

# Sequences of operations

## Fixed dentures:

### Full crown

Made of metal alloy (gold or chromcobalt)

#### 1. Phase in dental office

Preparation

Reduction 0,5 mm around, occlusaly 1 mm  
Preparation border – shoulderless or very slight round shoulder,  
located subgingivally 0,5 mm.

Taking impression

Elastomeric impression materials

Polysulfid, silicon, **elastomers.:**

Before the impression the retraction cord is applied around the tooth – subgingivally in order to open gingival sulcus and take an exact impression of this area.

Dual viscosity technique.

- a) Dual viscosity technique – double impression or
- b) Simultaneous dual viscosity technique.

Antagonal impression of alginate

Occlusal registration (wax)

#### 1. Phase in dental lab.

Making the cast (model) of gypsum (pouring the impression).

There are three types of base raw materials derived from partial dehydration of gypsum rock:

Plasters – fluffy, porous, least dense.

Hydrocal – hihger density, more crystalline

Densite – densest of the raw material.

Plasters----- model plaster, lab plaster

Hydrocal----dental stone

Densite -----high strength dental stone

**High strength dental stone is used for fixed dentures.**

Wax pattern

Lost wax method. – investment and casting, finishing.

2. Phase in dental office

Tryin of the crown and its cementation.

**Metal ceramic crown**

Made of metal alloy ( usu chromcobalt) and ceramics which covers the metal framework  
These crowns are fully covered with ceramic material.

1. Phase in dental office

Preparation

Reduction 1 mm around, occlusaly 1, 5 mm.

Preparation border - rounded shoulder located subgingivally 0,5 mm.

Taking impression

Elastomeric impression materials

Polysulfid, silicon, **elastomers.**:

Before the impression the retraction cord is applied around the tooth – subgingivally in order to open gingival sulcus and take an exact impression of this area.

Dual viscosity technique.

a) Dual viscosity technique – double impression or

b) Simultaneous dual viscosity technique.

Antagonal impression of alginate

Occlusal registration (wax)

1. Phase in dental lab.

Making the cast (model) of gypsum (pouring the impression).

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Densite – densest of the raw material.

Plasters----- Model plaster, lab plaster

Hydrocal----dental stone

Densite -----High strength dental stone

On the model the technician makes

Wax pattern of the metal Framework of the metalceramic crown.

The wax is changed with the metal alloy used the lost wax method. – investment and casting,

After casting follows finishing of the framework

## 2. Phase in dental office

Trying of the metal Framework and choice of colour

## 2. Phase in dental lab

Making of ceramic facette – coat (fully covered crown)  
special procedure – firing in a special oven in several phases.

## 3. Phase in dental office

Trying of the crown and cementation

### **Facette crown**

This crown is made of the metal alloy (golden or chromcobalt), partially covered with composite or methylmethacrylic resin

## 1. Phase in dental office

Preparation –

Reduction 1 mm vestibulary, orally 0,5 mm, occlusaly 1 mm  
Preparation border: rounded shoulder located 0,5 subgingivally

Taking impression

Elastomeric impression materials

Polysulfid, silicon, elastomers.:

Retraction cord around the tooth

Dual viscosity technique or single viscosity technique.

Dual viscosity technique – double impression

Simultaneous dual viscosity technique

Antagonal impression

Alginate

Occlusal registration (wax, elastomeric materials)

## 2. Phase in dental lab.

Making the cast (model) of gypsum.

There are three types of base raw materials derived from partial dehydration of gypsum rock depending on on the nature:

Plasters – fluffy, porous, least dense.

Hydrocal – higher density, more crystalline  
Densite – densest of the raw material.

Plasters----- Model plaster, lab plaster

Hydrocal----dental stone  
Densite -----High strength dental stone

On the model the technician makes

Wax pattern  
Lost wax method. – investment and casting, finishing of the framework

### 3. Phase in dental office

Trying of the metalframework and colour choice

3. Phase in dental lab  
Making of veneer (partially covered crown)  
There are two possibilities:

If the facette is made of the composite material – the material is applied directly on the metal framework and cured.

If the facette is made of methylmetacrylic resin – the facette is modelled of wax, put into the flask (two parts) with plaster, after the plaster has been set, the wax is removed with hot water and replaced with resin dough, closed again and the resin is polymerized in hot water.

The procedure is principally the same as with jacket crown made of methylmetacrylic resin.

Jacket crown

### 1. Phase in dental office

Preparation –

Reduction 1 mm around, incisally 1, 5 mm  
Preparation border – rectangle shoulder  
Located subgingivally 0,5 mm.

Taking impression  
Elastomeric impression materials  
Polysulfid, silicon, elastomers.:

Retraction cord around the tooth

Dual viscosity technique or single viscosity technique.  
Dual viscosity technique – double impression  
Simultaneous dual viscosity technique

Antagonal impression

Alginate

Occlusal registration (wax, elastomeric materials)

1. Phase in dental lab.

Making the cast (model) of gypsum.

There are three types of base raw materials derived from partial dehydration of gypsum rock depending on the nature:

Plasters – fluffy, porous, least dense.

Hydrocal – higher density, more crystalline

Densite – densest of the raw material.

Plasters----- Model plaster, lab plaster

Hydrocal----dental stone

Densite -----High strength dental stone

On the model the technician makes

Wax pattern – not of the casting wax, but of **modelling wax (pink colour)**

The model must be isolated.

The wax model of the crown is put into a flask (two parts), after the plaster has been set, the wax is removed with hot water and replaced with resin dough, the flask is closed and the resin is polymerized in hot water.

2. Phase in dental office

Try and cementation.