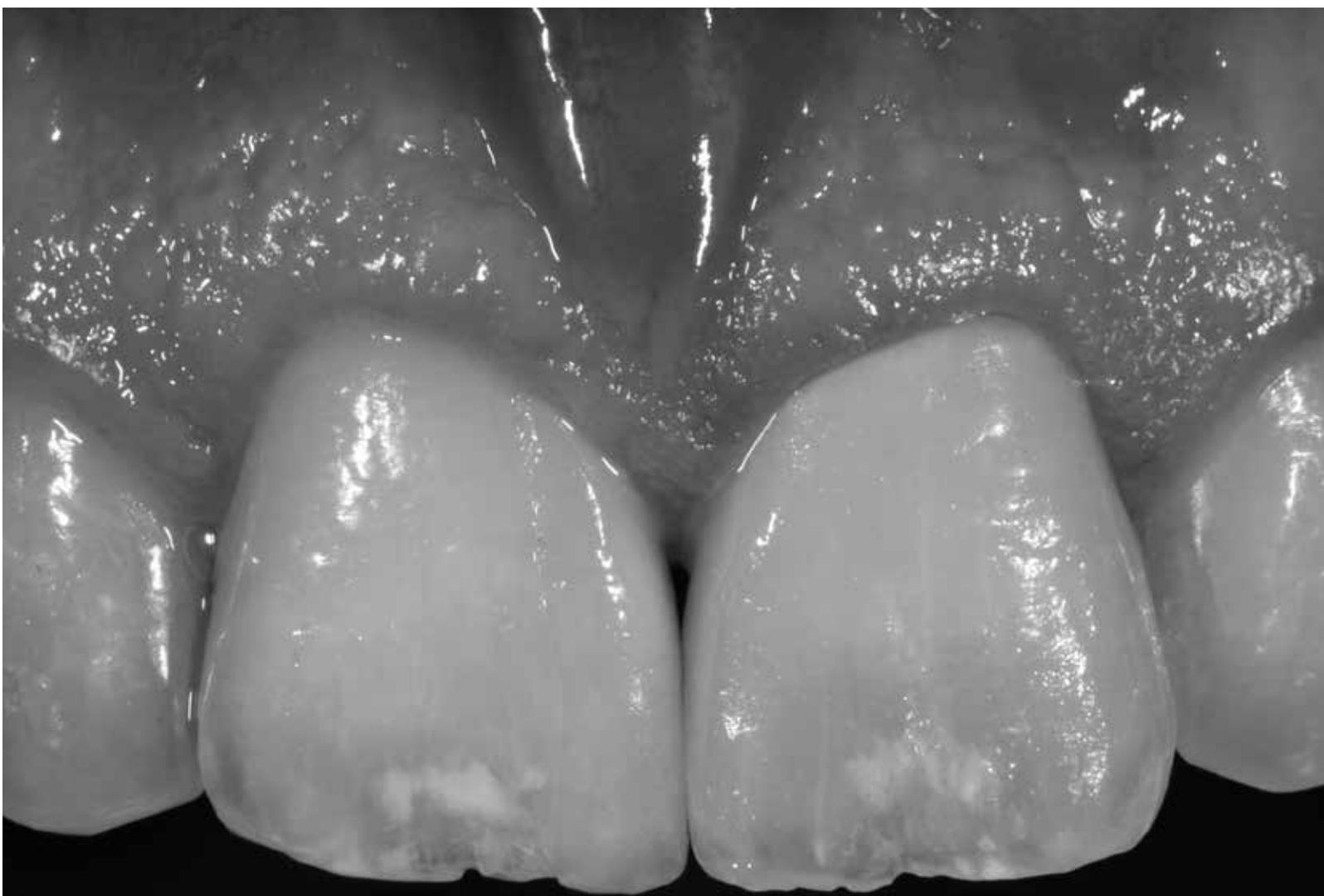
*The IPS Style Ceram Incisal materials should be used in undiluted form only in areas that need to be accentuated or if space is limited.*

After this first successful part of my trip, it was time for me to move on.

