Class III.

Proximal surfaces of anterior teeth (incisors and canines) without loss of the incisal edge

Diagnosis

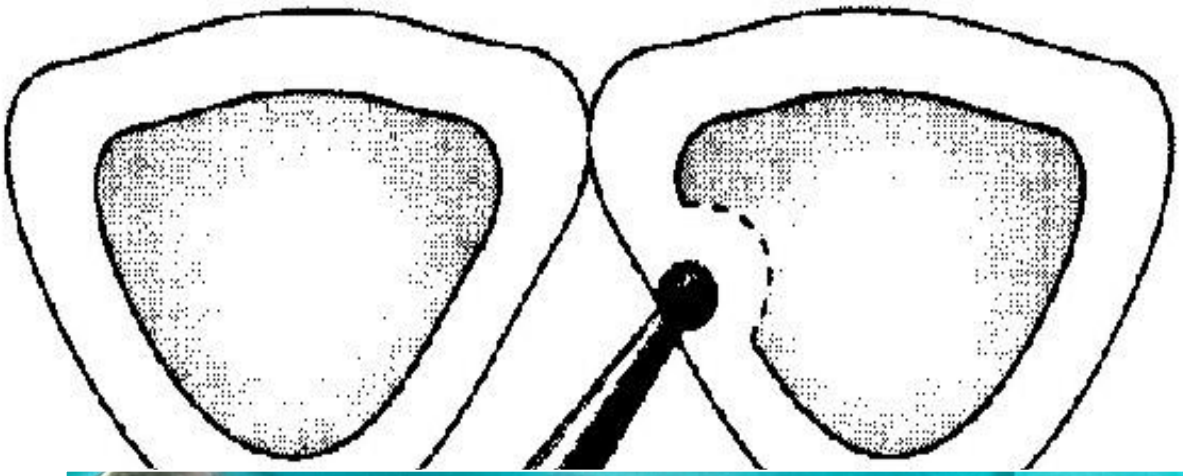
- Visual investigation
- Transillumination

Choice of material

- Material of the first choice is aomposite
- Material of the second choice is glassionomer

Access to the cavity

- Through the enamel from the oral or vestibular side
- - the round diamond, obliquely from the side of the neiborough tooth
- Removal of old filling
- Separation of teeth using wooden wedges can be helpful
- Removal of hyperplastic gingiva




STAINLESS
5
SS

When and why oral approach

- The facial enamel is conserved for enhanced esthetics
- Some unsupported,but not friable, enamle may be left on the facial wall of a class III. And IV.
- Color matching is not as critical
- Discoloration or deterioration is less visible

When and why facial approach

- The carious lesion is positioned facially such that facial approach would significantly conserve the tooth structure
- The teeth are irregulary aligned, making lingual access undesirable
- Extensive caries onto the facial surface
- A faulty restoration (originally placed from facial approach) needs to be replaced

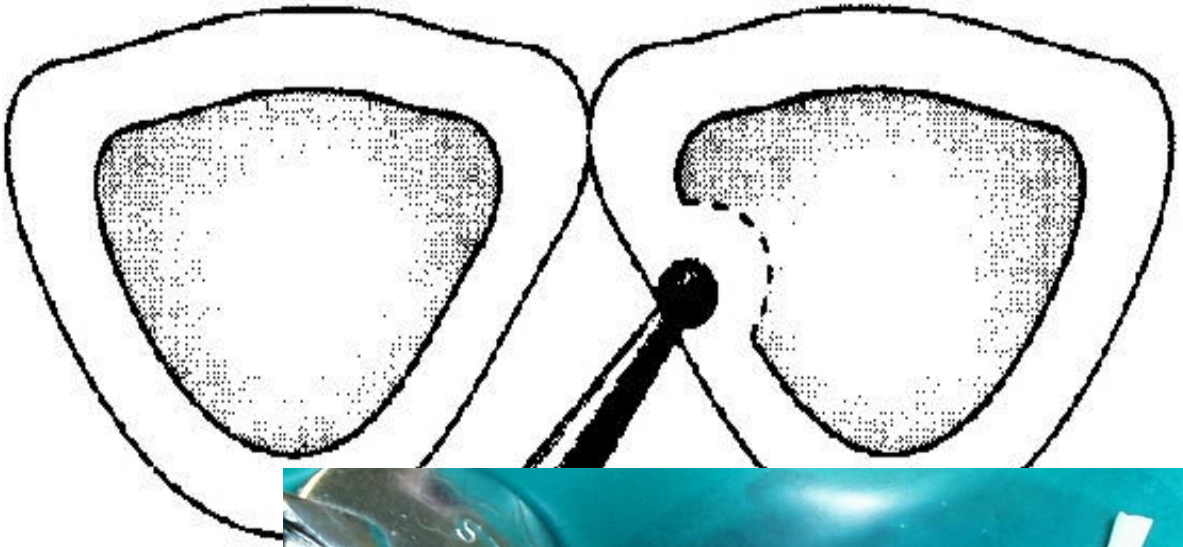
Oral access

Indirect vision – clean unscratched mirror

Round diamond (standard) or round carbide bur, the size depends on size of the caries or defective restoration.

Before contacting the tooth, the cutting instrument is positioned for entry and rotated at high speed using water-air apray

