

A Revolutionary Impression Tray System



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Accuracy is everything. How many times have we uttered those words? In dentistry, precision is an essential component to everyday success within a dental office. As of late, dentistry is being presented with so much technology, designed to aid the dentists, and their team members, to achieve the accuracy we demand and expect. As impression materials continue to

advance, they have far surpassed the stability and performance capabilities of the standard disposable tray.

Among the many facets within dentistry, impressions are among the most common. Whether records are needed for crown fabrication, onlays, quadrant dentistry, veneers, dentures, or diagnostic purposes, the meticulousness of these impressions must be assured to maintain quality and obtain the desired result. As important as the impression may be, the carrier, or tray is equally significant. There are many trays available: triple trays, stock trays, or metal stock trays. To maintain an accurate impression, a rigid, form fitting tray will help insure that the record accuracy is met. **Acculiner Products (BORDER-LOCK® Tray System, Figure 1)** has developed an impressive custom tray system that hits all of these key

elements, thus, decreasing the possibility of distortion while minimizing the amount of impression material needed as well.



The BORDER-LOCK is the first single-use impression tray program specifically designed to out perform stock metal trays and achieve results which rival that of custom-made trays. This tray maintains its rigidity throughout all phases of the impression sequence. This single use system works beautifully in that the tray that is selected is not determined from simply "trying in" various trays, there is a system for selection. The key benefit of the BORDER-LOCK program is the fit of a *semi-custom* tray that significantly reduces the impression space. This allows up to 30% reduction in impression

material and higher *dynamic pressure* resulting in greater impression detail. Not unlike choosing a shoe that fits the foot, the tray that is selected is based on the width of the arch determined by measuring calipers, which is a compass-like measuring device with two legs joined on one end through a hinged connection. included with the kit.

What makes this system unique is the precision in which the tray is selected before use. First, the measuring calipers are used to determine arch width (**Figure 2**). The measuring calipers have slight tension at the hinge to maintain the desired arch width. The Calipers have small “Paddles” that conform to the facial surface (for maxillary impressions). Lower



impressions will have the “paddles” on the lingual) Each free end on the legs has a metal plate that rotates 360°. To measure the maxillary arch, open the caliper so that the legs

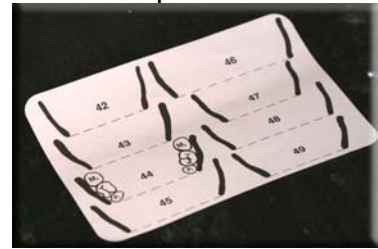
fit bilaterally in the buccal vestibules. With the curvature of the plates facing in, close the legs so that each plate is brought into contact with the buccal surfaces of the second premolar to second molar. For the mandibular arch, rotate the plates to face out and place them in contact with the lingual surfaces of the second premolar and second molar (**Figure 3 & 4**).



Once the width is determined the measuring calipers are removed from the mouth without changing the setting (**Figure 5**).

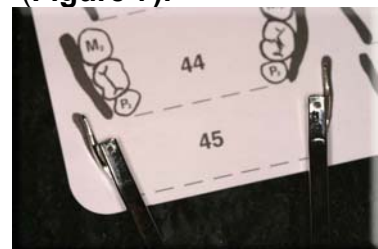


The template included with the kit will provide the ideal tray for the impression (**Figure 6**).The template is a reusable laminated placard.



Place the caliper on the measuring template and align the bilateral plates with the lines on the template corresponding to one of the tray sizes. Once you have a match (the lines on the template align with the plates), you should be able to use the selected tray with a high degree of certainty that it will fit the arch with exceptional precision.

(**Figure 7**).



The template is so easy to use as the calipers are placed, the correct tray number is determined and the tray is selected. In this case a “45” was selected and removed (**Figure 8**). The number selected does not have significance other than identifying the tray.



The BORDER-LOCK system consists of small horizontal “Slits” on the lateral border of the tray (Figure 9).



This aids in the retention of the impression material. Once the desired tray is selected, it is recommended to place the tray into the mouth to confirm that there is no impingement on the soft tissue (Figure 10).



The BORDER-LOCK tray is made from a Plexiglass material, therefore will hold its rigidity masterfully.

Tray Adhesive (**Ivoclar-Vivadent, Amhurst NY**) to retain material. (Figure 11). Other tray adhesives may be used but it is always recommended to

use the manufacture’s enclosed instructions before placement.



When filling the trays, do not overfill. The tray should be filled with a heavy to medium bodied impression material up to 1mm under the edge of the tray. Eliminate all bubbles and preparations should be syringed with a wash material prior to the insertion of the impression tray (Figure 12).



Concentrate pressure in the posterior area and roll it slowly to the anterior area. Seat the tray until the occlusal surfaces of the teeth are in contact with the inner surface of the tray. Apply a light massage to the lip and cheek. After the tray is fully seated, place the filled tray into the mouth. As a result, some of the impression material will flow over the edge of the tray into the vestibule. To activate the BORDER-

LOCKS, this will be dependent upon the impression material escaping by means of the BORDER-LOCK slits. It is essential to briefly massage the patient’s cheeks and lips to ensure the entire tray becomes embedded in the setting impression material (Figure 13).



The impression material should be left to set per the manufacture’s instructions.

Once the impression material has completely set, the trays can be removed.

Upper- After the impression is set, the tray should be firmly pressed against the superior palate. As a result, the tray should be easily loosened posteriorly.

Lower- For the lower arch, the impression tray is removed by pushing it downwards against the jaw while simultaneously supporting the jaw with your free hand. This technique simplifies the removal of the impression tray.

The BORDER-LOCK system will help ensure that an accurate impression is taken and maintained (**Figure 14**).



This tray system offers a tremendous alternative for those clinicians that desire the characteristics of a custom tray or are frustrated with standard stock trays and the limitations that they possess. The BORDER-LOCK System is another tool in the contemporary armamentarium available to dentists today and provide accuracy with regard to impression taking that is unmatched.