# 2<sup>ND</sup> PART

*Rastede – Recklinghausen – Munich, Germany*

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# MAKE IT UNIQUE.

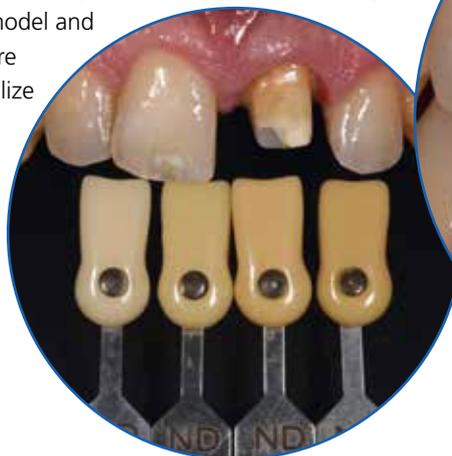
” *My travels with IPS Style again took me to Southern Germany. Another live patient course in Munich provided me with the opportunity to test this metal-ceramic material.* ”

- **Dentist:**  
Prof. Dr Jürgen Wahlmann
- **Case planning/  
Photographic documentation:**  
Jan-Holger Bellmann, Oliver Morhofer
- **Dental lab work:**  
Oliver Morhofer  
(all from Germany)

## *Initial situation*

Our task was to produce a crown for tooth 21 of the patient.

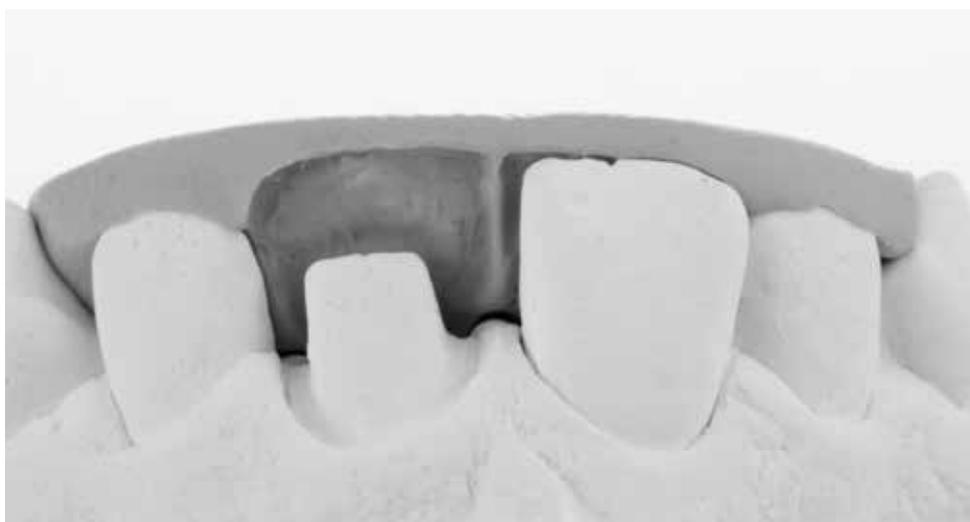
A series of photos taken prior to the treatment were used to establish a preliminary treatment plan. Why? Because the patient's profile and deportment and the position of the lips significantly influence the design of the restoration. As usual, a model and a matrix based on a wax-up were fabricated. They helped to visualize the final situation.



While most of the participants chose to solve the case with an all-ceramic material, I decided to try a galvano-formed ceramic version. I prepared the crown up to the stage of the first firing cycle in our laboratory in Recklinghausen.



## The result



The diastema was distinct on the photos and the study model. My challenge was to close this gap. I decided to fire IPS Style on a refractory die and to make the gap disappear with an IPS Style non-prep veneer. As all the preliminary steps had been prepared, I was able to get to work immediately in Munich and finish off the restoration.

