

Plastic fillings

- The material is soft, it is cured (set) in the cavity
amalgam, composite, glassionomer, temporaries.

Rigid fillings - inlays

- The material is rigid (already cured)

Metal alloy, composite, ceramics.

Inlays made of the metal alloy (usually precious alloys)

- Rigid fillings
- Manufactured in a dental lab
- Direct or indirect method
 - Direct method rarely (class I. only)
 - Indirect method (most cases)

Inlay

- Crown inlay

- a part of a clinical crown is replaced

- Root canal inlay

- The inlay is cemented into the root canal and replaces a crown (abutment tooth – stump, snag)

Crown inlay

Material

- *Metal Alloys*
- *Composit*
- *Ceramics*



Crown inlays

Indications

- A big loss of dental tissues (cusps replacement)
- Next to the crowns and bridges made of metal alloy

Inlays made of the metal alloy

Indications

- Large defects (i.e. – cusps replacement)
- Large interdental spaces
- *Next to crowns and bridges made of metal alloys (risk of oral galvanism – electric current between two metals)*

Inlays made of the metal alloy

Contraindications

- High risk of dental caries
- Small and shallow cavities
- No in frontal area

Inlay

Advantages

- Better anatomic form
- Better polished

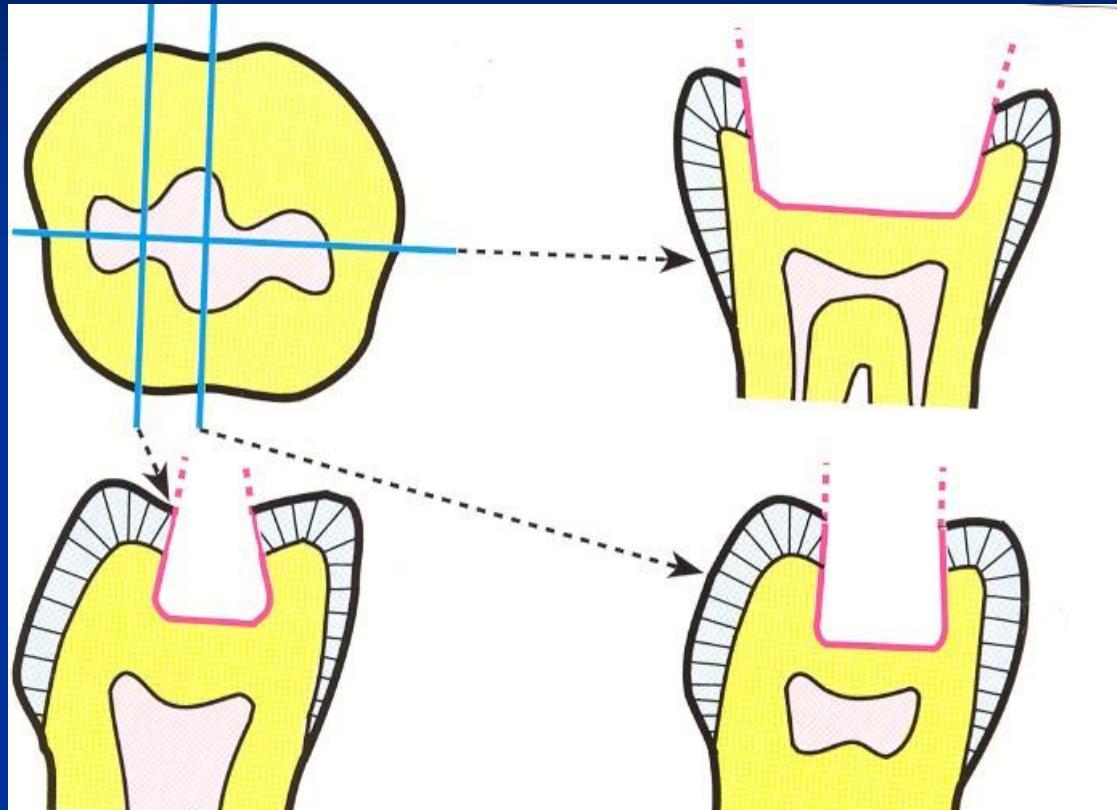
Inlay

Disadvantages

- The technology is not easy
- More time consuming
- Expensive
- Two appointments

Basic rules of preparation

- Box
- No undercuts
- Light divergence of the walls (facilitating shape). Angle of divergency $6 - 15^\circ$



Box

No undercuts

Simple box

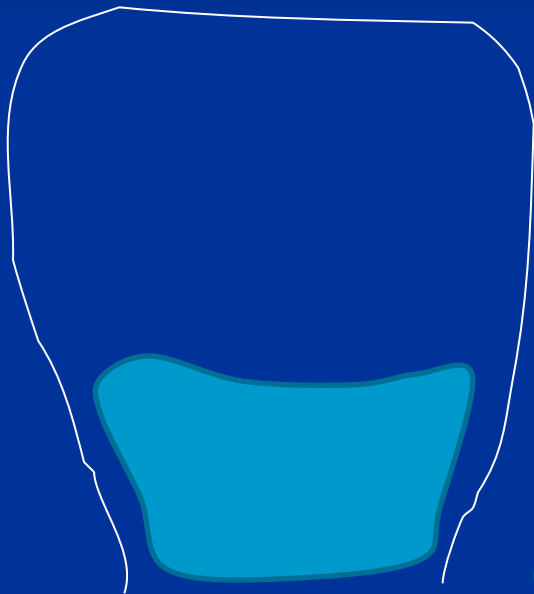
Facilitating shape

Inlay of metal alloy

- Direct method (class I. or V.) - rarely
- Indirect method (in most cases)

Inlay of metal alloy

➤ Direct method



Direct modelling in the mouth
Special wax – casting wax,
(special polymers)
Sprue pin
Investment
Method of the lost wax





Class I.

All fissures are involved

No undercuts – facilitating form

Asymmetric outlines

Depth 1,5 mm

Sequence of operations

Dental office

- Preparation
- Isolation of the cavity
- Modelling of heated casting wax
- Sprue pin – the thickest part, reservoir

Dental lab

- Investment
- Casting (method of lost wax)
- Finishing

Dental office

- Cementation

Inlay of metal alloy

Indirect method

Taking of the impression

Model

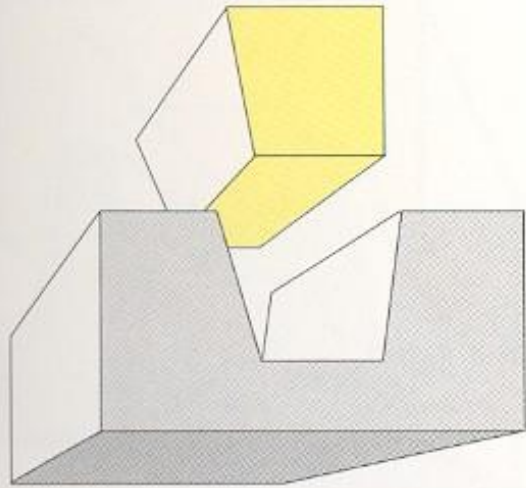
Modellation of the casting wax,
(special polymers)