The point od access is within the incisogingival dimension




STAINLESS
5

Facial access

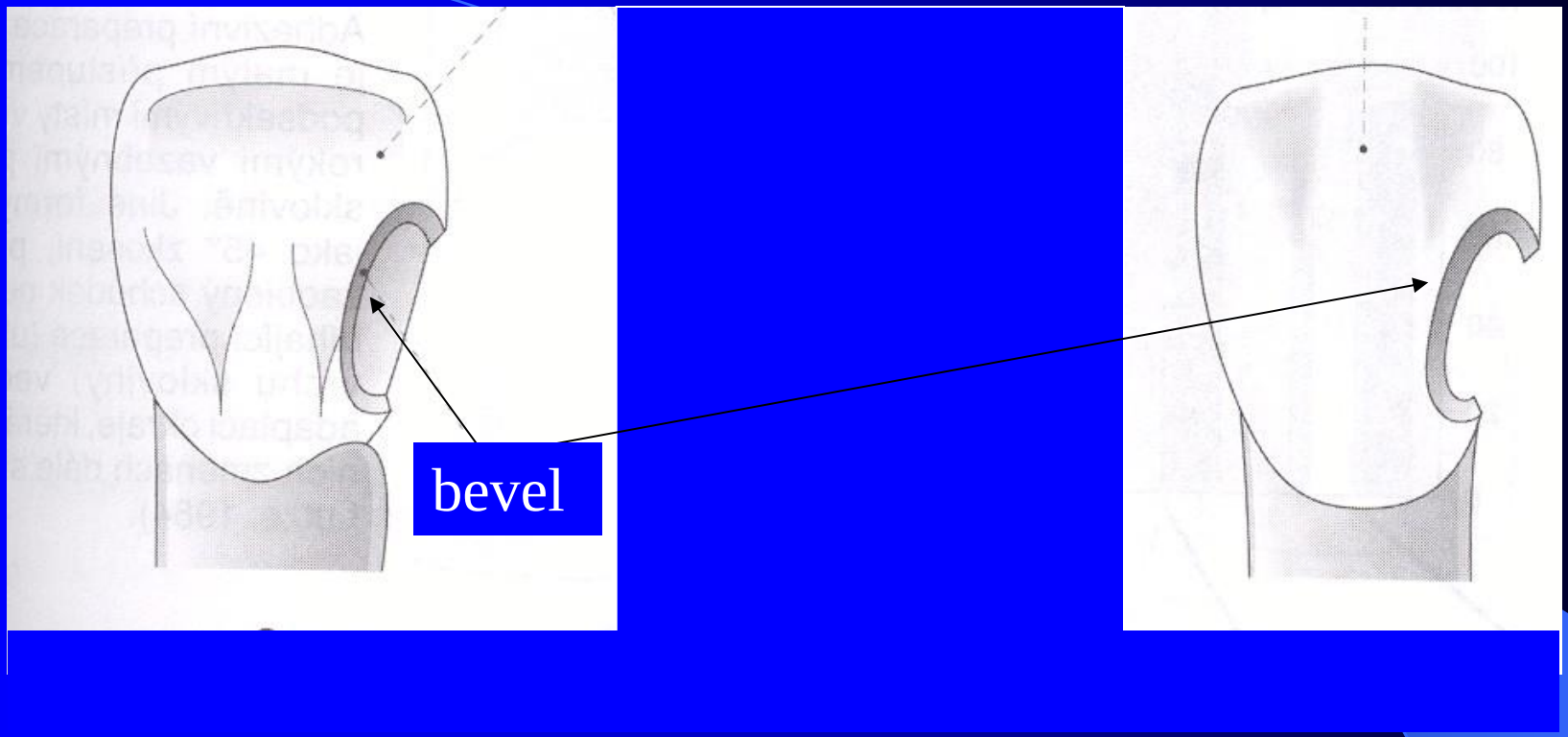
- The same steps, the procedure is simplified because visile directly.

Cavosurface margin

- The size of the cavity depends on dental caries, do not extend
- Margins must be visible

Design of the cavity

- Walls are perpendicular to the enamel surface.
- Enamel must be beveled (approximately 45°) – border appr 1 mm



Flame shaped or round diamond

Dry operating field

Rubber dam

- Before placement of rubber dam the colour choice must be done

(colour, translucency)

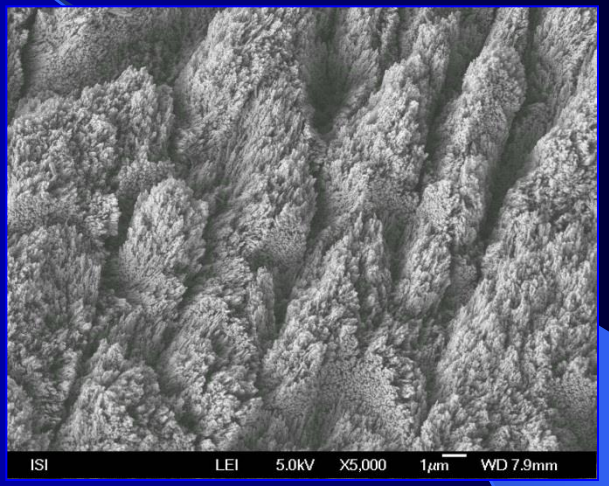
The teeth become dessicated and chalky white. It is a reversible process.

Acid etching
30 seconds enamel
15 seconds dentin: 15/15

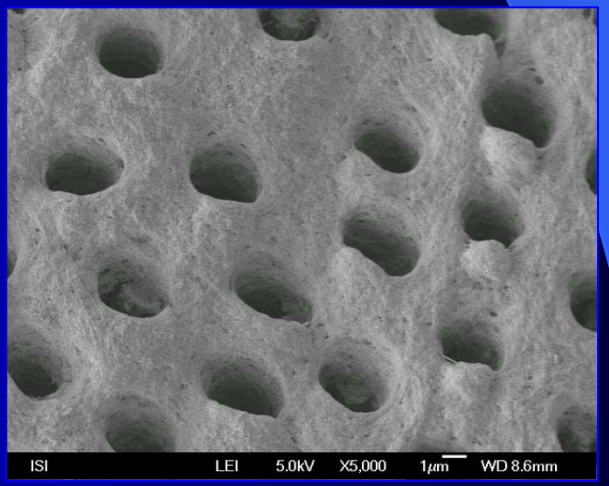
Bonding
Remember passive bonding after acid etching

Why acid etching?

- Enamel
- regular surface with opened inter/intraprismatic spaces



- Dentin
- no smear layer
- opened dentinal tubules
- collagen network available



Final check

Filling of the cavity

- Matrix – transparent strip, wedge, incremental technique

Why incremental technique?

Esthetics

Good conversion (curing)

Marginal integrity (C-factor)

Sequences of operation

Cleaning of teeth

Cavity preparation

Etching

- During acid etching and preparation
- the protection of adjacent tooth is necessary using a metal or polyester strip.

Matrix and wedge, bonding

Layering of composite

Layering of composite

Before finishing

Matrix has been removed

Finishing

Polishing

Finished filling

Lesion that extends onto root surface

- The enamel is beveled
- The wall on root surface is smoothened and some authors recommend groove in dentin
- If not enamel – box (rounded) and GIC

Class IV.

Proximal cavities in anterior area with loss of incisal edge

Reasons: caries or trauma

Access and preparation

- The area is visible, with rpm appr 40.000 the sharp edges are rounded using round or flamed diamond, enamel is beveled
- Some authors leave the enamel unbeveled on oral surface.