I started my work by layering the crown and the veneer simultaneously. I applied some internal characteristics to the crown in order to recreate the features of the patient's natural teeth, such as distinct white spots. I imitated these areas with IPS Style Ceram Impulse Opal Effect OE4 mixed with IPS Ivocolor Essence E01 white. I also recreated the fine enamel cracks with stains. In Munich, I finally checked the shade, chroma, brightness and saturation of my restoration and made a few minor adjustments.



### Tip:

*I use very small amounts of IPS Style Deep Dentin to lightly mask the framework.*

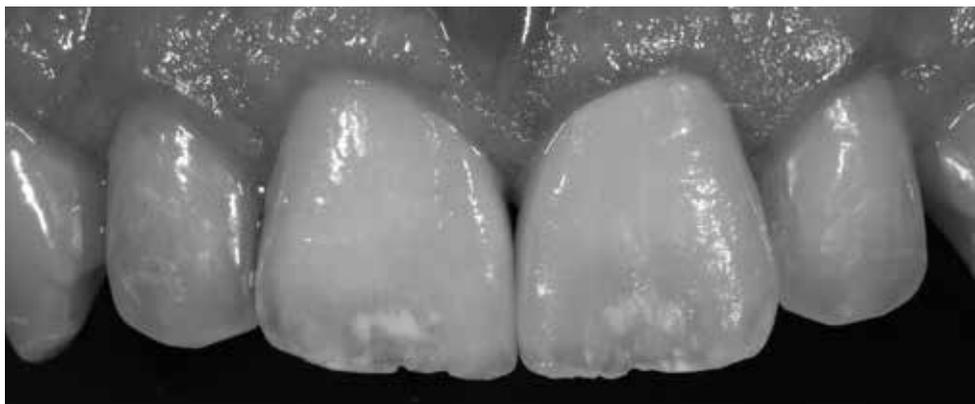
After having characterized the restoration, I concentrated on the shape and the surface texture of the crown. I finished up the restoration by glaze firing it.



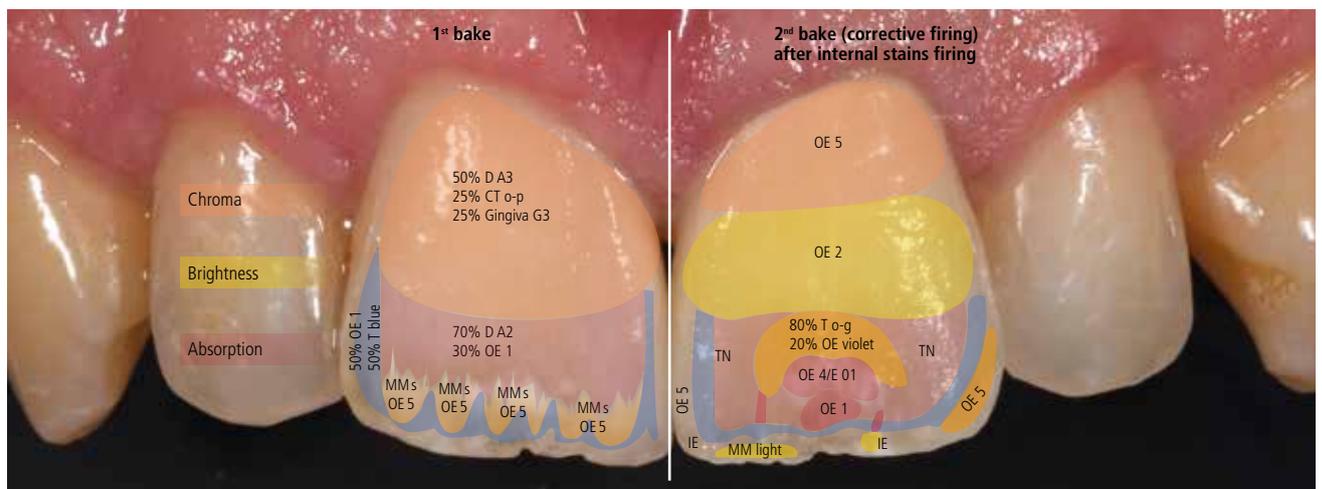
**Tip:**

*IPS Style can be applied in very thin layers when space of only 0.6 to 0.7 mm is available. Why? Because even thin layers of the material are very stable and bright. As a result, IPS Style is suitable for the veneer technique.*

