# TREATMENT OF A YOUNG PATIENT WITH ZIRCONIA VENEERS


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Veneers made of zirconia? In some cases, like the one presented below, monolithic zirconia veneers may be an option. Reasons for selecting a latest-generation zirconia such as “KATANA™ Zirconia” YML include its very high translucency and a wall thickness of only 0.3 to 0.4 mm supporting minimally invasive tooth preparation. Due to a highly automated production procedure, the manual effort involved may be reduced, while highly aesthetic outcomes are possible.

**Fig. 1:** Initial situation: Young female patient with misshaped and misaligned maxillary incisors.

**Fig. 2:** Digital smile design revealing the ideal proportions and positions of the anterior teeth.

**Fig. 3:** Ideal tooth proportions and positions displayed over a picture of the teeth after orthodontic treatment and the creation of a mock-up. The positions are ideal and the tooth shapes obtained with the mock-up only need some minor adjustments.

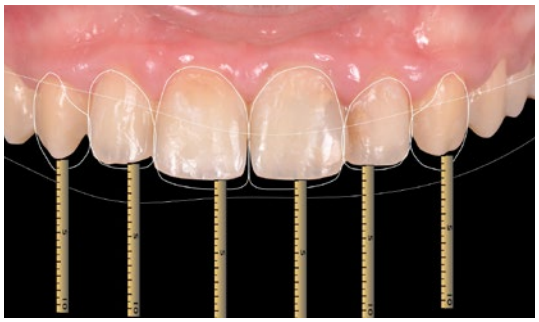

**Fig. 4:** Detailed view of the maxillary teeth with the ideal shapes blended in. The decision is made to produce six veneers made of "KATANA™ Zirconia" YML for definitive treatment.

**Fig. 5a:** Digital impression of the maxillary teeth with mock-up imported into the design software.

**Fig. 5b:** Digital model of the maxilla in the CAD software with full-contour veneers designed for the incisors and canines according to the ideal shapes planned with digital smile design.

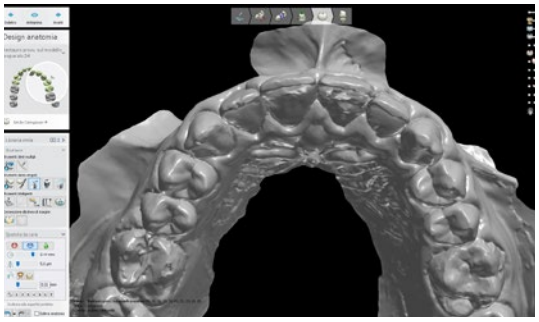

**Fig. 6a:** Occlusal view of the virtual model.

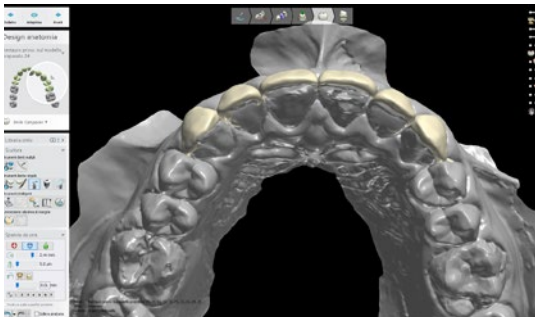

**Fig. 6b:** Occlusal view of the model with the designed veneers.

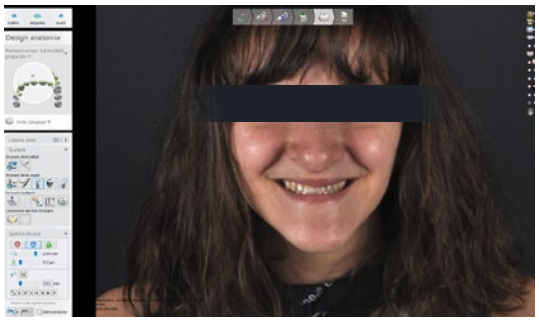

**Fig. 7a:** Facial view of the patient with the mock-up in place.

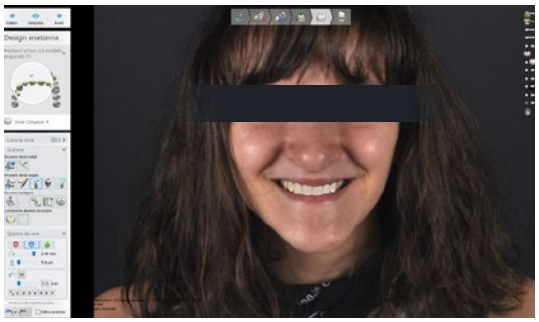

**Fig. 7b:** Facial view of the patient with the planned veneers blended in.

**Fig. 8:** Guided tooth structure removal with the aid of a silicone index. The minimum wall thickness of the selected material – "KATANA™ Zirconia" YML – is 0.4 mm.

