

Functional impression - child's play with Detaseal® *function*!



The functional design of the prosthesis border is sine qua non for good retention of the prosthesis – without design of the border as perfect as possible no denture adheres and one is then bound to have trouble with sore spots. Yet the functional impression is a difficult matter. One first forms the border quite conservatively (e.g. with a thermoplastic material) and takes the impression over this. This costs time and is very complicated, the results are also only acceptable if one can do it well.

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If one attempts to take the impression on one side, the impression material usually flows away only all too easily, and then the shape of the border is not correct with the result of inadequate suction and frequently occurring sore spots. A further problem is the (unfortunately) usually insufficient hydrophilicity of the impression material – unsharpnesses because of the influence of humidity are the consequence. And quite a number impression materials are characterized by extremely unpleasant taste or odour.

A material which aroused enthusiasm right away was now available in the practice test: Detaseal® *function*, recently exhibited at the IDS by the DETAX company.

The material is delivered as two-component system – equal strand lengths (with identical strand thickness!) are taken from the dispenser and placed on a mixing block (Fig. 1). The components are conspicuously of different colour

Fig. 1: Two-component system in dispersion syringes



(yellow/red) and should be mixed by hand by kneading according to the manufacturer's instructions. This is really simple – viscosity is adjusted ideally, like a somewhat soft putty. Correct mixing can be recognized easily and controlled by the colour contrast.

30 seconds are available for mixing – this is sufficient even when a trainee is doing the job. One then still has sufficient time to load the tray; the total processing time is stated to be 2 minutes and 5 seconds – we never needed all of this time in the test. Thus a completely relaxed situation results, without any unhealthy rushing around.

All the employees were very impressed by the material when loading the impression tray. They had not experienced this type of material before.

And how does the material appear for the dentist?

It was possible to load the tray coated with adhesive straight away – uniform distribution in the tray as well as at the borders could be achieved without difficulty, without any prior experience with the material and without special measures. The time frame provided for this allows plenty of time. Because of the simple application method, much time remains for taking the impression of the borders. Here everyone can use his preferred form of functional impression taking – without getting stressed.

Impressions of telescope structures were taken on one side: Impressions of primary telescopes and borders were taken in one operation. This could also be done without difficulty.

Viscosity and stability are very well adjusted, the material did not start to flow anywhere at the borders or otherwise to sag, as is known from other elastic impression compounds. And another positive aspect was that Detaseal® *function* is distributed extremely uniformly over the entire tray base, it scarcely succeeds in penetrating the tray at any place – penetration is indeed a real problem in functional impression taking.

In the distal region as well the material remains where it should be because of its high stability and it does not flow onto the soft palate – thus the gagging reflex in the patient is scarcely perceptible. And the material has a neutral taste and no patient has complained because of its taste.

The cured impression material has a Shore A hardness of 35, this is less than that of classical putty, but yet clearly more than one obtains with a normal low-viscosity functional impression material. Thus it is suitable for the complicated process in the double crown technique as well as for implantation work.

Since we are dealing here with an A silicone, the precision achieved on the material side is also excellent: its linear size change (shrinkage) of less than 0.2 percent is first class, and its residual deformation of less than 0.3 percent after action of pressure proves its excellent elasticity.

Three patient cases are documented here:

In one case an existing prosthesis was ground out and used as tray (Fig. 2) – the objective was indirect relining. A functional impression was obtained straight away absolutely

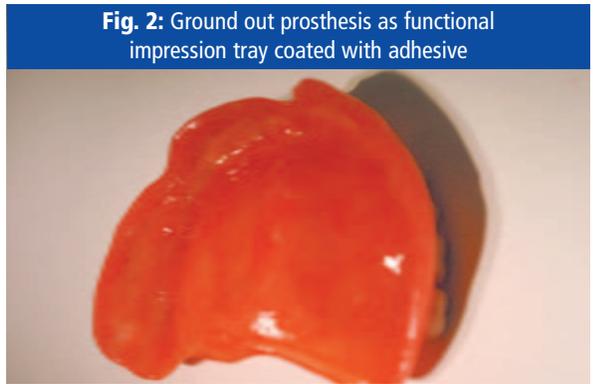


Fig. 2: Ground out prosthesis as functional impression tray coated with adhesive

free of bubbles – we had never experienced this before. The kneaded material was placed sausage-shaped in the ground out prosthesis and distributed roughly. Afterwards, as is customary for relining, the patient was requested to bite and then a passive functional impression of the border was taken (i.e. after determining the occlusion by active biting of



Fig. 3: Impression tray in the patient's mouth

the patient, the functional impression of the borders was taken by the dentist by means of movements of the lip and cheek structures.) Especially in such a case this is superior to the purely active functional impression controlled by chewing movements of the patient: the occlusion plane can be obtained better in this way. It should be observed here (the practice test has shown this) that one should not use too much impression material and that also high pressure should be exerted, because this material flows only with great difficulty and one could easily obtain layers that are too thick (Fig. 3 and 4).

In two other patients the material new to us was used for recording the primary crown situation as well as for the functional impression. It was shown that it is highly



Fig. 4: The finished functional impression - free of bubbles, not penetrated, and formed ideally at the functional borders

advisable to condition the primary crowns as well as the impression tray with adhesive – the primary crowns are then held tightly in the impression. The functional impression of the border can also be taken well without difficulty in this difficult environment. One can save a whole work step with it ... (Fig. 5).

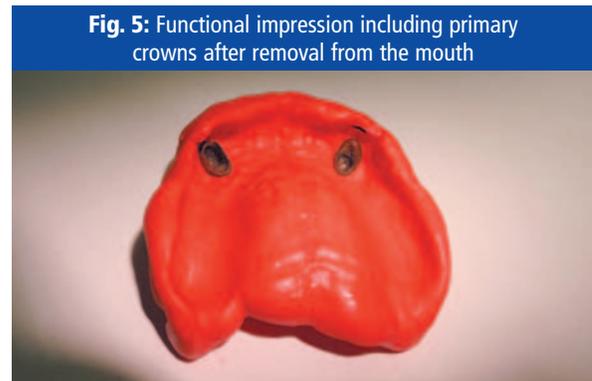


Fig. 5: Functional impression including primary crowns after removal from the mouth

Outcome: The manufacturer has come up trumps with the Detaseal® *function* functional impression material. The practice test has shown that even the first time it is used, without close knowledge of the material, good to very good results can be achieved immediately. One simply cannot ask for more!



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