Sprue pin

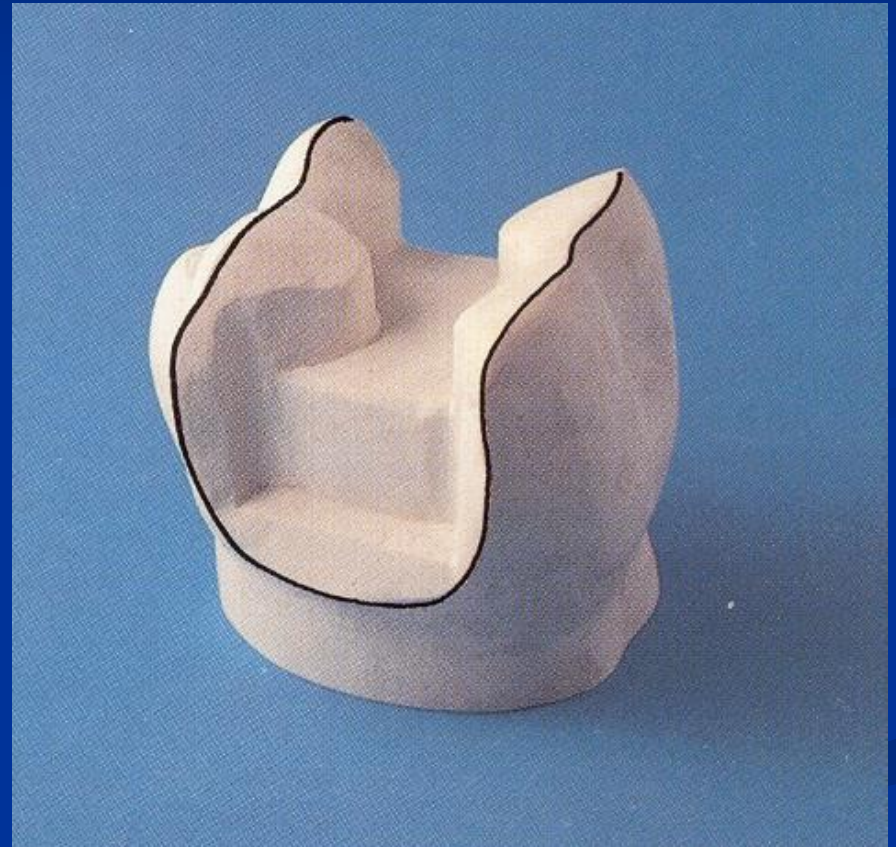
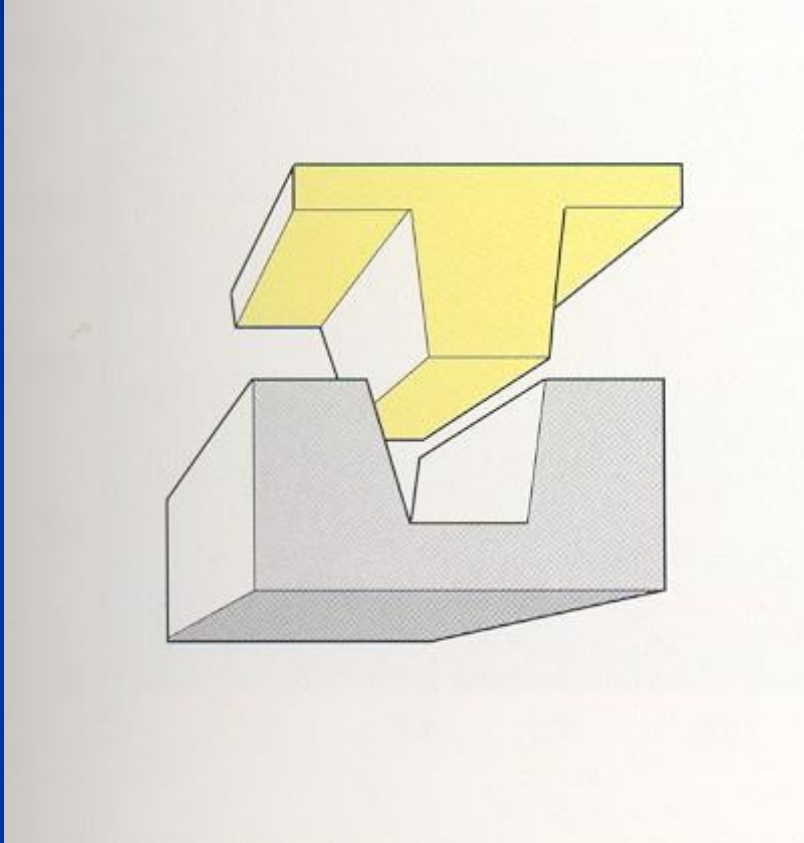
Investment