I checked the chroma of the restoration with the help of a polarizing filter. The filter eliminates any reflections and therefore makes the internal structures more clearly visible. The internal characteristics of the veneer and the crown harmonized perfectly with the surrounding teeth. In the black-and-white image, the crown, veneer and natural teeth all show uniform brightness.



# The layers



- |   |                                       |   |                                   |   |   |   |                                |
|---|---------------------------------------|---|-----------------------------------|---|---|---|--------------------------------|
|  | IPS Style Ceram Opal Effect OE 1      |  | IPS Style Ceram Dentin A2         |  | IPS Style Ceram Transpa T neutral               |  | IPS Style Ceram Gingiva G3     |
|  | IPS Style Ceram Opal Effect OE 2      |  | IPS Style Ceram Dentin A3         |  | IPS Style Ceram Transpa T blue                  |  | IPS Ivocolor Essence E01 white |
|  | IPS Style Ceram Opal Effect OE 4      |  | IPS Style Ceram Mamelon MM light  |  | IPS Style Ceram Transpa T orange-grey           |   |                                |
|  | IPS Style Ceram Opal Effect OE 5      |  | IPS Style Ceram Mamelon MM salmon |  | IPS Style Ceram Cervical Transpa CT orange-pink |   |                                |
|  | IPS Style Ceram Opal Effect OE violet |  | IPS Style Ceram Incisal Edge      |   |   |   |                                |

## 1<sup>st</sup> bake

First, I built up the dentin core. For this purpose, I mixed 50% IPS Style Ceram Dentin A3 with 25% IPS Style Ceram Cervical Transpa CT orange-pink and 25% IPS Style Ceram Gingiva G3. This imparted the restoration with the required chroma. Next, I built up the transitional dentin using a mixture of 70% IPS Style Ceram Dentin A2 and 30% IPS Style Ceram Opal Effect OE1. I layered the mamelons with a blend of IPS Style Ceram Mamelon MM salmon and IPS Style Ceram Opal Effect OE5 and outlined them with a mixture of 50% IPS Style Ceram Opal Effect OE1 and 50% IPS Style Ceram Transpa T blue.

