

Cutting of the die and methods of exposing the finishing line

There are two system to produce cast with removable die:

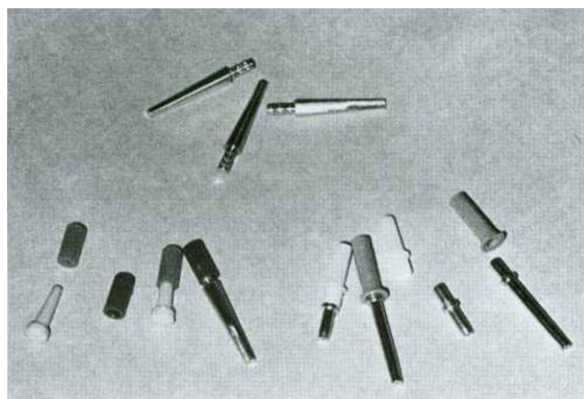
1. Dowel pin with hair pin system.
2. Pindex technique.

Type of dowel pin:

A- Straight dowel pin:

- 1- Taper brass dowel pin or (half round dowel pin or Flat sided dowel pin).
- 2- Double straight.
- 3- Two head dowel pin.

B- Curved dowel pin.



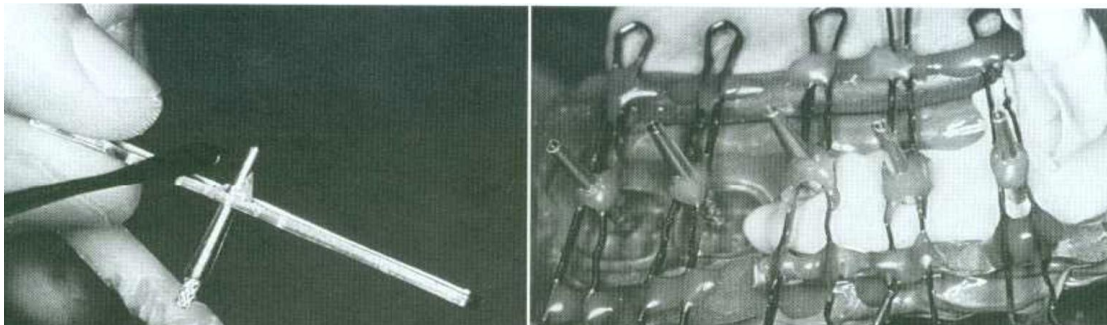
Types Dowel pins

1-Dowel pin with hair pin system:

Procedure:

- 1- After taking the impression, clean it from saliva and debris blood.
- 2- Inspection for position of prepared tooth.
- 3- Fix the dowel pin on the prepared tooth according to rule for fixation:
 - A- Vertical and parallel to the long axis of tooth.

- B- On center prepared tooth.
- C- 3-4mm away from the margin of the impression.
- D- Multiple dowel pin must be parallel for insertion.
- 4- Fix the dowel pin by use hair pin and fixation by sticky wax.
- 5- Pouring the first layer by die stone.
- 6- Using a retention mean in area of unprepared teeth at initial setting time.
- 7- Remove the bobby hair; clean the cast from the sticky wax and coated the prepared area only with a separating medium.
- 8- Place wax ball at end of dowel pin.
- 9- Do boxing give good thickness of base (10-12mm).
- 10- Pouring the second layer, and open the cast after setting.



Positioning dowel pins before cast pouring can be accomplished with bobby pins and sticky wax.

