



Thermoplastic wafers

**Features**

- When immersed in hot water, wafers transform from rigid, yet flexible, opaque blue to a moldable clear blue
- When cooled, wafers return to original state, differing only in whatever shape was created while moldable
- Ability to be handled and placed without a tray or gun
- As it sets, offers sustained recording ability, but is firm enough to be sensed by oncoming, opposing dentition

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- Clinician may reheat and replace material if desired recording is not achieved
- Flexible enough to be easily removed from undercuts without injury to soft tissue while retaining its shape
- Non-toxic, no taste, no odor

# Implant placement

## The use of Temp Tabs thermoplastic wafers for creating implant-placement stents

By David Todd, DMD, MD. Information provided by All Dental PRODX.

**D**r. Frank Higgenbottom originally described an exceptional method for creating implant-placement stents. The procedure uses 060-thickness vacuform material to create a “chimney” into which is placed a drill sleeve that matches the diameter of the first twist drill. During implant placement, incisions are made and soft tissue is reflected. The stent is placed, the drill sleeve is positioned in the chimney, and the initial osteotomy is created. The drill sleeve is then removed from the stent, and the second twist drill is used within the chimney and has some freedom of movement to make the osteotomy. The third twist drill matches the diameter of the chimney, thereby providing precise control of the preparation. A second template of 020-thickness material is used as a reference for insertion depth.

This technique works very well, and the 020 material is easy to trim with a sharp knife. The 060 material, however, is necessarily thick and rigid, requiring removal from the cast with a Dremel-type tool or “hot knife”; this generally takes a considerable amount of time to be cut. In addition, the diagnostic cast can be destroyed during removal, and blockout of undercuts may be necessary.

**Temp Tabs** thermoplastic wafers offer a simplified method for making the rigid stent in a process that can take as little as 10 minutes. The easy-to-use material offers the necessary rigidity, but it can be readily trimmed and requires minimal effort to remove from the cast.

Following are step-by-step procedures for creating an implant-placement stent using Temp Tabs thermoplastic material.

### Creating the stent

1. Diagnostic study casts are used to determine adequate spacing in all dimensions for the anticipated implant. Use a denture tooth or teeth to create a wax-up (Fig. 1).

2. Create an 020 vacuform, and trim it so that the CEJ of the anticipated implant crown is visible and identified (Fig. 2). *Note:* This template is to be used as a vertical reference for depth insertion of the implant and to help guide fabrication of the stent.
3. Use radiographs of the site to determine the angulation of adjacent roots or vital structures.
4. Position the diagnostic cast on a surveyor base, and use a 5/32-inch drill to make a preparation representing the position and angulation of the implant (Fig. 3).
5. Insert a guide pin into the diagnostic cast (Fig. 4).
6. Heat the Temp Tab material (Fig. 5) in hot water until the blue color changes to somewhat clear.
7. Mold the material around the guide pin (Fig. 6), and pinch it to create the chimney that is to receive the drill sleeve.
8. Trim the material as needed with a red-handled knife. Allow it to cool and harden.
9. Remove the material from the cast, and remove the top of the chimney to receive the drill sleeve.
10. Fig. 7 shows the drill sleeve inserted into the chimney, and Figs. 8 and 9 show the first and third twist drills, respectively.
11. Place the stent in the patient’s mouth (Fig. 10). Refer to the drill sleeve and the radiograph as needed to confirm angulation and position.
12. Perform osteotomies as described above.

This technique works very well at tooth-borne sites. A similar, but larger, product called **Bite Buddy** thermoplastic material can be used for multiple sites. Alternatively, distal extension stents can be created by joining together two Temp Tabs wafers. The material adheres very well to itself when heated. **DPR**



**Fig. 1** Wax-up of denture tooth on the diagnostic cast.



**Fig. 2** An 020 vacuform of the wax-up.



**Figs. 3 and 4** The diagnostic cast is positioned on a surveyor base, and a 5/32-inch diameter hole is drilled at the position and angulation of the anticipated implant. A guide pin is placed into the preparation.



**Fig. 5** Temp Tab material prior to heating.



**Fig. 6** Temp Tab material molded to guide pin.



**Fig. 7** Drill sleeve inserted into “chimney.”



**Fig. 8** First twist drill inside drill sleeve.



**Fig. 9** Third twist drill in stent.



**Fig. 10** Stent in place in the mouth.