

## AFFINIS System 360 putty: a Clinical Patient Case

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### Initial situation

**A 26 year-old female patient with two failed crowns at 12 and 22 presented at our practice for restoration. The metal-ceramic crowns made of non-precious metal were approx. 10 years old and the patient complained about the aesthetics, which she regarded as no longer acceptable. In agreement with the patient we decided to provide restorations for the two teeth 12 and 22 (Fig. 1) with all-ceramic crowns.**

### Impression material requirements

*Impression taking in a dental practice constitutes a procedural step that is performed frequently and routinely but it determines the quality of restorative work.*

In order to make a first-class dental restoration of good aesthetic and functional quality with maximum precision and to the satisfaction of the patient, dental technician and dentist, the selection of impression material is of major importance. The material should be easy to process without any major technical difficulties, ensure precise impressions and naturally also satisfy the need for cost-effective work. In addition to fundamental requirements such as shelf life, biocompatibility, easy processing, pleasant smell and taste for the patient, and disinfection a very crucial role is played by elasticity, volume characteristics and impression detail. In situ hard and soft tissue must be reproduced true to detail and dimensions. For a fixed restoration the aim

is to reproduce the surface accurately to within 25 µm.

### Preparation and impression taking

After removal of the old PBM crowns 12 and 22 a size 0 Stay-put cord (Coltène/Whaledent) was placed round each prepared tooth in order to prevent traumatization of the gingiva during subsequent preparation as far as possible. Then another size 1 Stay-put cord (Coltène/Whaledent) was placed. Owing to the integrated metal filament the Stay-put cord remains in the sulcus perfectly (Fig. 2). When tray adhesive had been applied, we took the preliminary impression with AFFINIS System 360 putty and the Sympress mixing machine (Renfert). In order to ensure that the material is thoroughly



Fig. 1: Initial situation showing failed PBM crowns 12 and 22



Fig. 2: Tooth 22 after preparation and placing the retraction cord



Fig. 3: Filling the rimlock tray with AFFINIS System 360 putty using a Sympress mixing machine (Renfert)



Fig. 4: First impression with AFFINIS System 360 putty



Fig. 5: Syringing the prepared tooth with AFFINIS light body green



Fig. 6: Introducing AFFINIS light body for correction of the first impression

homogeneous the first 3 centimetres emerging from the dynamic mixer should be discarded. With its typical putty consistency the material has an excellent level of stability in the tray (Fig. 3), can therefore be adapted to the clinical situation even before it is introduced to the mouth and remains soft throughout the entire working time. Since AFFINIS System 360 putty does not stick to gloves either, it could even be applied to surfaces of the hand direct.

After a time in the mouth of 3:30 minutes, which is pleasantly short for the patient, the first impression (Fig. 4) was carved for the subsequent precision impression. The material proved to be a thoroughly homogeneous and void-free material that can be carved very easily owing to its high final hardness. We took the subsequent precision impression with AFFINIS light body. The material has excellent flowability in the moist environment, without dripping off the tooth (Figs. 5 and

6). The result is then a perfect impression of the hard and soft tissue with very good legibility (Fig. 7). Finally, the shade was determined together with the dental technician and the temporary restorations were made. Work then continued in the laboratory.

### Making the models and crowns

Two models were made with Fuji-Rock (GC), a saw model and a master model (Figs. 8 - 10). The ability of the plaster to flow into the AFFINIS impression proved to be excellent (Fig. 8). When the crown copings had been waxed up, they were pressed with the E-Max system (Ivoclar) and then layered to suit requirements. An initial try-in was performed in the laboratory in order to make minor shade and shape adjustments. The final step was completion.

### Incorporation

Incorporation of the crowns took place in accordance with the manufactur-

er's instructions, quite conventionally using Ketac-Cem. We consciously decided in favour of this method of cementation because an adhesive bond would have not been so promising on account of the deeply subgingival preparation margins (Fig. 11).

### Conclusion

Communication and teamwork between the dentist and dental technician are crucial to the quality of the outcome. AFFINIS System 360 putty in conjunction with AFFINIS light body convinced us in all respects. It was easy to use and handling was uncomplicated for the dentist, assistant and technician. In addition, AFFINIS is the first material on the market where it is possible to autoclave the impressions in accordance with the manufacturer's instructions! Even the critical patient was convinced by the outcome.



Fig. 7: Successful precision impression with reproduction of the hard and soft tissue in situ true to detail



Fig. 8: Casting the basing arch with Fuji-Rock

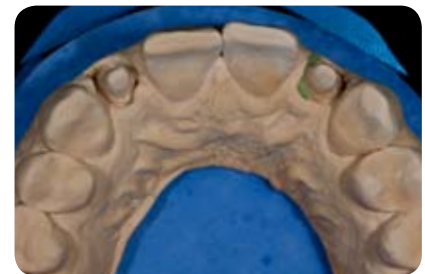


Fig. 9: Based model



Fig. 10: Saw model with preparation margins exposed



Fig. 11: Work finished and incorporated

CONTACTS

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