**Fig. 9:** Maxillary teeth immediately after minimally-invasive tooth preparation.

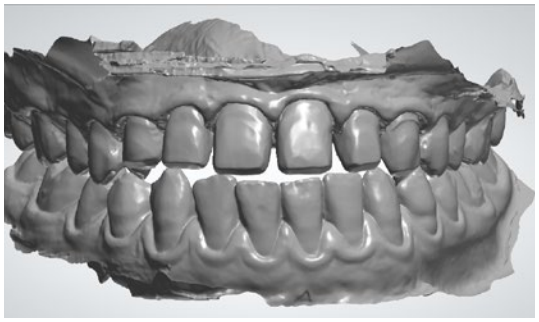

**Fig. 10:** Matched digital impressions of the maxilla and mandible taken after the tooth preparation.

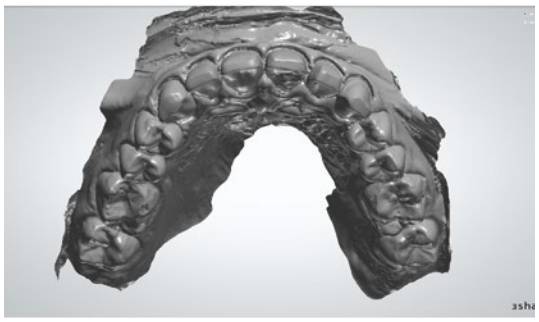

**Fig. 11:** Digital impression: occlusal view of the maxillary teeth.

**Fig. 12:** Virtual veneers ready to be milled.

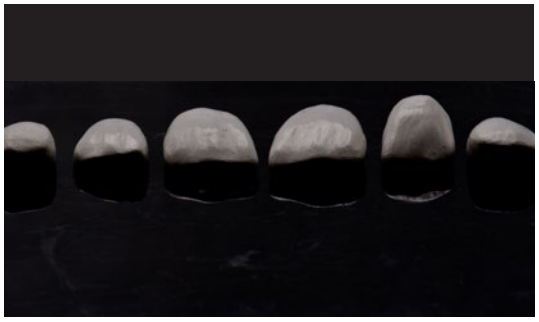

**Fig. 13:** Pre-sintered veneers made of "KATANA™ Zirconia" YML.

**Fig. 14:** Zirconia veneers on the resin model after sintering.

**Fig. 15:** Monolithic zirconia restorations on the resin model after the 7-hour final sintering.

**Fig. 16:** Frontal view of the master cast with the six veneers individualized with the liquid ceramic system CERABIEN™ FC Paste Stain.

**Fig. 17:** Lateral view of the veneers on the master cast.

**Fig. 18:** Tooth-like translucency of the veneers on the model.

**Fig. 19:** The minimal wall thickness of 0.4 to 0.6 mm and the positioning of the veneers in the upper (enamel) part of the blank are responsible for this effect.

**Fig. 20:** Veneers made of "KATANA™ Zirconia" YML ready for try-in.

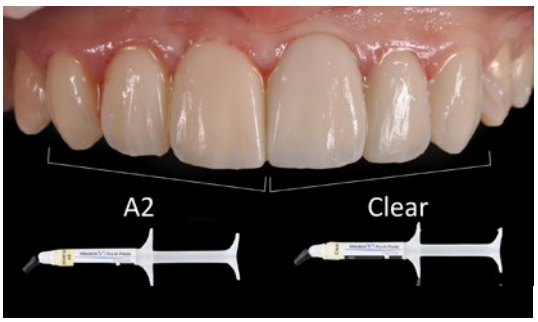


**Fig. 21:** Intra-oral try-in with two different shades of the PANAVIA™ V5 Try-in Paste: A2 is used in the right and Clear in the left quadrant.