Lost wax method

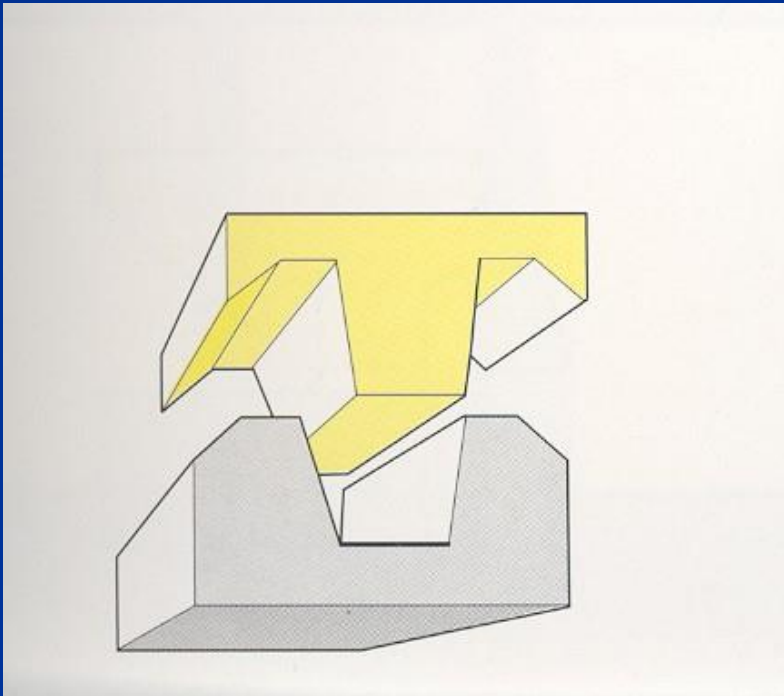
Inlay



Onlay



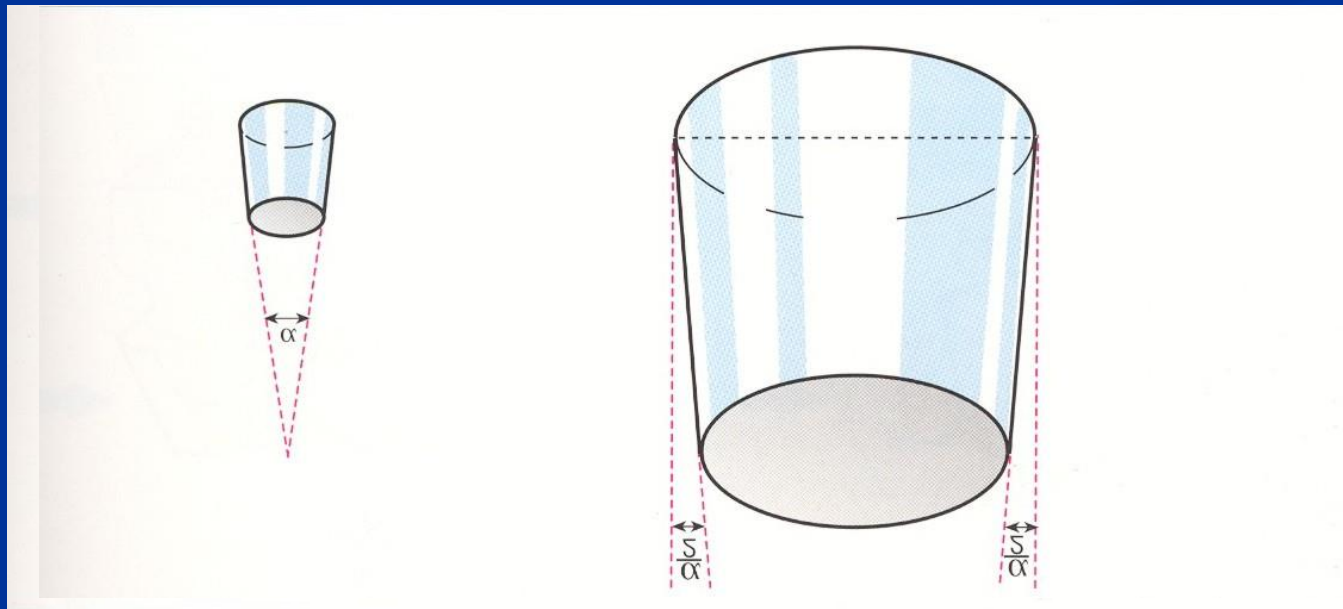
Overlay



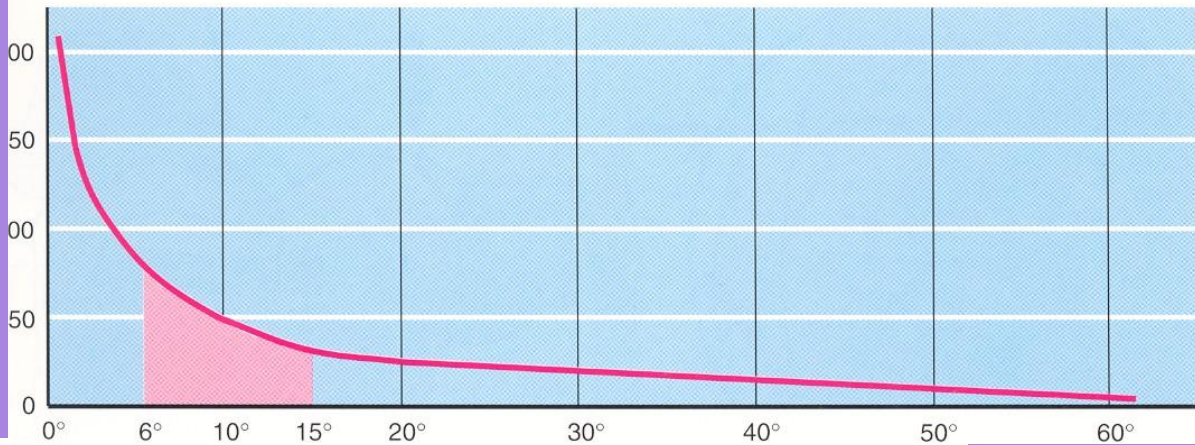
Retention of rigid fillings

Against axial forces, depends on

1. Geometry of the preparation
2. Quality of the luting material (cement)

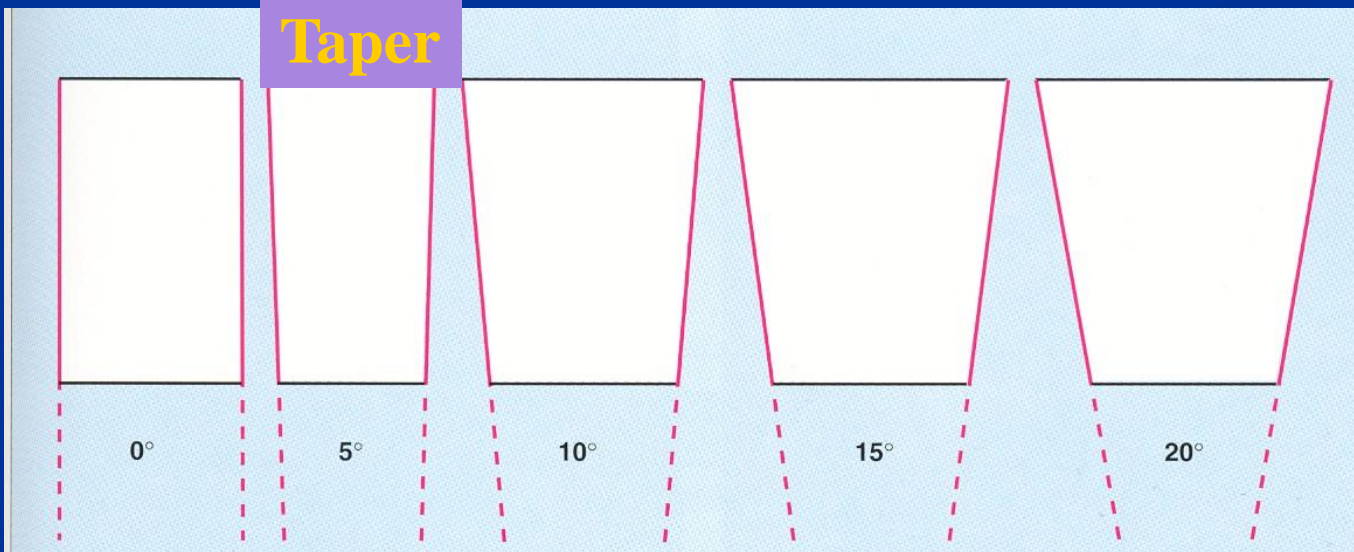


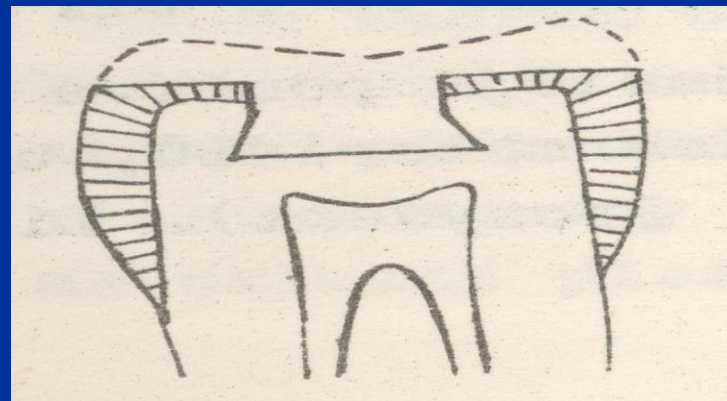
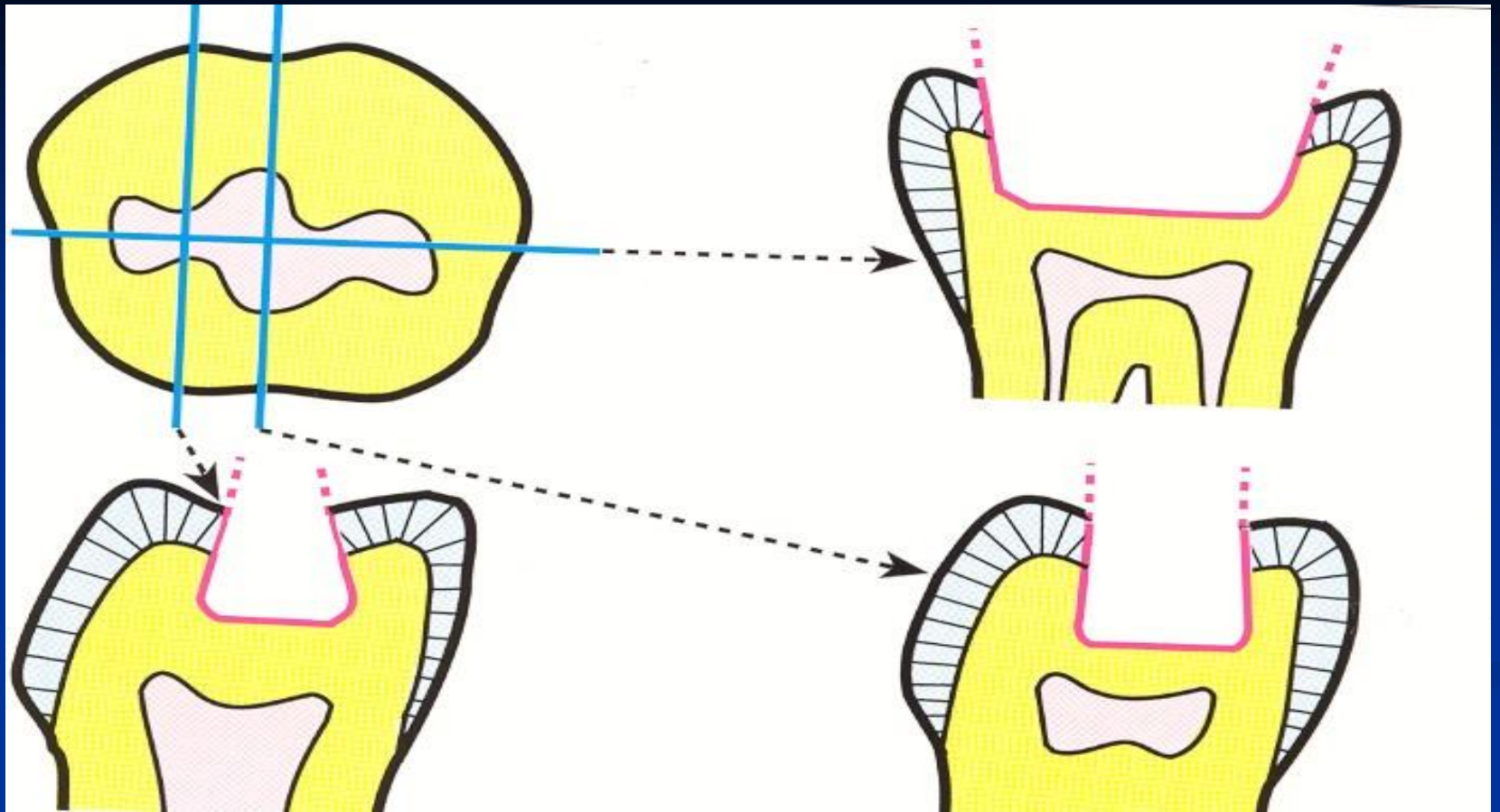
Retention g/mm²

