

Zirkonzahn[®]

Human Zirconium Technology



PRETTAU[®] ANTERIOR[®]

COMPLETE MAXILLARY AND MANDIBULAR REHABILITATION USING PRETTAU® ANTERIOR®

The occlusal tooth surfaces of the patient described in this case report were seriously compromised, being substantially worn both in the maxilla and in the mandible due to strong bruxism and chemical erosion. Teeth 16 and 46 were missing entirely. Since the gums and the remaining tooth structure were still in a very good shape of preservation, we opted to provide single crowns and two three-unit bridges spanning teeth 15 – 17 and 45 – 47.

In the first treatment step we mounted the casts in the virtual articulator using the PlaneSystem®. This new transfer approach, developed by Zirkonzahn in collaboration with MDT Udo Plaster, allows asymmetries and resulting muscular compensation to be detected before embarking on the development of a treatment plan and sources of transfer data and execution error to be minimised before making the prosthetic rehabilitation. With 3D images acquired by the Face Hunter facial scanner, the baseline situation can be extensively documented and stored in the



software for later use. Use of the PlaneSystem® and Face Hunter provides a fast, accurate and aesthetic restorative design and represents a further step towards a holistic approach within dental technology.

Based on the initial analysis and the practitioner's requirements, a plastic provisional was made from TEMP Basic and tried in intraorally. The occlusion was immediately perfect. To monitor function and aesthetics, the provisional was worn for several weeks, followed by precision impressions and fabrication of the master casts. The library teeth of the "Hermes" Heroes Collection tooth library were loaded into the Zirkonzahn.Modellier modelling software, then set up and adjusted.

Due to the vertical dimension and the high expectations of aesthetics and function of those involved in the present case, the choice of material was not difficult: we decided, in consultation with the dentist, to use the new Prettau® Anterior® zirconia material. This material has a flexural strength of 670 MPa, which meets the high occlusal demands of this case, and it also features a pronounced natural translucency even when used monolithically, which lends the restorations its natural aesthetics.

The restoration thus designed was milled using the M5 milling unit. Starting from the full anatomic contour, the anterior teeth were slightly reduced both in the maxilla and in the mandible to accommodate a very





thin ceramic layer. It is important to leave a functional incisal edge at full contour to obtain some degree of edge protection; by doing so, ceramic chipping can be eliminated almost completely. Subsequently, the structures were stained with Colour Liquid Prettau® Anterior® Aquarell and sintered in the sintering furnace Zirkonofen 700. The final characterisation of the crowns and the two bridges was performed with the ICE Zirkon 3D Stains by Enrico Steger.



The ideally matched digital workflow and the selection of the correct material made it possible to provide the patient with a highly aesthetic and stable zirconia restoration with maximum wearing comfort and easy maintenance, and to restore his smile.

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