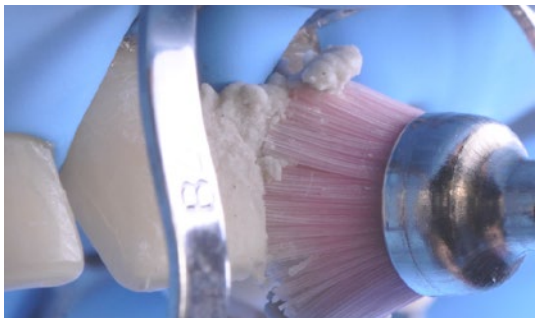

**Fig. 22:** Cleaning of the tooth structure with pumice paste after try-in.

**Fig. 23:** Thorough rinsing with water to remove any paste residues.

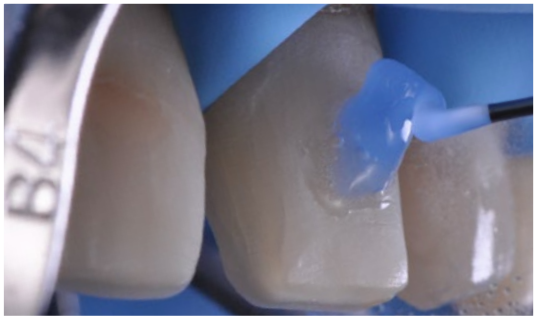

**Fig. 24:** Etching of the prepared tooth structure with phosphoric acid etchant.

**Fig. 25:** Clean, isolated central incisors ready for adhesive cementation.

**Fig. 26:** Sandblasting of the veneer's intaglio with alumina oxide (particle size: 50 µm, pressure: 2 bar). This kind of surface conditioning treatment is recommended for zirconia, as it creates the desired micro-retentive surface structure favourable for adhesive bonding[1].

**Fig. 27:** Application of CLEARFIL™ CERAMIC PRIMER PLUS to the bonding surface of the veneers (followed by mild air-drying).

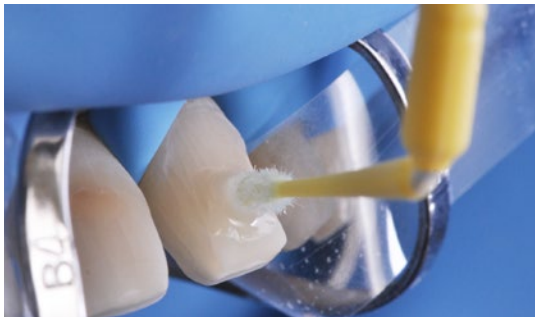

**Fig. 28:** Treatment of the etched tooth structure with PANAVIA™ V5 Tooth Primer (followed by mild air-drying).

**Fig. 29:** Application of PANAVIA™ V5 Paste (shade A2) to the bonding surface of the veneers.

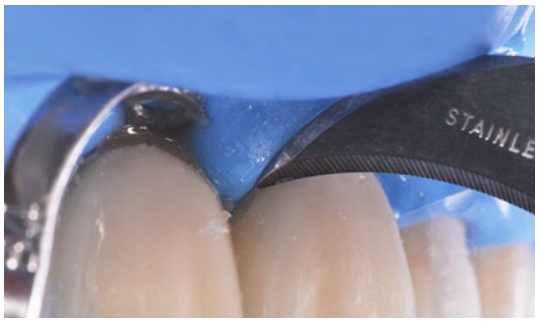

**Fig.30:** Close-up view of the restoration margin during cementation. Working field isolation is a key success factor of adhesive procedures.

**Fig. 31:** Lateral view of the cemented veneers. The result is a natural surface texture, which contributes to a natural appearance of the restorations.

**Fig. 32:** Frontal view of the veneers in place.

**Fig. 33:** Treatment outcome immediately after rubber dam removal.

# FINAL SITUATION

**Fig. 34:** Treatment outcome with healthy soft tissues two weeks after treatment.

**Fig. 35:** Gums are healthy and the restorations show a great optical integration with the adjacent posterior teeth.


**References**

[1] Nishigawa G, Maruo Y, Irie M, Maeda N, Yoshihara K, Nagaoka N, Matsumoto T, Minagi S. Various Effects of Sandblasting of Dental Restorative Materials. PLoS One. 2016 Jan 14;11(1):e0147077.


## "KATANA™ ZIRCONIA" YML

VISIT THE PRODUCT PAGE ONLINE FOR MORE DETAILS

**WHAT YOU CAN EXPECT TO FIND ONLINE**

- General information about "KATANA™ Zirconia" YML
- Full Product Assortment
- Safety Data Sheet


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