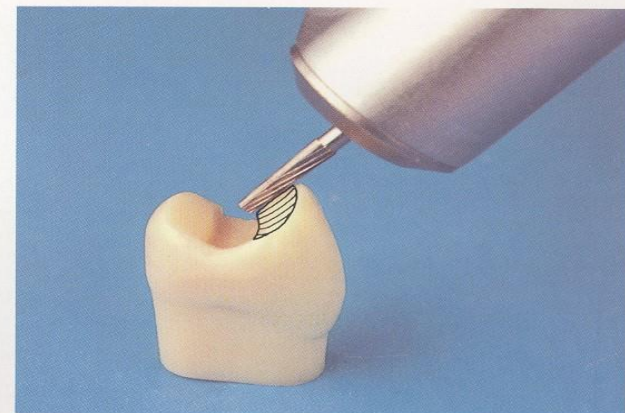
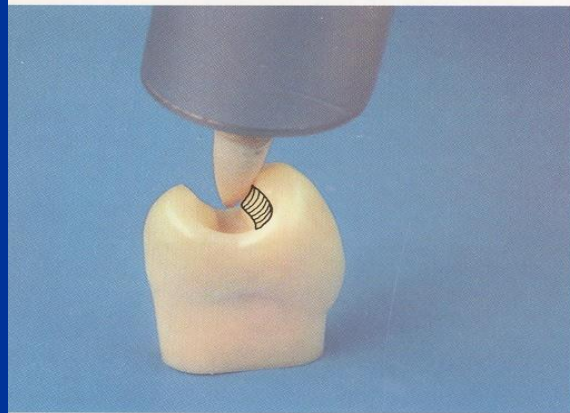
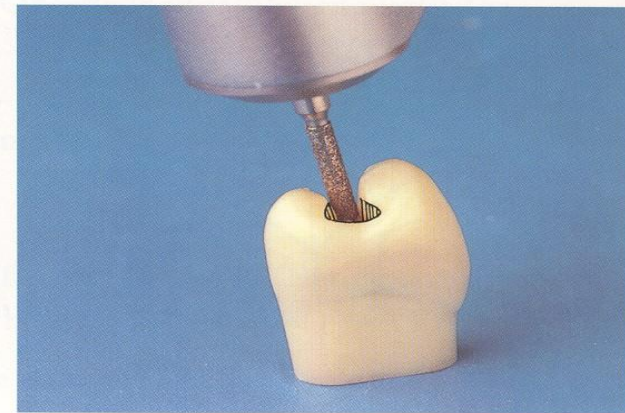
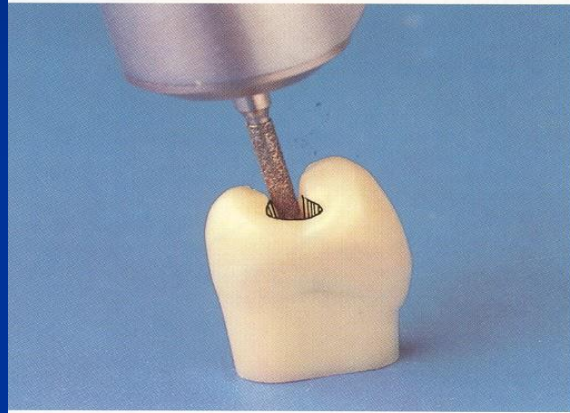
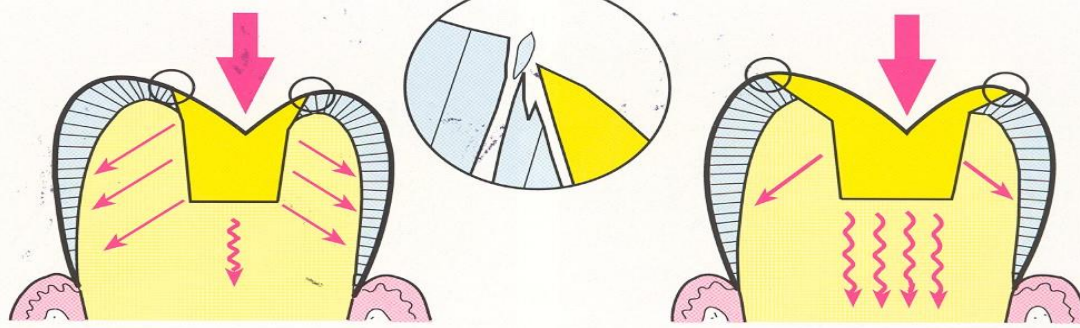