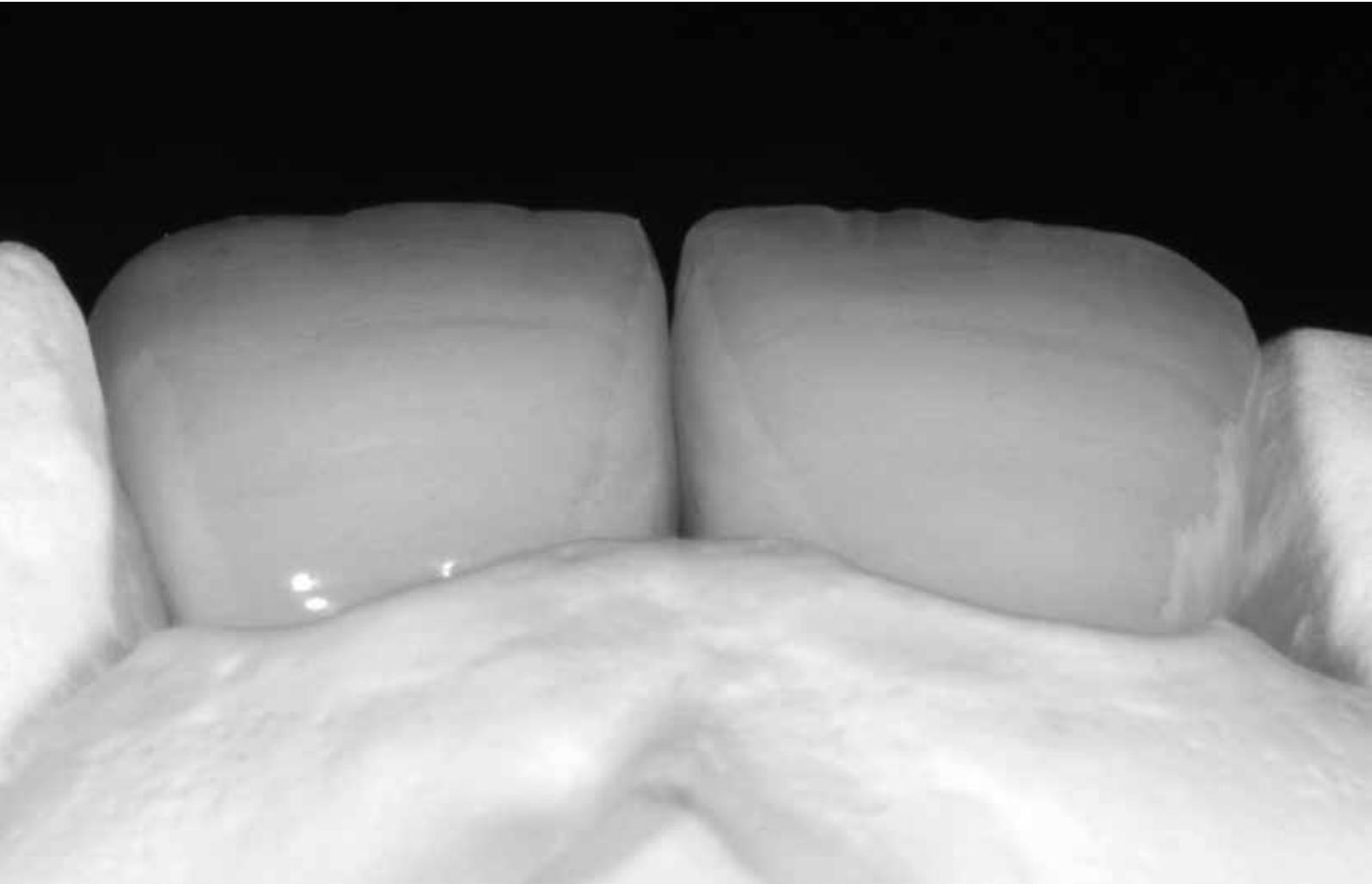
## 2<sup>nd</sup> bake (corrective firing) after internal stains firing

I applied the necessary light absorbing properties with the Impulse material called IPS Style Ceram Transpa T orange-grey (80%), which I mixed with 20% IPS Style Ceram Opal Effect OE violet. I imitated the white spots with a mixture of IPS Style Ceram Opal Effect OE4 and IPS Ivocolor Essence E01 white. Next, I coated the dentin blend in the cervical region with IPS Style Ceram Opal Effect OE5. I brightened the middle section of the restoration with IPS Style Ceram Opal Effect OE2. I covered the incisal area with IPS Style Ceram Opal Effect OE1 and IPS Style Ceram Transpa T neutral. On the incisal edge, I used IPS Style Ceram Mamelon MM light, IPS Style Ceram Opal Effect OE5 as well as IPS Style Ceram Incisal Edge.

# 3<sup>RD</sup> PART

*Recklinghausen, Germany – Osaka, Japan*

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# MAKE IT NATURAL.