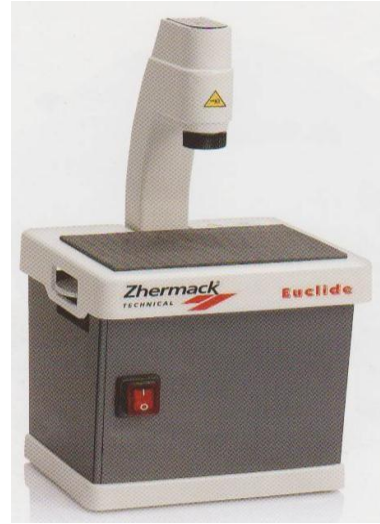
2-Pindex technique:

When the pindex system is being used:

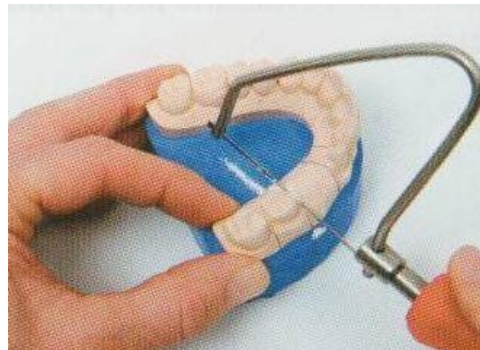
Pour of stone is removed from the impression once it has set. The base is then ground flat in a plane that must be perpendicular to the intended position of the pindex pins. The periphery of the cast is trimmed to fit in a special mold (base former). After the cast is dried, the location of the pins is marked and their holes are drilled with a special drill press. The pins are cemented in place with cyanoacrylate resin; special sleeves are positioned over the cemented pins, and coated the prepared area only with a separating medium the cast is positioned in the base former and then pouring the second layer (base).

Cutting of the die:

Using lead pencil carefully mark lines starting from tooth side end to the base of the cast, these lines represented the cutting lines, after that using handsaw for cutting the die.



The Pindex system consists of a special drill press

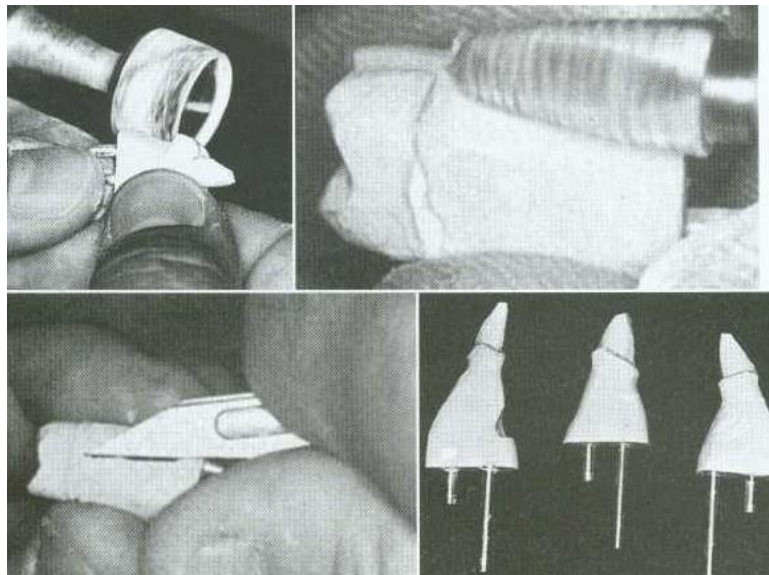


Trimming of the die:

Cutting from the die to make the finish line clear and clean. The die should be trimmed gingival of finish line to provide edict of finish line and burnishing, there are two design for trimming either ditching creating a sharp undercut below the finish line which make it thin or more suspitale to fracture in finish line and over bulkiness in wax pattern. While in trimming slight removal below the finish line which is approximately like natural so it give normal thickness of wax pattern.

How to make the trimming:

- 1- Remove stone at 2-3mm apical to finish line, using pear shape tungsten carbide bur.
- 2- Using sharp blades number 25 for the cutting all around the finish line, and smoothing the die stone below the finish line.
- 3- Mark the finish line by bright red. Color pen this facilitate the carving of margin of wax pattern black graphite should not be used due to contamination.



Why we do trimming to the die:

- 1- To clear and clean to finish line and well localized the fit on the die.
- 2- To facilitate waxing procedure and make well margin securing and extension in order to produce good finishing and burnishing of wax pattern margin which create good bulkiness of axial wall.