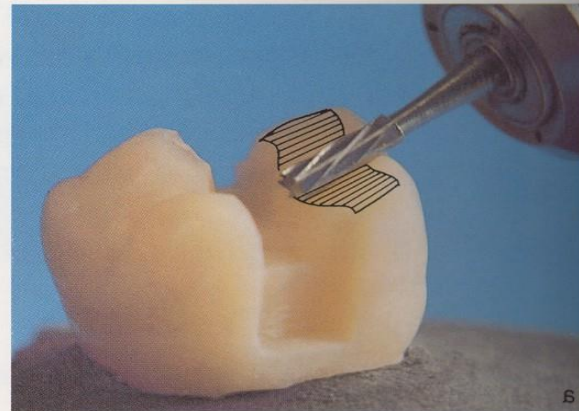
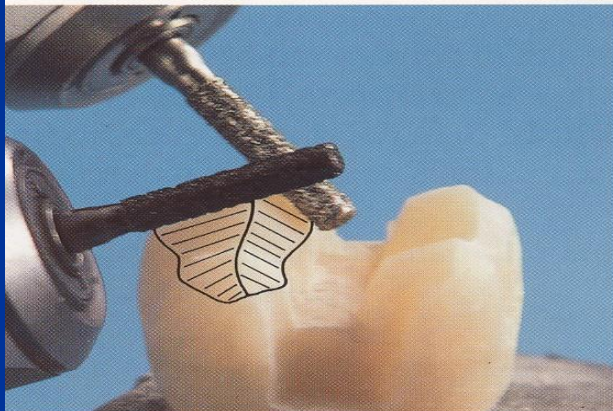
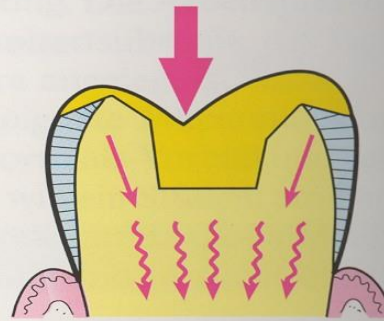
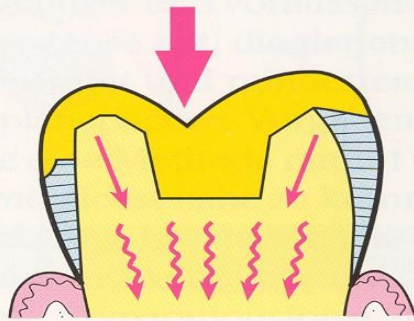
Angle of convergency

Taper

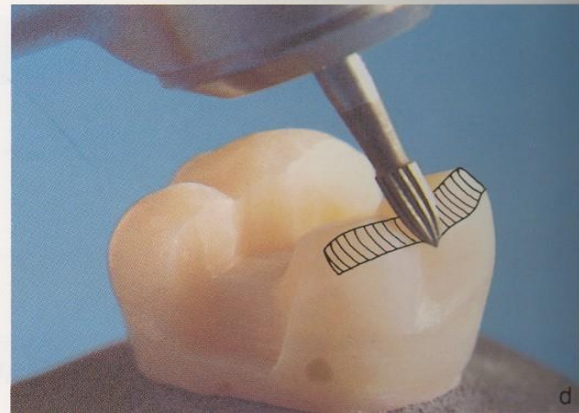
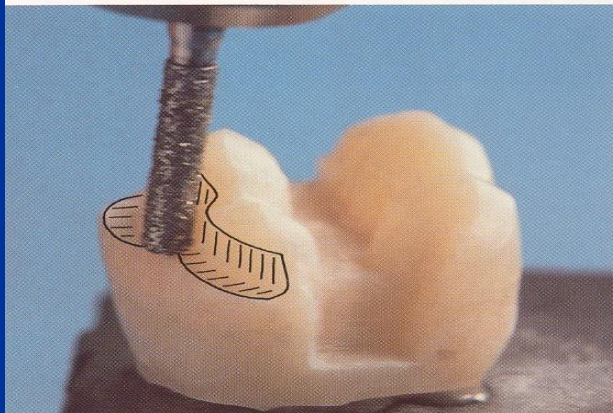




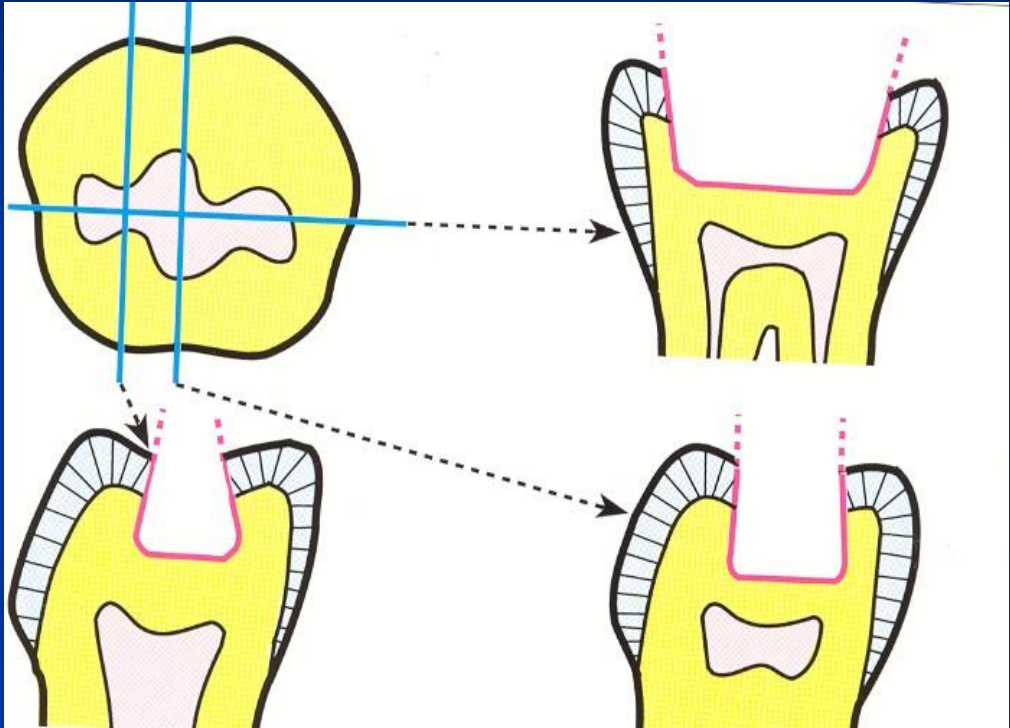


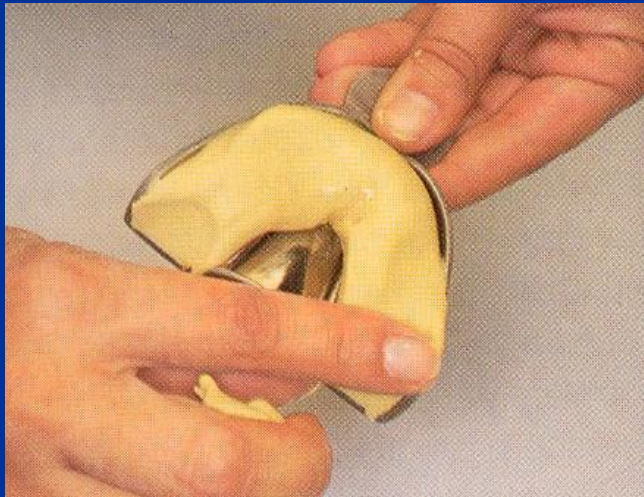
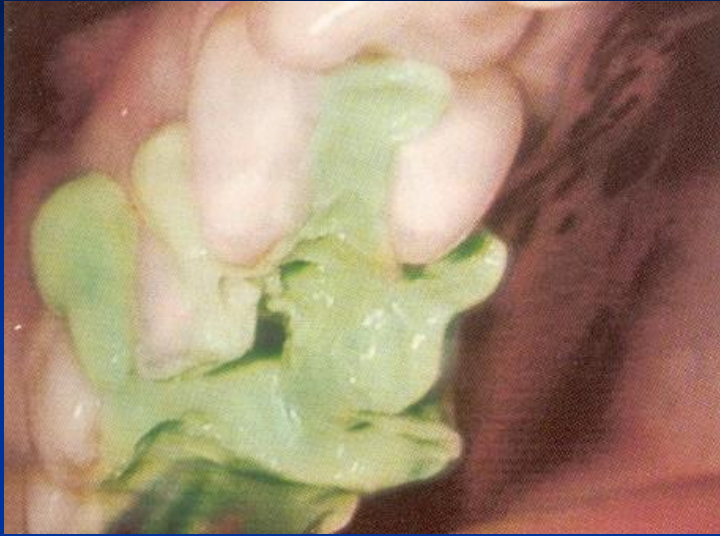