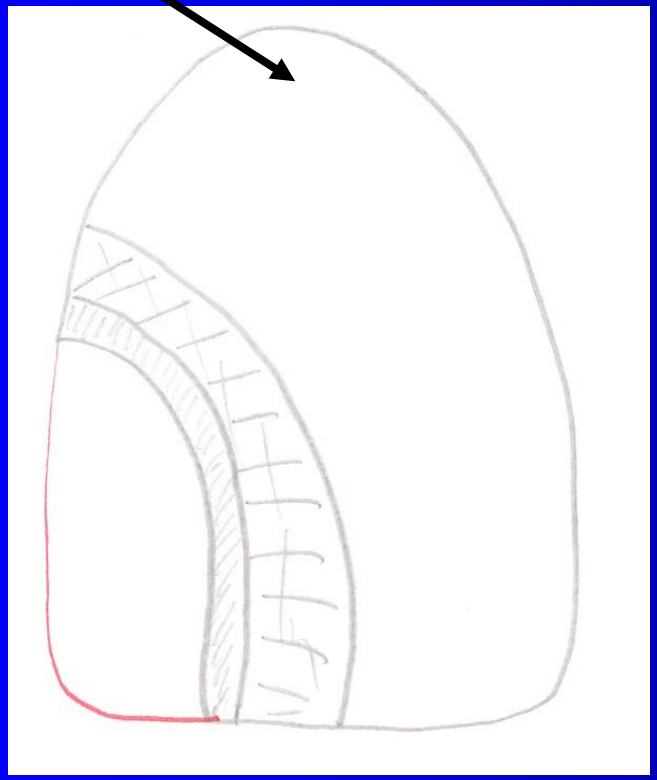
Cavosurface margin

Limited on defect only

Principle of retention

- Výplňovým materiálem je kompozit
- Retence mikromechanická – mikroretence
- Kotvení na rybinu je zastaralé!!!!

