

FABRICATION AND USE OF AN  
**INDIVIDUAL DRILL TEMPLATE**



Straumann® Drill Template

# FABRICATION

Produce the template on a plaster cast using the vacuum-forming technique or with cold-polymerizing resin (block the undercut points of the cast with plaster or other suitable material). The template acts as the basis for securing the components for the individual drill template. It can be made in two ways.

## Preparation



Fabricate the situation cast out of plaster.



Fabricate a vacuum-formed template with holes for measuring mucosal thickness.



Measure the mucosal thickness and bone profile (bone mapping) in the mouth using a periodontal probe with rubber stop.



Draw in the measured bone profile (bone mapping) by sawing a second plaster cast through the centre of the planned implant position.



Fabricate a wax-up in the design of the planned restoration on the situation cast.



Duplicate the wax-up cast for fabricating a vacuum-formed resin template.



Transfer the resin template to the situation cast.



Mark the implant position determined under **4** on the cast and drill a 6 mm deep hole in the axis of the implant using a pilot drill  $\varnothing$  2,2 mm in the parallelometer.



Place a 16 mm,  $\varnothing$  2,2 mm, titanium pin (049.816V4), in the hole, projected 10 mm from the cast. From this point **option 1 or 2** for fabricating the drill template can be selected:

## OPTION 1



Place a new vacuum-formed template over the pin that is stuck in the cast.



Remove the vacuum-formed template from the cast and replace the 16 mm titanium pin with a 10 mm titanium pin (049.817V4) of the same diameter.



Place the template on the previously fabricated cast with the bone mapping drawn in and the implant axis and confirm drill direction and position. You may also take an x-ray with this vacuum-formed template in the mouth to check it.

**Important:** To prevent aspiration, secure the pin in the template with short-acting adhesive.



**Axis correction:** The position and direction of the drill hole can still be corrected if necessary by securing the 16 mm titanium pin (049.816V4) with plaster, wax or resin in the corrected drill hole in the correct axis and a new template is vacuum-formed. Re-check the implant position (as described under **9–12**).



After the drill hole has been aligned to the optimum implant axis, place the stepped titanium pin (049.818V4) in the drill hole and block any undercuts with plaster, wax or resin. The pin now projects 10 mm from the cast.



Vacuum-form a new template over the titanium pin.



After removing the stepped titanium pin, cut or grind an occlusal opening in the template. Slightly moisten the 10 mm drill sleeve (049.810V4) with short-acting adhesive to prevent aspiration and put it in the template.



## OPTION 2



Prepare the cast as described up to **9**. Put the drill sleeve (049.810V4) over the 16 mm titanium pin, Ø 2,2 mm (049.816V4), which is positioned in the mouth.



Fix the height of the drill sleeve (049.810V4) to the mucosa with resin or plaster. For a better view of the drill markings and **to facilitate irrigation** it is recommended that there be a gap of 2 mm from the mucosa. Vacuum-form the plastic template over the drill sleeve or make the template with cold-polymerizing resin and grind the drill opening for the pilot drill.

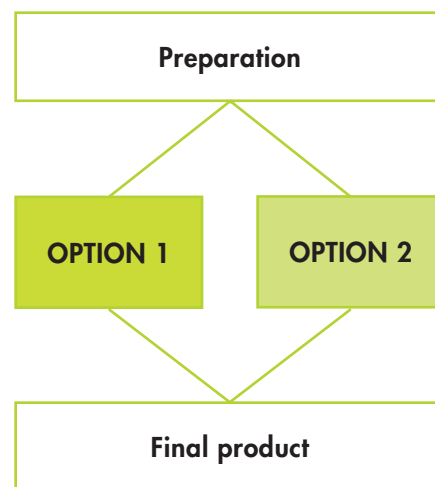
### Final product for option 1 and 2



#### Finished drill template

For controlling you may take an x-ray with the finished drill template.

**Important:** Immediately before use in the mouth, the drill template and drill sleeve must be disinfected thoroughly with the usual disinfectants.








## Fabrication and use of an individual drill template for treatment planning and implant bed preparation

The individually fabricated drill template should be part of the treatment planning process, to facilitate the preparation of the implant bed and enable cutting instruments to be used precisely (pilot drill  $\varnothing$  2,2 mm, Art. No. 044.210/211). The planning basis when fabricating this template for the surgical procedure should be the desired **prosthetic result**.

**Important:** Before use in the mouth, the drill template and drill sleeve must be disinfected thoroughly using the usual disinfectants. The drill template and the drill sleeve with collar are intended for single use only.



The following prefabricated components are available for fabrication of an individual drill template:

Art. No		Article	Dimensions	Material
049.810V4		Drill sleeve with collar	Height 10 mm, Outer- $\varnothing$ 3,5 mm, Inner- $\varnothing$ 2,2 mm	Titanium
049.818V4		Stepped pin for 049.810	Height 16 mm, $\varnothing$ 2,2/3,5 mm	Titanium
049.816V4		Pin for 049.810	Height 16 mm, $\varnothing$ 2,2 mm	Titanium
049.817V4		Pin for 049.810	Height 10 mm, $\varnothing$ 2,2 mm	Titanium
049.819V4		Pin for 049.810	Height 16 mm, $\varnothing$ 3,5 mm	Titanium

[www.straumann.com](http://www.straumann.com)



STRAUMANN GUARANTEE

**International Headquarters**

Institut Straumann AG  
Peter Merian-Weg 12  
CH-4002 Basel, Switzerland  
Phone +41 (0)61 965 11 11  
Fax +41 (0)61 965 11 01