– Erhalten Zahnstruktur
– Retention Kapazität

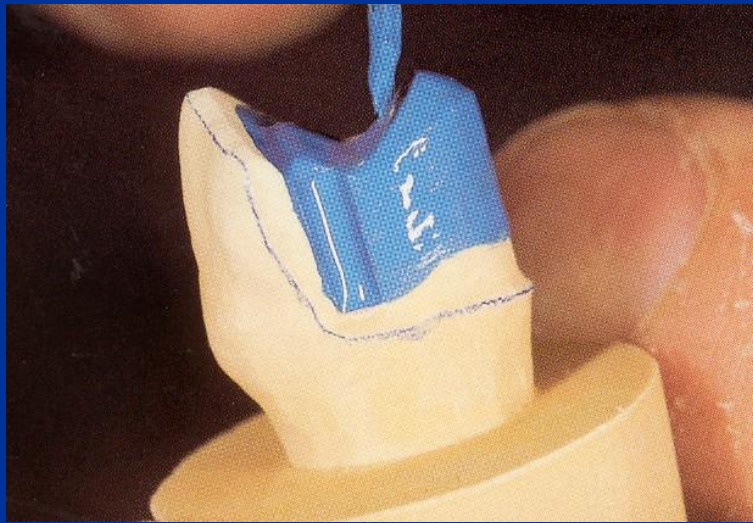
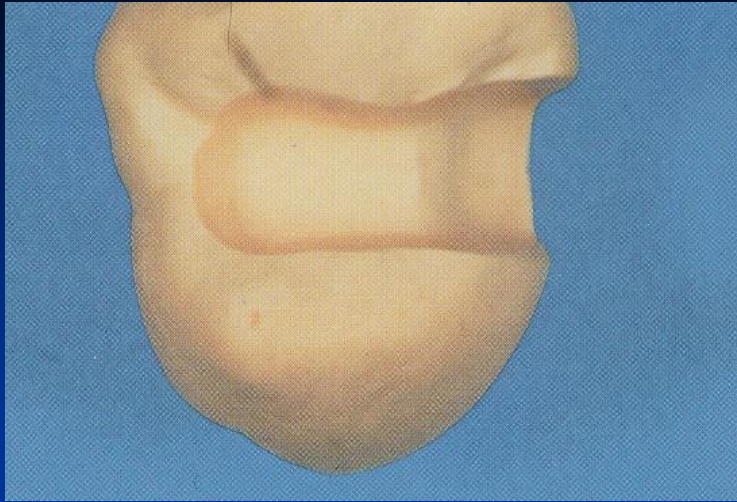


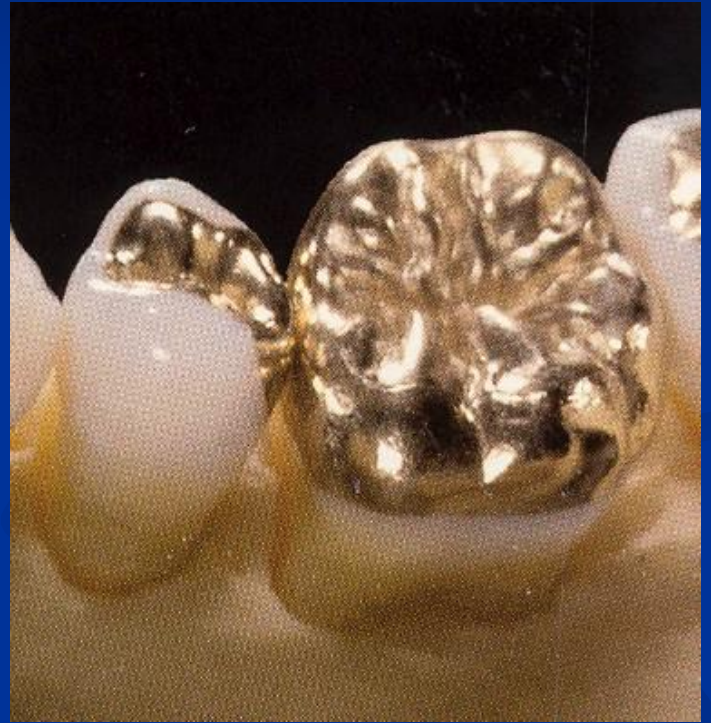


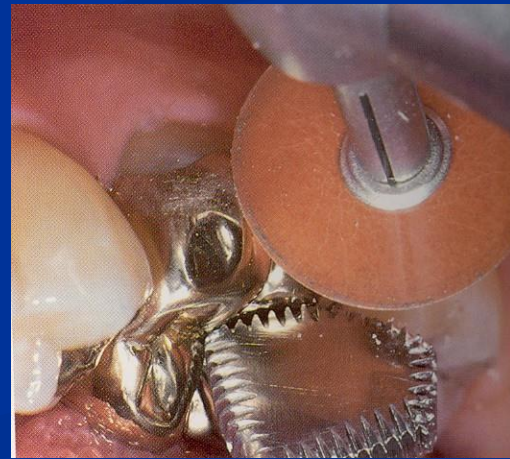
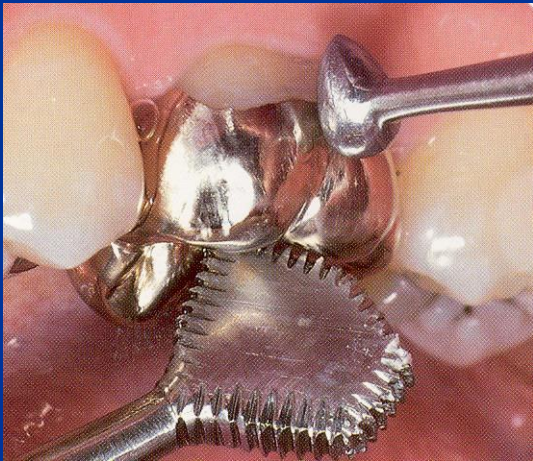
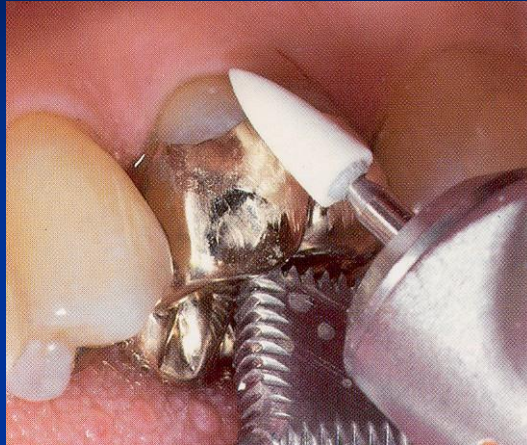
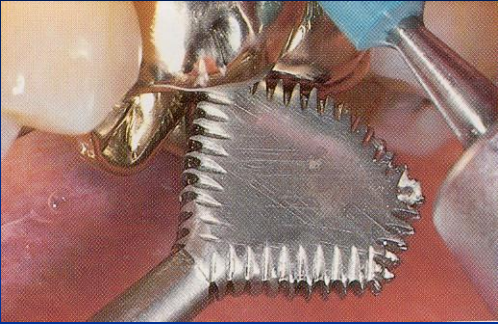