Retentive border

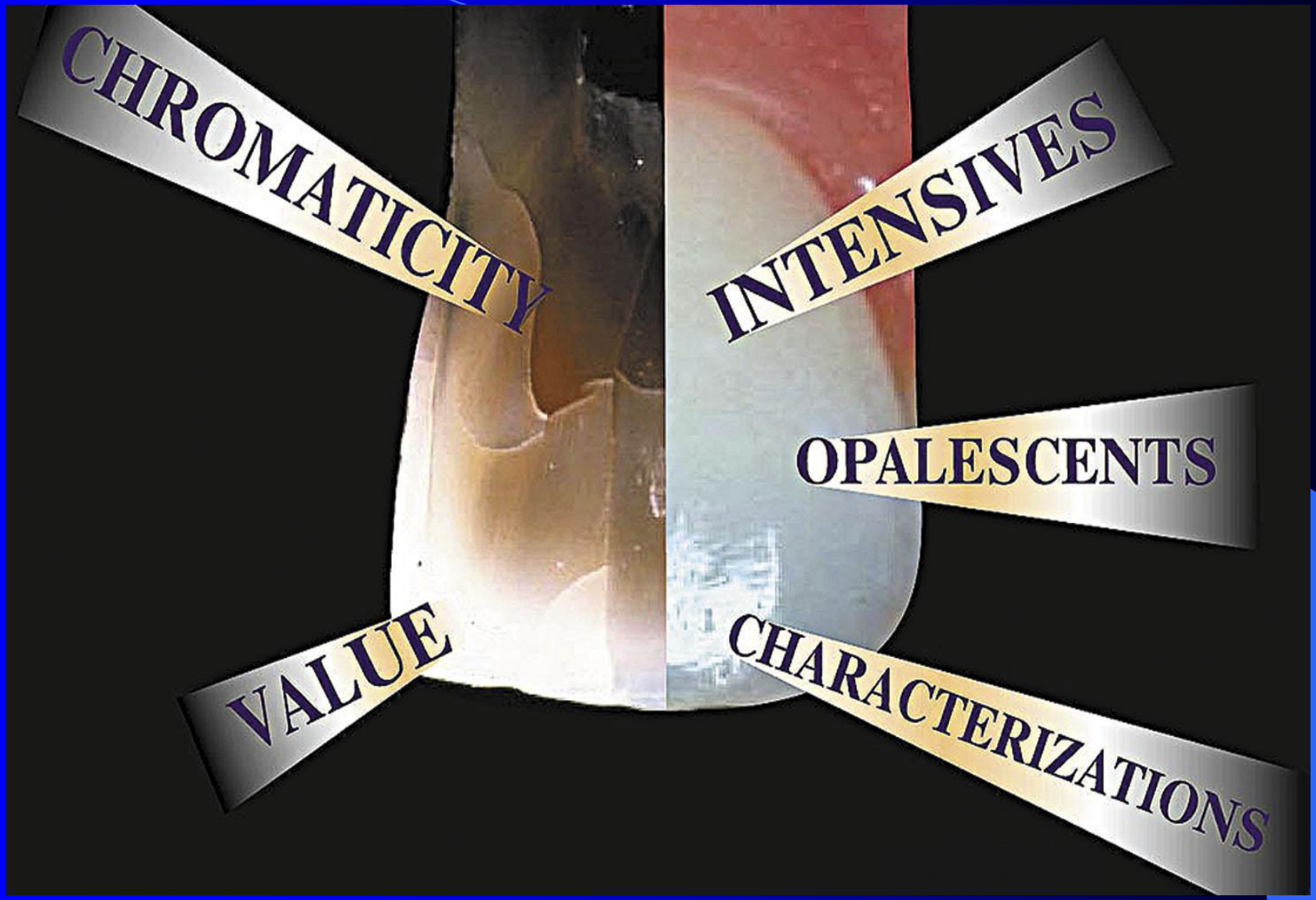


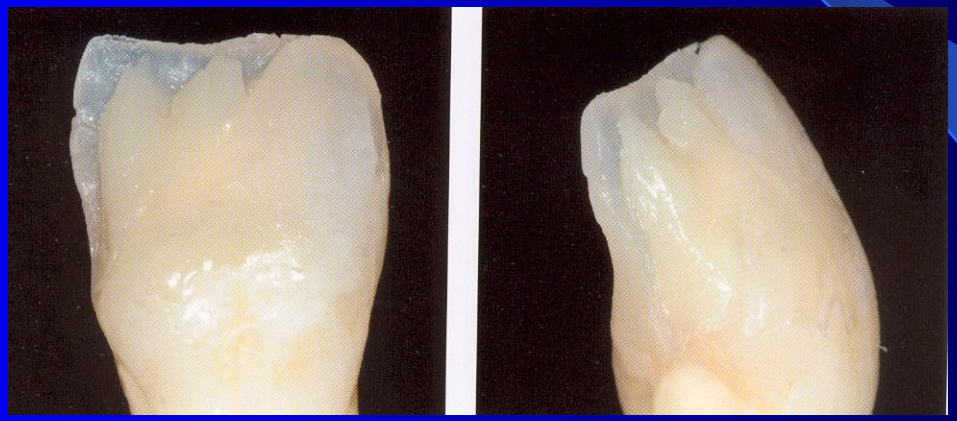
Resistance

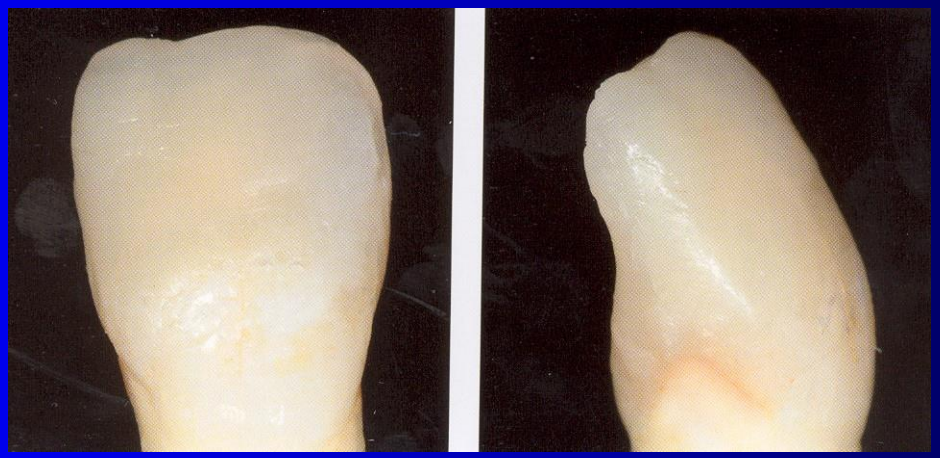
- Composite material
- Enamel supported with dentin with exception of labial surface
- Good polymerization

Two key factors

- Colour and form


CHROMATICITY
INTENSIVES
OPALESCENTS
VALUE
CHARACTERIZATIONS





Location of incisal edge and the palatal wall

- Finger method
- Silicone matrix (key)
- Polyester strip (matrix band with wedges)

