

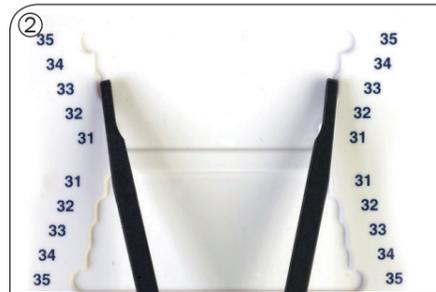
PRELIMINARY IMPRESSION FOR COMPLETE DENTURES

Author: Marco van der Linden

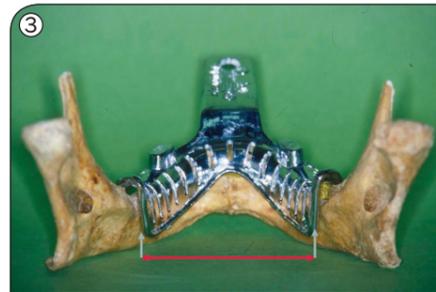
Director of Mercadent from the Netherlands that is the worldwide agent of the Clan products, including Border-Lock impression trays.



Set autoclavable Border-Lock impression trays of Schreinemakers.



Caliper is placed on size chart to find the correct size of tray to use.



The size of the tray is not determined by its length but its width.

The story goes that around 1960 a Dutch dentist named Schreinemakers was attending a Catholic church. An era in which most people had dentures. He observed that people who were standing in line to receive from the priest their sacramental communion bread, removed their lower denture and put it in a handkerchief. After returning to their bench the denture was put in again. This fear people had that their lower denture would fall out of their mouth inspired Dr. Schreinemakers to develop a system for making well fitting dentures.

What should we do as dentists and denturists that the lower dentures of our patients obtain suction type retention?

For this purpose Dr. Schreinemakers did countless tests to find how a custom tray should anatomically and in function, provide a secure fit of the denture for the patient. This incorporates the dynamic influences of the muscles in the mouth and the rising and falling movements of the lower jaw.

Autoclavable Border-Lock impression trays

The result was a set of metal impression trays introduced in 1968 that consisted of 5 upper and 6 lower trays. Until now it is still regarded as the number one impression tray system in the prosthodontic field by dentists and denturists from all over the world.

Although the fit of the Schreinemakers metal tray is regarded as virtually perfect the chrome plated tray material always proved a disadvantage. Corrosion of the tray material shortens the life span. As solution is the autoclavable Border-Lock impression trays of Schreinemakers that were introduced in 2003. The tray fit is exactly as the original metal trays but the tray material is far superior. The autoclavable Border-Lock tray can resist all types of cleaning materials and is suitable for all methods of disinfection and sterilisation.

These black coloured trays are reusable acrylic trays made of Ryton Polyphenylene Sulphide (PPS) that remains stable at elevated temperatures. A characteristic of these trays is that they have a "metal sound". The name Border-Lock refers to the patented retention system of horizontal slits along the border. A set consists of 5 upper and 5 lower trays with a caliper and size chart to select the best fitting tray. (image 1)

Lower denture Impression procedure according to Schreinemakers:

The preliminary impression must provide the conditions to make a custom tray that obtains custom type retention in the mouth. The Border-Lock tray is constructed in such a way that we can achieve these conditions.

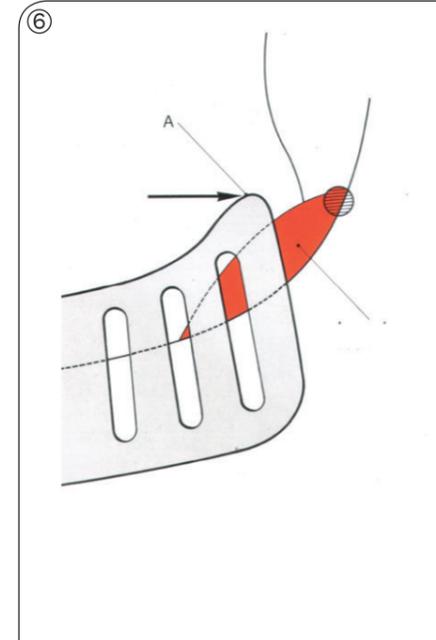
1. Select the correct tray by measuring with the caliper intraorally the distance between the retromolar pads. The caliper is then placed on the size chart to find the right size to use. (Image 2) A very good and simple alternative is use the old denture as selection tool. The size of the tray is not determined by its length but by its width. (image 3)
2. It is recommended to use the stiff alginate technique. This involves using 25% less water as recommended by the manufacturer of the alginate. For the lower impression knead the alginate to form a roll. (image 4)
3. When positioning the tray in the mouth ensure that the tray handle is in the middle. Press on the rearmost part of the tray and let the patient move his tongue to the upper lip. The upward movement of the tongue will cause the stiff alginate to push the soft tissues aside resulting in an excellent anatomical definition. Also the patient should move the tongue easily over the lower lip from left to right. (image 5)



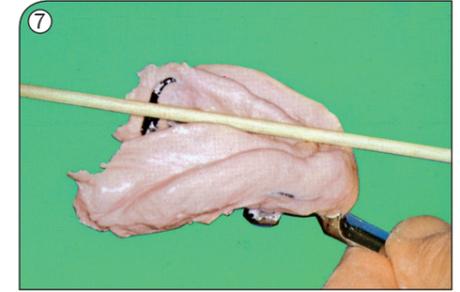
Using stiff alginate in case of a strongly resorbed jaw.



Tongue movement to the left and right should go easily for the patient.



The posterior border of the tray resting at the tuberculum retromolare.



The middle of the lingual border should be 1-2 mm higher as the middle of labial border.



Mistakes in an alginate impression (image by courtesy of Prof. van Waas, Amsterdam University).

4. The posterior border of the lower tray should not go below the upper area of the tuberculum retromolare. As a result the patient will be able to move the tongue in such a way that the lingual border depth in the anterior bottom of the mouth will be almost as the final complete denture. The upper end of the tuberculum retromolare does not change from position also in cases of strong resorption. That means: if conducted correctly, our preliminary impression will provide the basis for a denture with suction type retention regardless the grade of resorption. (image 6)
5. After the impression the middle of the lingual border should be 1-2 mm higher than the middle of the labial border. This control method proves that the tongue during extending was moved correctly. (image 7)
6. There should be no pressure points and the required anatomical structures well visible. As a result the gypsum model can be cast correctly and completely.

Some common mistakes in making edentulous impressions: (image 8 by courtesy of Prof. R. van Waas, Amsterdam University)

- upper right side: too much alginate
- lower left side: not enough alginate
- border made too long
- tray has moved during impression taking

Useful tip: provided by denturist Max Bosshart from Switzerland:

During the movements of the tongue the tray must be held securely with the fingers. This can exhaust the fingers what might cause losing the correct position of the tray in the mouth because the tongue presses strongly against the tray. A useful aid is to use stops in the left and right and anterior tray area. As a result the tray cannot be pushed too deeply downwards.

Literature:

- J. Schreinemakers, The logic in complete dentures, Quintessenz 1979
- M. Bosshart, Function and Aesthetics, treating an edentulous patient according to the original Gerber method, Quintessenz 2014.
- Cavex manual using stiff alginate