” *Next, my travels took me all the way to Japan. A live patient course headed up by Shigeo Kataoka gave me another excellent opportunity to work with IPS Style. The plan was to solve the specific case with an IPS e.max CAD MO restoration.*

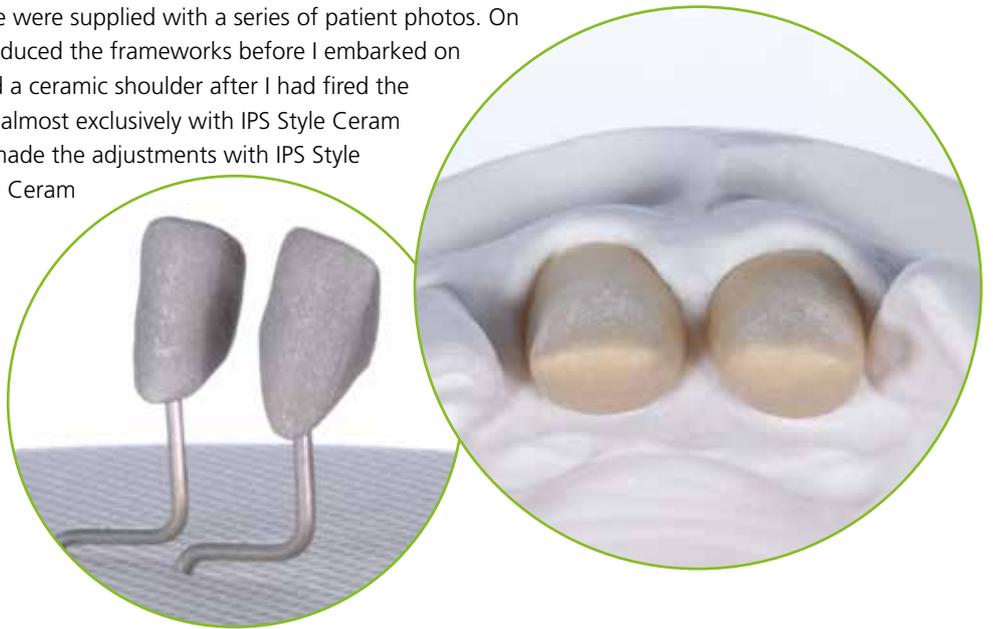
*However, I decided on a metal-ceramic solution instead. As a result, I was the only participant who would be using a metal-ceramic material and my work would have to compete with seven IPS e.max CAD restorations.*

”

- **Dentist:**  
Dr Yoshihiko Mutobe (Japan)
- **Case planning/**  
**Photographic documentation:**  
Dr Yoshihiko Mutobe, Shigeo Kataoka  
(both from Japan),  
Oliver Morhofer, Andreas Kunz  
(both from Germany)
- **Dental lab work:**  
Oliver Morhofer (Germany)

## *Initial situation*

Prior to this hands-on course we were supplied with a series of patient photos. On the basis of these pictures, I produced the frameworks before I embarked on my trip. Furthermore, I prepared a ceramic shoulder after I had fired the opaquer. I created the shoulder almost exclusively with IPS Style Ceram Intensive Margin IM opaque. I made the adjustments with IPS Style Ceram Margin M2 and IPS Style Ceram Margin M3.



The black-and-white image enabled me to evaluate the brightness of the restoration. The photo also revealed special characteristics and structures of the tooth.



## *The result*

---

Unlike in any of the other hands-on courses I had previously attended in Japan, the restorations had to be layered according to the instructions of the trainer, in this case Shigeo Kataoka. I tried to apply my knowledge and experience of layering IPS e.max all-ceramics to working with IPS Style: First, I placed and fired the dentin material including the mamelons, which I had outlined with Effect materials. Next, I added and fired internal stains and then I concentrated on finalizing the shape and surface texture.