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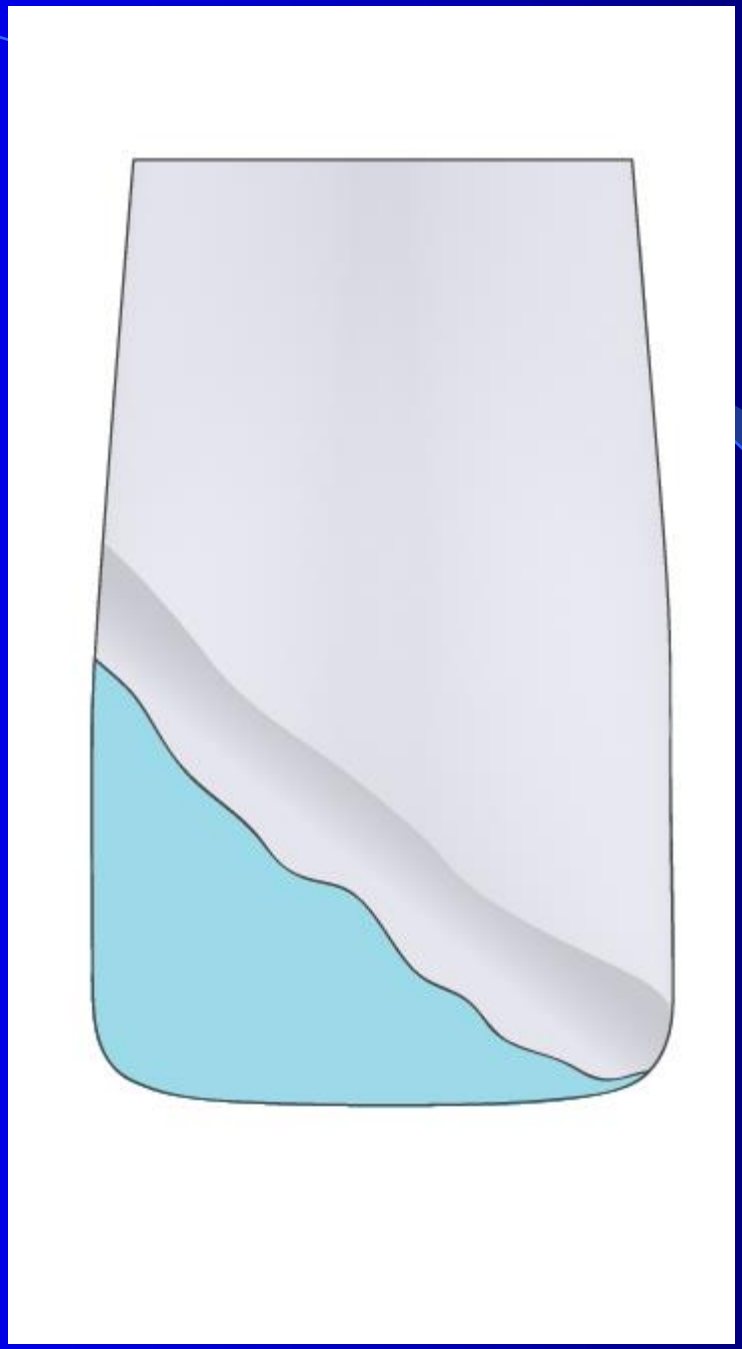
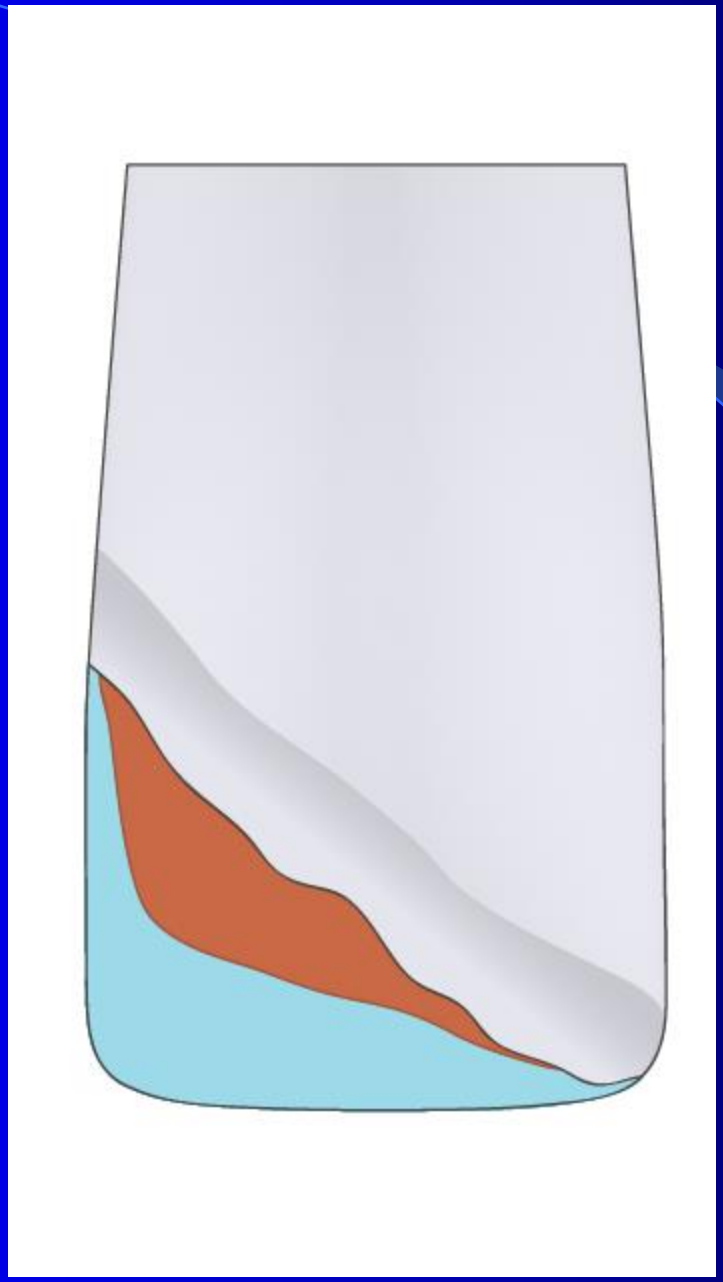
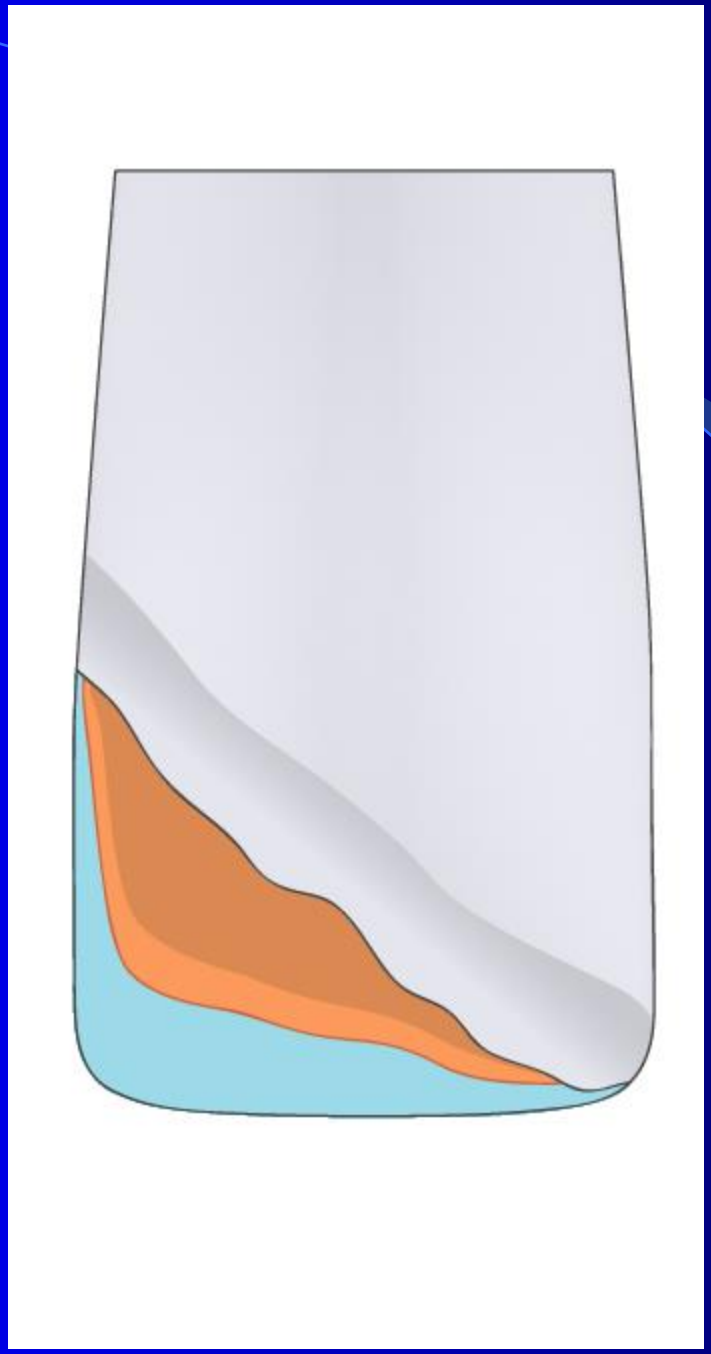
Silicone matrix

