

# Lifelike front tooth reconstruction made of feldspar ceramic

By **Dr Mon Li** and **DT Sally Hsieh**,  
CEREC Asia, Taipei, Taiwan



VITABLOCS blanks made of feldspar ceramic have proven their worth millions of times since their first clinical use in 1985. The first generation of VITABLOCS were monochrome blanks designed primarily for inlay restorations. The next step was to develop polychrome blanks for aesthetically pleasing monolithic anterior and posterior restorations. VITABLOCS TriLuxe forte (VITA Zahnfabrik, Bad Säckingen, Germany) have an integrated translucency and shade gradient in four intensity layers, enabling a natural play of colour and light in the aesthetic zone. In the following clinical case, dentist Dr Mon Li and dental technician Sally Hsieh show how these polychrome blanks can be used to achieve an individual colour and translucency effect.

## Situation after root canal treatment

A 20-year-old patient came to the clinic because she was dissatisfied with the appearance of the middle left anterior tooth in her upper jaw. The clinical examination showed that tooth 11, which had been root canal treated, had darkened. During the radiographic check, a sufficient root canal filling could be diagnosed in the symptom-free tooth. Morphologically, 11 and 21 were symmetrical. After an in-depth consultation, the patient decided on a time-efficient, all-ceramic crown restoration made of the polychrome feldspar ceramic VITABLOCS TriLuxe forte in order to stabilise the tooth in the long term and meet her aesthetic expectations.

## Tooth shade determination

Correct tooth shade determination plays an essential role in the selection of the correct blank. For this reason, the tooth shade of the neighbouring tooth 21 was precisely determined with the VITA

Easysshade V spectrophotometer. Defined light was transmitted to the dentine core, the remission spectrum was recorded by a measuring probe and the tooth shade 2M1 was determined in the device. Using the block mode in VITA Easysshade V, the suitable VITABLOCS TriLuxe forte could be selected at the touch of a button. In order to visualise the individual clinical situation in relation to the specific tooth shade, a digital photograph was taken with the corresponding shade tabs.

## Scan and design

Before and after full crown preparation on tooth 11, the clinical situation was scanned with CEREC Omnicam (Dentsply Sirona, Bensheim, Germany). For the construction of the restoration using the software CEREC Premium (Dentsply Sirona, Bensheim, Germany), the original morphology of 11 was copied. When the restoration was positioned in the blank, the translucency and shade gradient of the crown could be adjusted by vertical shifting and rotation. The crown was then fabricated in the CEREC MC XL milling unit (Dentsply Sirona, Bensheim, Germany). The morphology was finished with a fine round diamond.

The monolithic crown was characterised with the VITA AKZENT PLUS stains analogous to the natural adjacent tooth. EFFECT STAINS 05 (ES05, orange) increased the chromaticity in the cervical area. ES11 (blue) and ES13 (grey) were used for translucency effects in the incisal area. In the middle third of the tooth, a band with cream coloured ES02 was applied. After the fixation firing, the crown was finally glazed and polished to a high gloss. The clinical try-in was successful, allowing the crown lumen to be conditioned with hydrofluoric acid and silane and the restoration to be



Fig. 1 Initial situation: The right middle incisor in the upper jaw, which had been root canal treated, had become discoloured

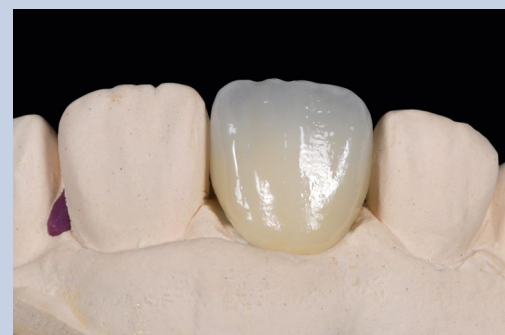


Fig. 2 The monolithic restoration already appeared completely natural on the model



Fig. 3 Result: By positioning and rotating the crown in the multichromatic VITABLOCS TriLuxe forte, the translucency and shade gradient could be reproduced

fully adhesively cemented. The patient was pleased with the highly aesthetic result in only one session. This case is illustrated in Figures 1, 2 and 3.