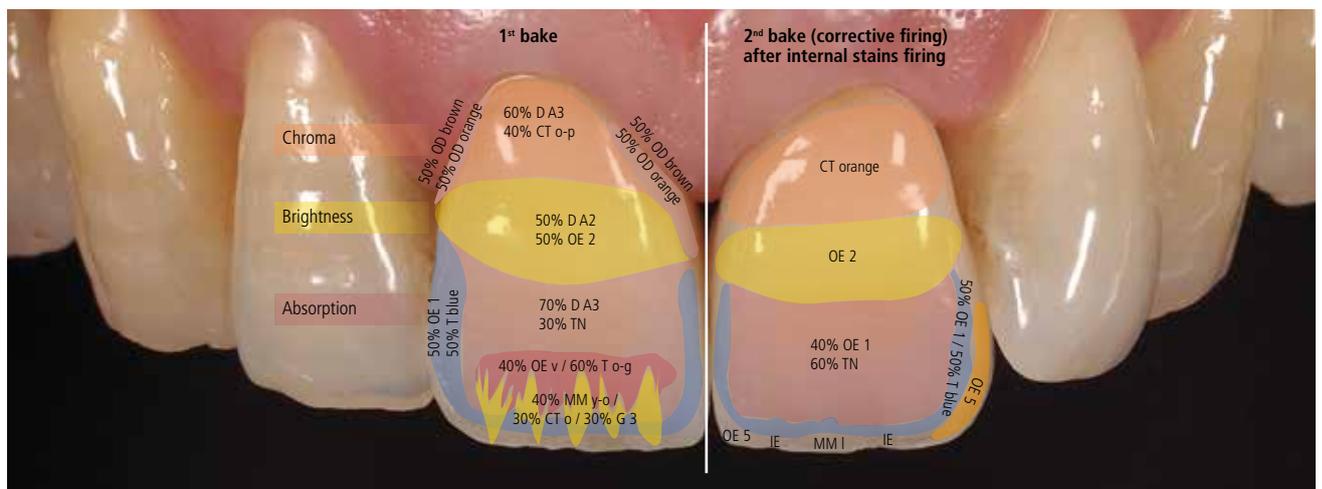


When the crowns were completed we drove to the practice of Dr Yoshihiko Mutobe in order to try them in the patient's mouth. We were completely taken aback by the honour that we had been given: Our patient was none other than Shigeo Kataoka himself – a truly memorable experience for all of us!



Seven IPS e.max Ceram solutions, one IPS Style solution. The results of the Kataoka live patient course

# The layers



- |   |   |   |
|---|---|---|
|  IPS Style Ceram Dentin A2             |  IPS Style Ceram Occlusal Dentin OD brown  |  IPS Style Ceram Cervical Transpa CT orange-pink |
|  IPS Style Ceram Dentin A3             |  IPS Style Ceram Occlusal Dentin OD orange |  IPS Style Ceram Cervical Transpa CT orange      |
|  IPS Style Ceram Opal Effect OE 1      |  IPS Style Ceram Transpa T orange-grey     |  IPS Style Ceram Mamelon MM yellow-orange        |
|  IPS Style Ceram Opal Effect OE 2      |  IPS Style Ceram Transpa T neutral         |  IPS Style Ceram Mamelon MM light                |
|  IPS Style Ceram Opal Effect OE 5      |  IPS Style Ceram Transpa T blue            |  IPS Style Ceram Incisal Edge                    |
|  IPS Style Ceram Opal Effect OE violet |   |  IPS Style Ceram Gingiva G3                      |

The cervical area of the restoration required more colour intensity (higher chroma). Next the bright zone was created. Finally, the absorption zone was placed in the lower third of the tooth towards the incisal edge. It was intensified with desaturated dentin material. Furthermore, the chroma in the proximal triangle was enhanced.

## 1<sup>st</sup> bake

To build up the dentin core I mixed 60% IPS Style Ceram Dentin A3 with 40% IPS Style Ceram Cervical Transpa CT orange-pink. This intensified the chroma. In the bright zone I used 50% IPS Style Ceram Dentin A2 and IPS Style Ceram Opal Effect OE2. I emphasized the absorption zone with IPS Style Ceram Dentin A3 (70%), which I mixed with IPS Style Ceram Transpa T neutral (30%). Subsequently, I added a wash of 40% IPS Style Ceram Opal Effect OE violet and 60% IPS Style Ceram Transpa T orange-grey, mixed with a drop of IPS Ivocolor Mixing Liquid longlife in the middle to enhance the light absorption properties.