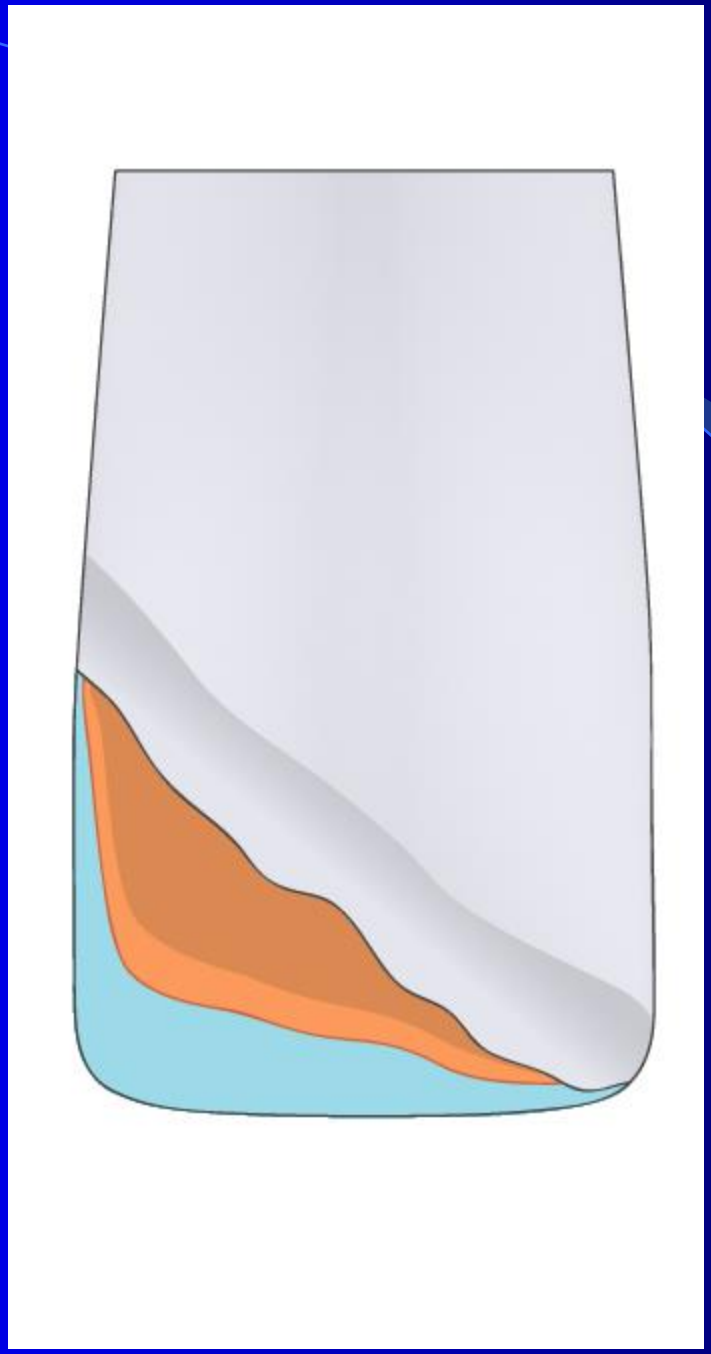
Oral surface

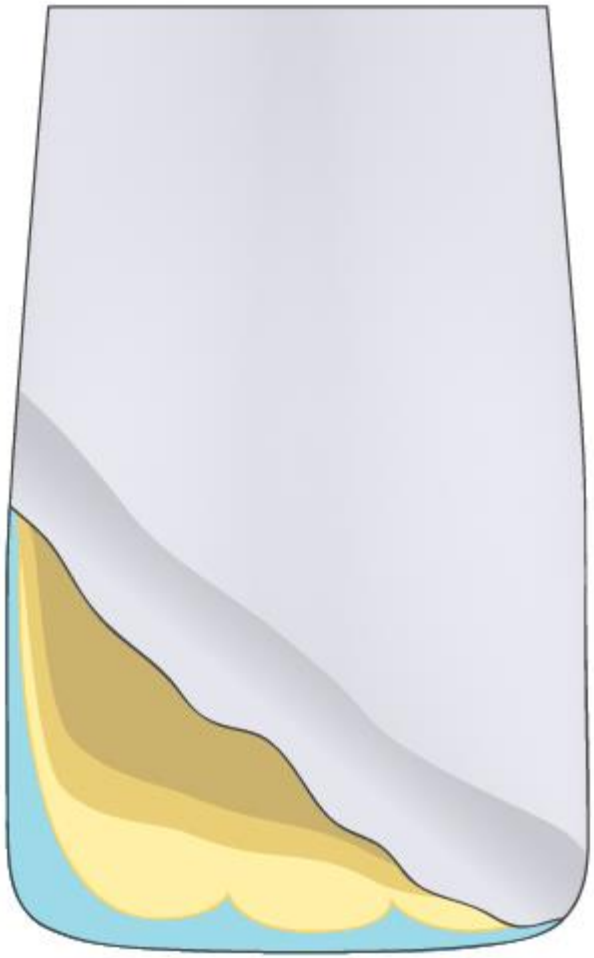
Incisal edge

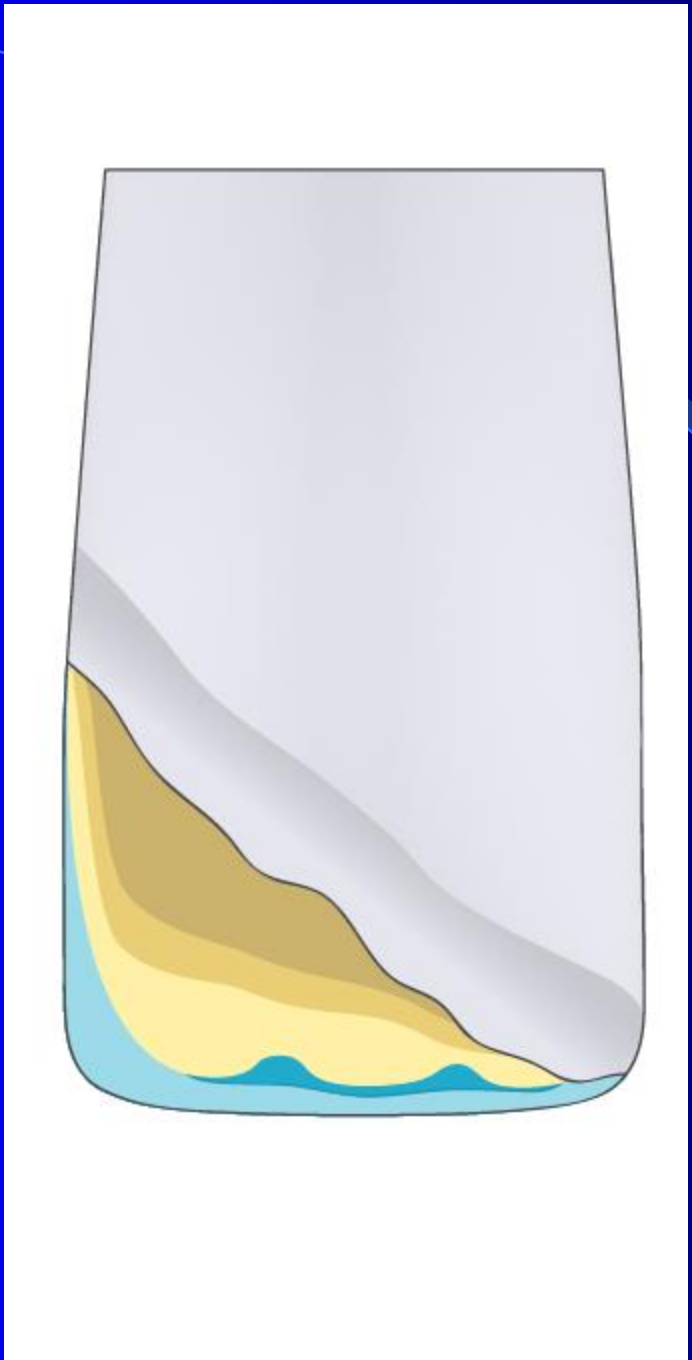



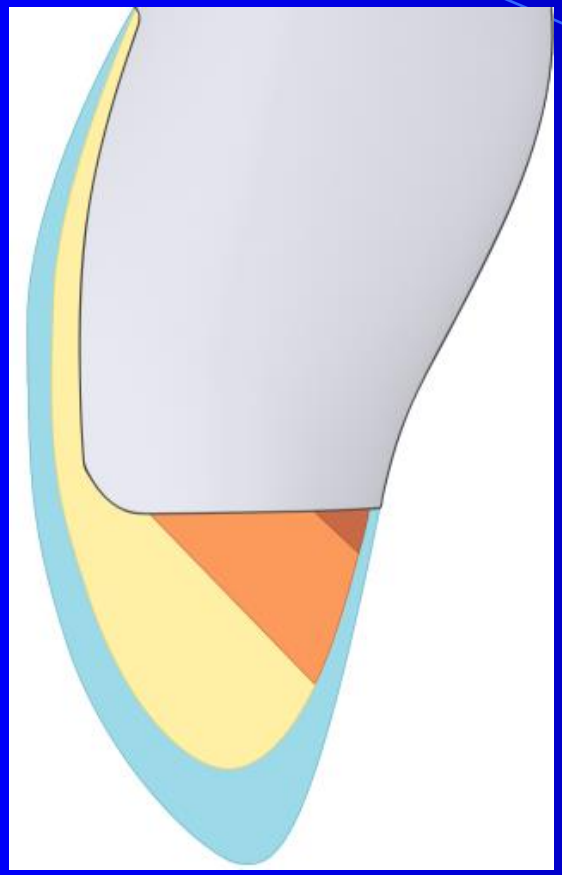


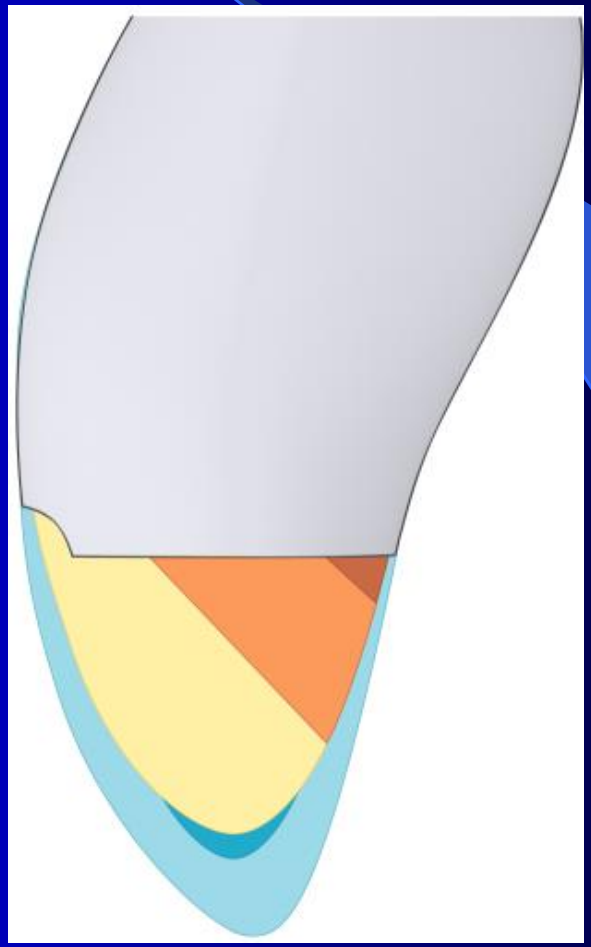






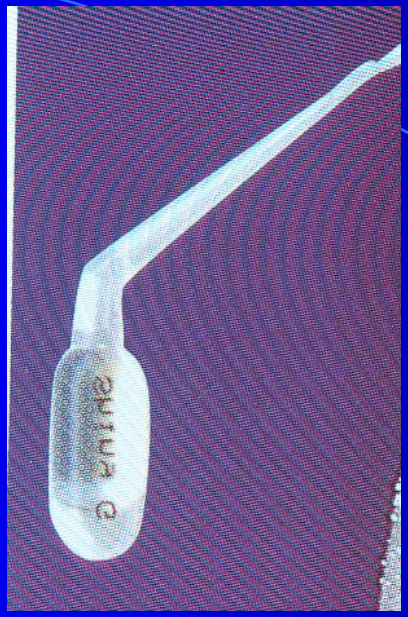


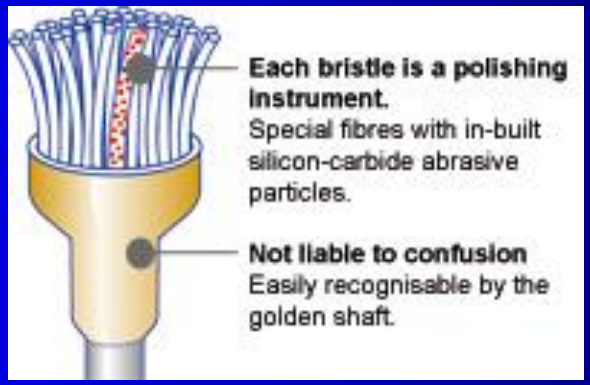







Surface texture




Each bristle is a polishing instrument.
Special fibres with in-built silicon-carbide abrasive particles.
Not liable to confusion
Easily recognisable by the golden shaft.

For oro/vestibulo - proximal surfaces -

One step poloishing – various pressure

Preparation and making fillings Class V., III., IV.

Class V.