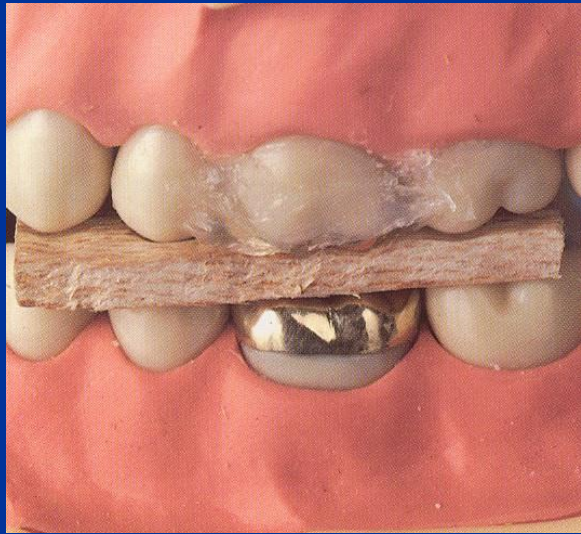
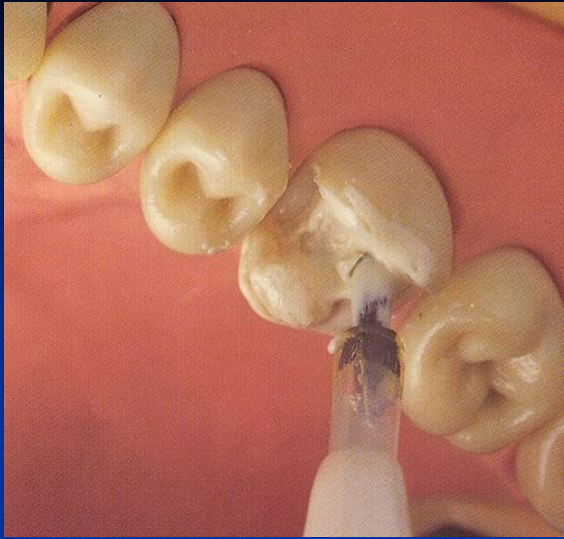












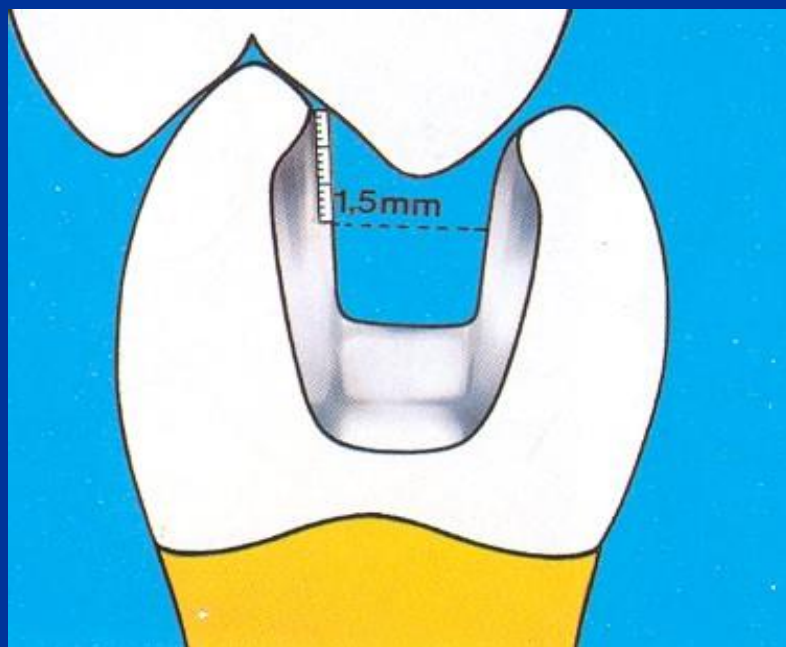
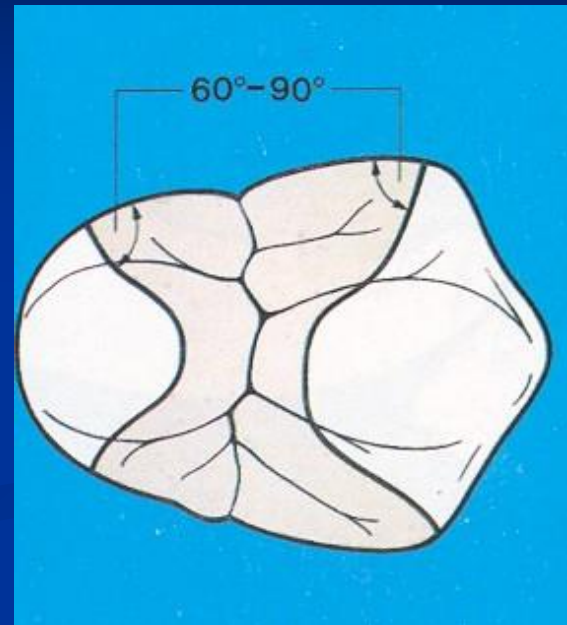
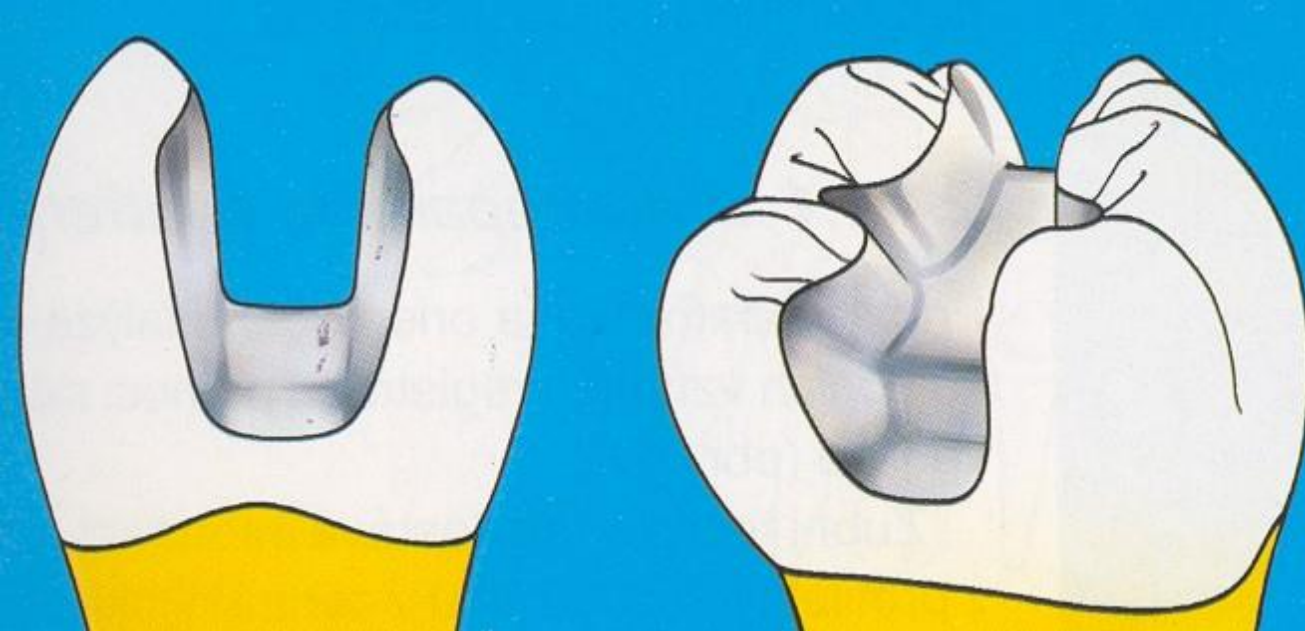
Non metallic inlays

