

Fabricating multi-unit all-ceramic restorations with Registrado X-tra

By Dr Jean Lecerf and Dr Yvan Bedouin



Registrado X-tra is an addition-curing silicone with special properties including a High Shore D hardness (about 51); Working time of 30 seconds; Intraoral retention time of 40 seconds; and Linear shrinkage less than 0.1% after 24 hours.

This makes it a particularly suitable material for registering interocclusal distances and enables it to be used as an alternative to materials such as acrylic resins which are tried and tested, yet less ergonomic to use. This article report demonstrates one clinical application of this type of material using a prosthetic restoration in the posterior region of the lower jaw as an example.

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About the authors

Dr Jean Lecerf is Head of prosthodontics in the dental and oral surgery departments of the University Clinic Rennes, France. He is a Member of the National College of Teachers of Dental Prosthetics and Member of the evaluation committee of the journal "Stratégie Prothétique". His fields of interest include complex oral restoration by means of fixed, removable or implant-retained dentures and aesthetic prosthetics.



Figure 1. Initial clinical situation: the patient is wearing very old collar crowns that are inadequate in the cervical region. These crowns are replaced as part of a comprehensive prosthetic restoration.

Dr Yvan Bedouin graduated Doctor of Dental Surgery in 2008. He is a member of the National College of Teachers of Dental Prosthetics and has worked as both a university lecturer and hospital dentist. His areas of interest include complex oral restoration by means of fixed, removable or implant-retained dentures; aesthetic prosthetic restorations. He is in private practice in Rennes, France.



Figure 2. Clinical situation after removal of the crowns: the preparations are reworked, bonded or cast crown-root build-ups are fabricated and inserted.



Figure 3. Temporary crowns supplied by the dental laboratory are used in the course of the overall treatment. The original clinical situation is resumed for the temporary restoration.



Figures 4a-4b. Impressions are taken of the preparations using the double-mix technique which enables a very accurate registration of the cervical preparation margins.



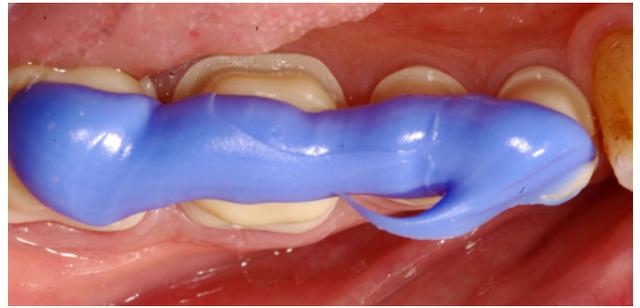
Figures 5a-c. The impressions are used by the dental laboratory to fabricate individual models. However, the models cannot be positioned exactly in the articulator as there is no longer any occlusion in the posterior region. The use of an occlusal registration material (Registrado X-tra) in the clinical situation enables the models to be stabilised at a later stage. In this case, where the models are positioned in the maximum intercuspation position, the registration material must only be placed within the regions where there is no occlusion (this region is shown in the example by the prepared teeth).



Figures 6a-c. The register produced in this way is first prepared for its positioning on the working model. By trimming the occlusal register, it is possible to ensure it fits optimally on the working models. The process of positioning in the articulator is now complete.



Figures 7a-b. The very stable zirconia frameworks can now be fabricated thanks to the working models arranged in the articulator.



Figures 8a-e. Zirconia frameworks have been in successful clinical use for many years. At this stage of the prosthetic reconstruction, the positioning in the articulator can be checked before the application of the veneer ceramic by checking the interocclusal distances using the occlusal register (VOCO Registrado X-tra). The process of trimming the registration material is indispensable here as well. It is only by trimming the occlusal register that it can be correctly re-positioned on the zirconia frameworks and on the occlusal surfaces of the opposing teeth.



Figures 9a-b. Provided these checks have been correctly carried out, the veneer ceramic can be applied to the frameworks.



Figures 10a-c. After being returned from the laboratory, the crowns are first checked and then permanently cemented.