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2013 Upgraded full contour zirconia solution
16 Shade ST
pre-shaded zirconia

User instructions
16 shade ST (super translucent) pre-shaded zirconia is fabricated by our pre-coloured process, with even, stable and accurate shades. An upgraded full contour solution is created together with Upcera Magic Liquid and glazing treatments.

- Dental zirconia upgraded
- Operation process upgraded
- Technical training upgraded

Advantages of the new 2013 solution
- Easy operation, less process time, high efficiency, low cost
- Controllable quality, lower cracking rate
- Retains true shade even after chairside adjustments in the surgery

Shade system with 16 ST pre-shaded blanks

| Shade System | A1 | A2 | A3 | A3.5 | A4 | B1 | B2 | B3 | B4 | C1 | C2 | C3 | C4 | D2 | D3 | D4 |
|--------------|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|

Subject to the real shade of the blank

Performance of ST pre-shaded blank

| Specification (Shade) | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 25 | Density (g/cm³) | Water absorption (%)
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Instructions for use

1. Removing the crown from the block
   To detach the crown from the block, remove the holding sprues with a pencil sandblaster set at 2 bar pressure, taking care to aim the nozzle from the non-fit surface side only, then remove dust carefully from the crown with a clean brush.

2. Crown colouring
   Crowns made with a pre-shaded blank do not need to be coloured, and can be sintered as milled. For higher aesthetic requirements and individual restoration cases, T0 Magic Liquid can be used in the incisal area.

2.1 Incisal colouring:
   Colour the incisal with T0 Magic Liquid. (Brushing from the central to the occlusal of the crown with an OP pen is recommended)

2.2 Fossa colouring:
   Use O1 or O2 liquid to colour the fossa. (Brushing one time with O0 glaze pen is recommended)

2.3 Crown drying:
   Dry under the infrared lamp with a distance of 80-100mm for 20-50 mins.

⚠️ Note:
   (1) T0 is only for part of the crown, and must not be used on the connector
   (2) O1 and O2 should be brushed in small amounts, to avoid too deep a shade after sintering
   (3) Store the liquid at 0-4°C
   (4) The liquid should be poured as needed into a separate small dish for use. Keep the cap closed on all liquid bottles to avoid liquid evaporation, and do not return unused liquid from the dish to the bottle, so as to avoid contamination.
   (5) Pre-shaded blanks must always be dry milled. Wet milling will affect the shade and the translucency of the crown because of additives in the water.
   (6) If colourants are used, the crown must be completely dried before sintering.
3. Crown sintering
The crown should be sintered at **1530°C**, with a holding time of 2 hours.

- **Tips**: A lower temperature will create a deeper shade and lower translucency. A higher temperature will create a lighter shade and higher translucency, but a worse ageing characteristic.

Sintering curve refer to below:

1. **1st Sinter**:
   - **1.5h**
   - **525°C** (min)
   - **Natural cooling**

2. **2nd Sinter**:
   - **4h**
   - **525°C** (min)
   - **Natural cooling**

**Note**: To make sure the sintering temperature is the same as the program temperature, please make sure your furnace is calibrated correctly.

4. Trimming and polishing
Trim the crown with an emery wheel. (Please follow the instruction of the tools when trimming the crown; do not use too much force or subflissures may occur.) After fully trimming with the emery wheel, the polishing process can be carried out to get a fine and smooth surface of the crown.

5. Sandblasting
Sandblasting under 2-2.5Bar (0.2-0.25Mpa) with 50μm Al2O3 grit.
6. Heat treatment

Use a porcelain furnace to heat treat the crown at 1000°C, which can lower the shade deviation, and recover the strength.

Note:
1. Thick crowns (> 2mm) or long bridges need a slower heating and cooling rate.
2. Put the crown on the high-temp firebrick when the furnace temp is lower than 300°C, leave to cool naturally.

7. Tinting

ART paste is needed for a fine shade.

8. Glazing

Glaze the crown for optimal aesthetics effect.

Note: Please operate in strict accordance with the above steps, to assure the shade accuracy and uniformity.

TIPS: Basic shades above could be combined to grey adjustment on the full contour shade can be done in this way.
Upzir full contour zirconia case

(1) Crown effect comparison under different conditions

No TiO₂ liquid was used before sintering

Untreated before sintering

Use TiO₂ liquid before sintering

Use TiO₂ liquid on the incisal area of the crown

Fossa before and after treatment

Fossa treated by O₂ liquid before sintering

(2) Crown shade adjustment: use A shade to deepen the shade of the crown

No TiO₂ liquid was used before sintering

Adjust by A shade

After glazing

Use TiO₂ liquid on the incisal area before sintering

Adjust by A shade

After glazing

Note: To get a D4 shade, please add some B shade to the D shade