### Tip:

By layering the various zones during the build-up of the dentin core, the crown can be individualized right from the outset.

### Background:

IPS Style Ceram Dentin and IPS Style Ceram Incisal are very intensive. They are more chromatic than the IPS e.max Dentin and Incisal material. A harmonious shade match in this area is achieved by using IPS Style Ceram Impulse Transpa T neutral in the layering process. This imparts translucency to the materials. The brightness value is reduced.

I used a mixture of 40% IPS Style Ceram Mamelon MM yellow-orange, 30% IPS Style Ceram Cervical Transpa CT orange and 30% IPS Style Ceram Gingiva G3 to produce the mamelons. I placed this mixture on the desaturated dentin. I outlined this area with IPS Style Ceram Transpa T blue (50%) and IPS Style Ceram Opal Effect OE1 (50%).

I used a blend of 50% IPS Style Ceram Occlusal Dentin OD brown and IPS Style Ceram Occlusal Dentin OD orange to create the proximal triangle.

Subsequently, I was able to concentrate on reproducing the shape, chroma and internal characteristics. The latter included, for example, the location, shape and colour of the mamelons. Selective grinding at this stage allowed everything to be reproduced or adjusted as necessary.

I imitated the enamel cracks of the natural teeth by using IPS Ivocolor Essence E01 white, E02 creme, E05 copper and E15 ocean in the internal staining process.

### 2<sup>nd</sup> bake (corrective firing) after internal stains firing

Subsequently, I finalized the shape using various IPS Style Ceram Impulse materials: For the corrective firing process, I placed IPS Style Ceram CT orange in the chromatic zone. In the bright zone, I worked with IPS Style Ceram Opal Effect OE2. I finalized the shape of the incisal area with 60% IPS Style Ceram Transpa T neutral and 40% IPS Style Ceram Opal Effect OE1. In addition, I worked with a mixture of IPS Style Ceram Opal Effect OE1 (50%) and IPS Style Ceram Transpa T blue (50%).

As a result, I was able to achieve a shade effect similar to that of IPS e.max Ceram Opal Effect OE1. I used IPS Style Ceram Incisal Edge and IPS Style Ceram Mamelon MM light and IPS Style Ceram Opal Effect OE 5 to create a halo effect.



### Tip:

*Perceptible and exceptionally natural-looking results are achieved by applying and firing IPS Ivocolor following the 1<sup>st</sup> dentin bake.*



### Tip:

*IPS Style Ceram Incisal materials are ideal for placing thin layers. If these materials are applied too thickly, the restoration may eventually look too bright.*

*This can be avoided by mixing the Incisal materials with different IPS Style Ceram Impulse materials: Fifty per cent IPS Style Ceram Transpa T neutral or another IPS Style Ceram Impulse material may be added in order to attain the goal of an impeccable restoration. Alternatively, these materials can be left out altogether in certain areas.*

# MAKE IT FAST.



Carola Wohlgenannt captured this moment photographically, while I was documenting my work in Japan.

## Summary

---

” *My travels from Recklinghausen to Munich and Japan were much more than a learning experience for me. I really got to know the potential of the IPS Style metal-ceramic material:*

- *It lives up to the high esthetic standards of the IPS e.max all-ceramic materials.*
- *It has the strength and brightness required to create ultra thin, highly esthetic veneers.*
- *Its Dentin and Incisal materials have more chroma than the IPS e.max counterparts. They are comparable to the IPS e.max Ceram Power Dentin and IPS e.max Ceram Power Incisal materials. Transpa materials can be mixed in to optimize the colour match with IPS e.max.*
- *The level of brightness desired is proportional to the size of the layered dentin area.*

*Apart from these technical aspects, I also got to know the patients. They shared with me their personal perceptions of beauty – and as a consequence their personal view of perfection.*

*I would like to thank them for the confidence they placed in me.* ”

*Oliver Morhofer*



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