- Composite
- Ceramics

Indirect method

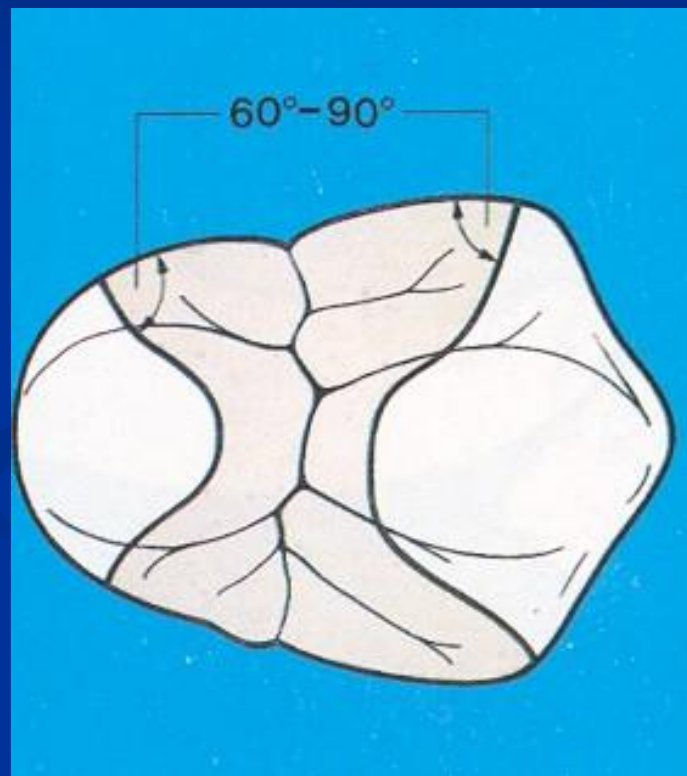
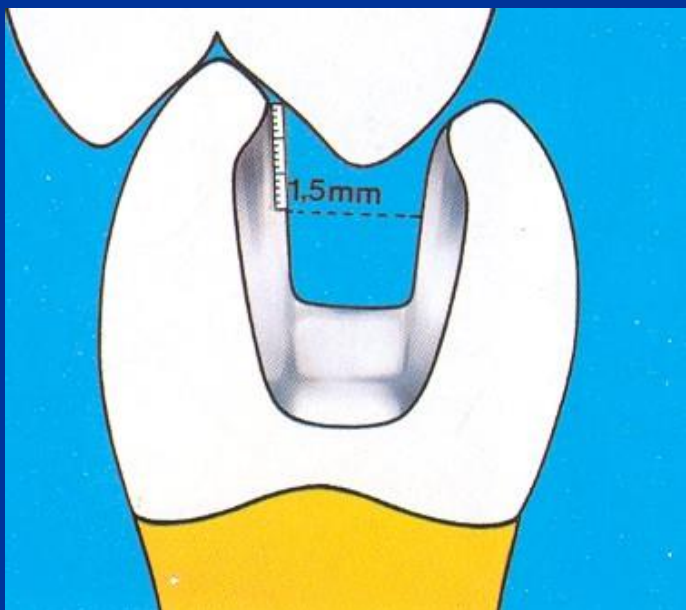
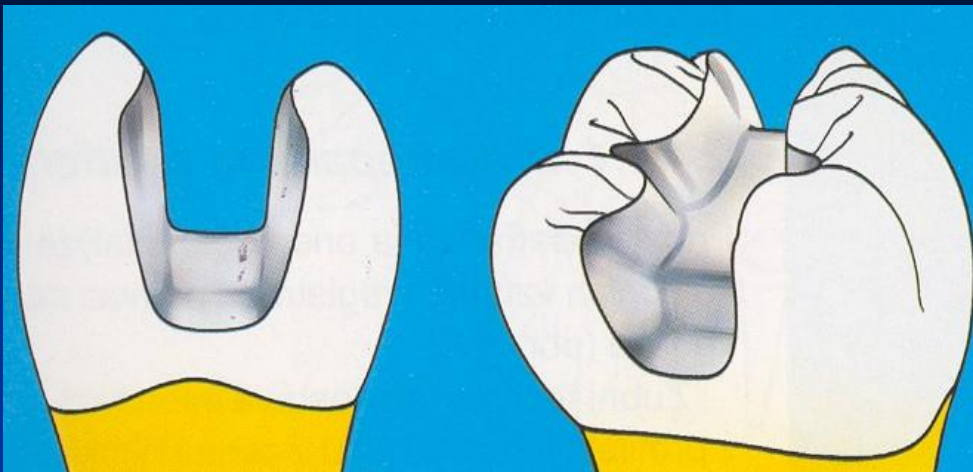
CAD CAM

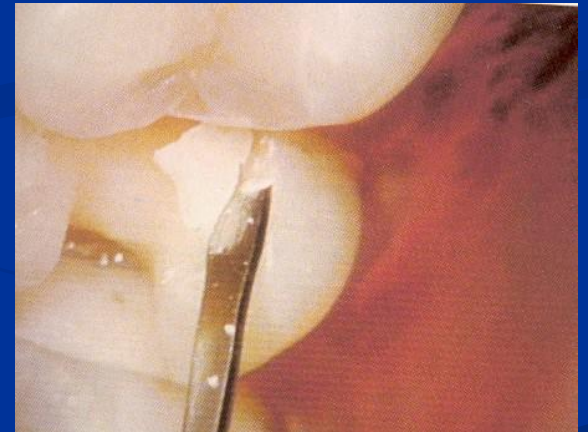
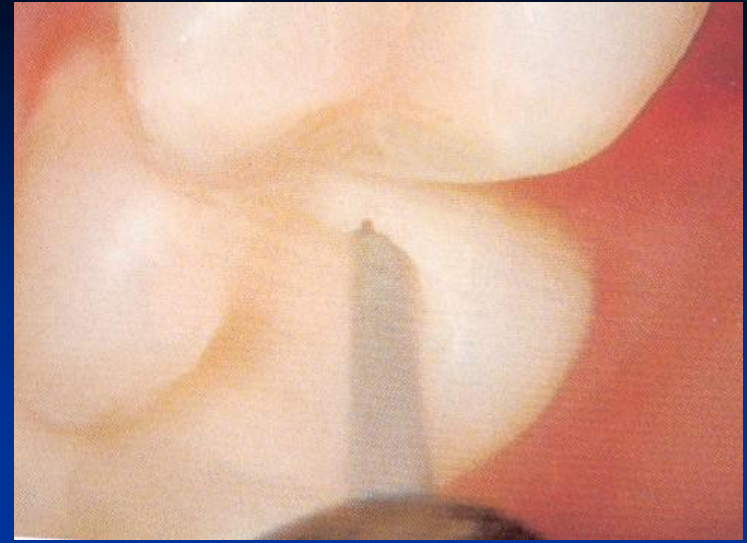


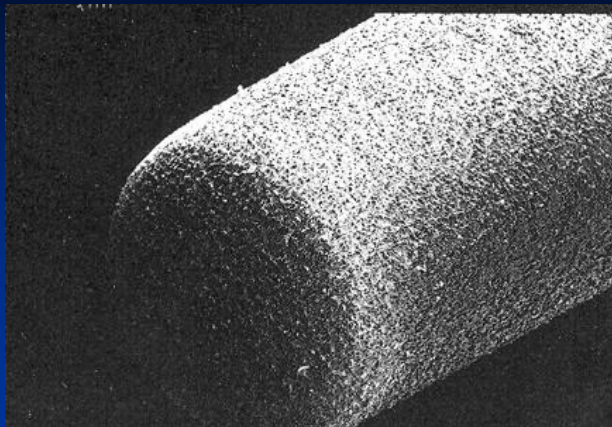


Preparation

- Box
- No undercuts
- Facilitating shape – divergence of the walls apprx. 6°
- No bevel
- Thickness of the material 1,5 – 2 mm











G.E. 2

2005.10

Manufacturer: GDF GmbH, 6119
Distributor: Alcedium s.r.l. 46020

COMPOSITO FOTOPOLIM





Cementation

- Adhesive materials – composite cements
- Special materials requiring acid etching, priming and bonding
- Chemically or dual curing low viscosity materials

