1  Duplication

d) Duplicate the master model using a type of silicone consisting of two components.
e) The duplicated model must be made of “Marble Stone” plaster. Caution: when the setting phase of plaster ends (after 30-35 minutes), take the duplicate out from the silicone and wait for at least 18/24 hours before proceeding to the next phase.
c) Apply on the part to be modelled a thin layer of photopolymerizing varnish “Gyplux” and polymerize it, using for example the Complex Lux S-8 equipment for 5 min.

2  Modelling / casting pins (see examples)

b) The pin connecting the wax element to the bar must have a 3mm diameter, reduced to 2mm close to the waxed element. The bar’s distance is 3mm.
c) The feeding bar may have a diameter ranging from 4 to 5mm, according to the type of work to carry out.
d) The melting canals from the muffle mouth to the bar must have a 5mm diameter.
d) Place the feeding bar paying attention to approach the manufactured item as much as possible to the material entrance.

3  Positioning of the model into the muffle base

c) Use a plaster that can resist compression of at least 400 Kg/cm².
d) The mould plaster must go beyond 50% of the connecting and feeding pins’ height. This is to favour the opening of the muffle after the pressure-injection phase.
c) Insulate the muffle with a plaster-plaster insulating material of the “Separating Pressing” type before carrying out the counter-mould.

4  Open muffle after wax removal

Once the wax has been removed, check that no loose or indented plaster parts remain. During the pressure-injection phase they may be transported into the resin.

5  Maintaining the muffle

It is important to place the muffle on the oven centering device while it is still very hot, and only 2/3 minutes before injection.

c) Prepare the material to be pressure-injected as usual, paying attention if inserting only 2 tablets of product. Place at least 3 teflon caps before edging the cartridge.
d) Once the equipment has been programmed with the correct pressure and timing (see “programming”, point 8), push the “auto/man” button to start the pressure-injection process.
e) Caution: 12 minutes before the injection time, place the open muffle in boiling water, leave it there for at least 8 minutes.

4 minutes before pressure-injection remove the muffle from the boiler, using gloves, use an air jet over the whole muffle surface, thereby eliminating the exceeding water. Then close the muffle using the screws. To avoid problems to the screws and obtain a more even tightening, we recommend using a pneumatic screwing device, of the Pressing mod. “Avv.” type.
6 Injection

d) Take the muffle, always using the gloves, open the equipment’s safety door and place the hot muffle on the oven centering device. We recommend using the centering device model with insulating material.

e) Tighten well with the manual press, close the safety door.

f) Now the equipment has stopped the automatic cycle and will produce a sound, just press the “auto/man” button to resume the cycle.

Caution: it is indispensable that the least possible time elapses between the safety door opening and the pushing of “auto/man” button, less than a minute is usually necessary.

7 Muffle removal

b) The muffle can be removed from the equipment only at the end of the cycle, in any case, before opening the muffle, the latter must be at room temperature.

As for finishing and polishing, refer to the information contained in the instructions for use.

8 Programming the equipment for all technical tables 2-4-5-6-8-9

- Melting temperature 220°C
- Melting time 20’ (equipment J-100 ref. timer 1)
- Heating time after injection 03’ (equipment J-100 ref. timer 2)
- Cooling time under pressure 35’ (equipment J-100 ref. timer 3)
- Injection pressure 4 Bar (equipment J-100)
- Injection speed Tightened screw (equipment J-100)

Examples of works’ positioning in the muffle

Ex. Partial upper or lower working
5mm canals reduced to 3mm close to the wax element

Ex. Circular working or bite
Central 5mm canal
3mm connectors, reduced close to the wax element.

Ex. Bridge or retainer working
4mm canals and bar
3mm connectors, reduced close to the wax element.

Ex. Contention working:
5mm canals, reduced close to the wax element. 1, 2mm looping canal above the incised elements.