- Cervical defects
- Dental caries
- Non carious lesions (erosion, abrasion, V shaped defects)

Types of defects

- Caries
- Erosion
- Abrasion
- V shaped defects
- Erosion

Choice of material

- Amalgam (posterior area)
- Composite (mainly in anterior teeth where the defect is situated in enamel)
- Glassionomer: caries defects, esp deeper, situated out of enamel, higher caries risk

V.Class Amalgam

- Posterior area

Access

- Elimination od the undermined enamel
- Burs or diamonds (pear), tapered fissure bur
- Separation of the gingiva– temporary filling guttapercha, fermit, clip, zinkoxidsulfate cement, cavit, provimat).
- Ablation of ingrown gingiva – surgical (scalpel, laser, high frequency current)

Cavosurface margins

Gingival: axial dephth of 0,5 mm inside the DEJ.

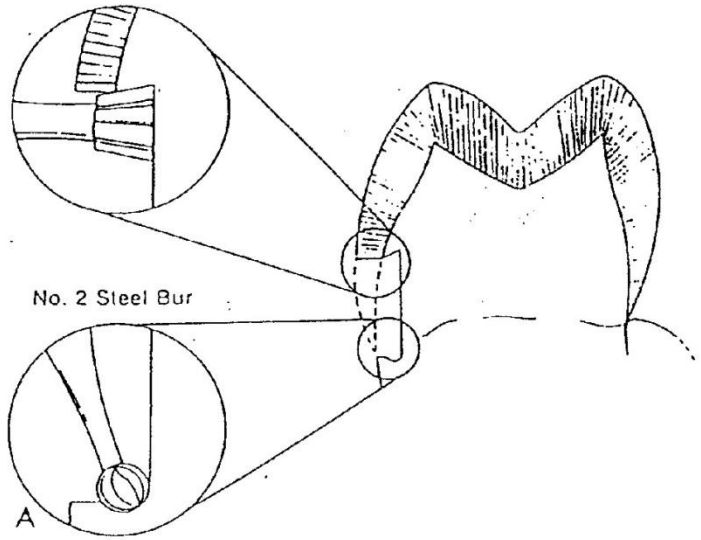
Extention of the preparation incisally,

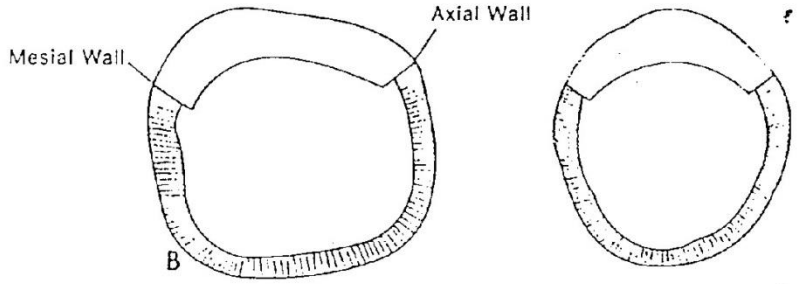
Gingivally: 0,5 mm subgingivally

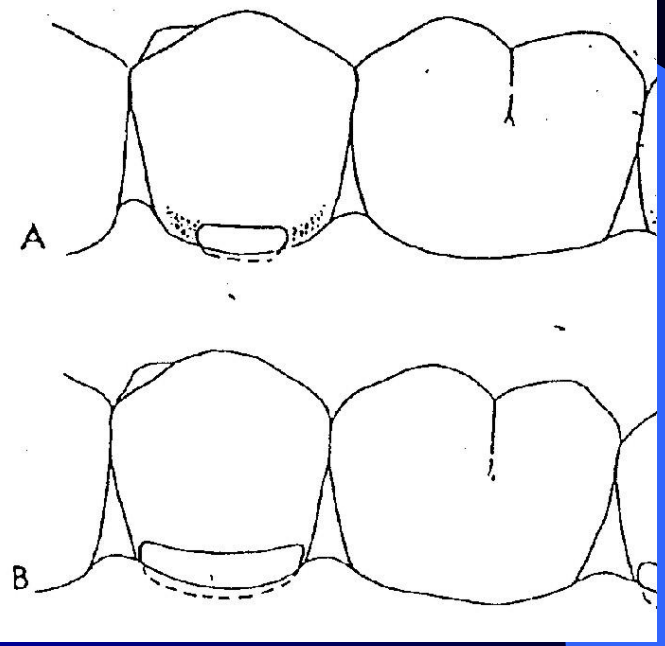
mesially and distally: to axial walls

Or: untill the cavosurface margins are positioned in sound dental structure. (small cavities, good oral hygiene)

Total dephth: 1 – 1.25 mm. If on root surface -0,75 mm

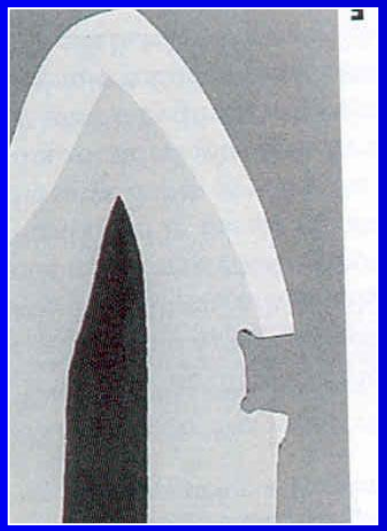

No. 2 Steel Bur
A

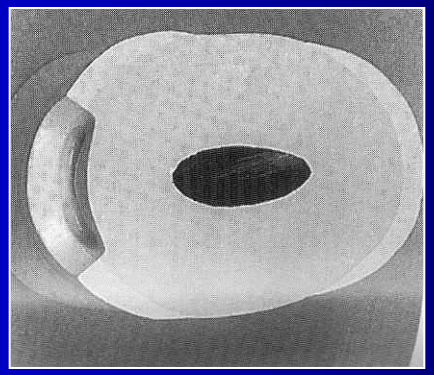

Axial Wall
Mesial Wall
B


A
B

Retention

- Box 0,75 – 1,25 mm deep, undercuts,





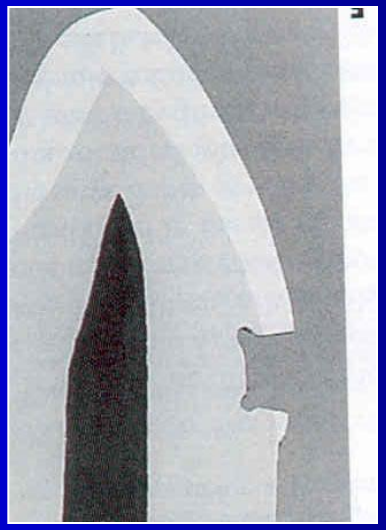
Depht

Gingivally: axial dephth of 0,5 mm inside the DEJ.

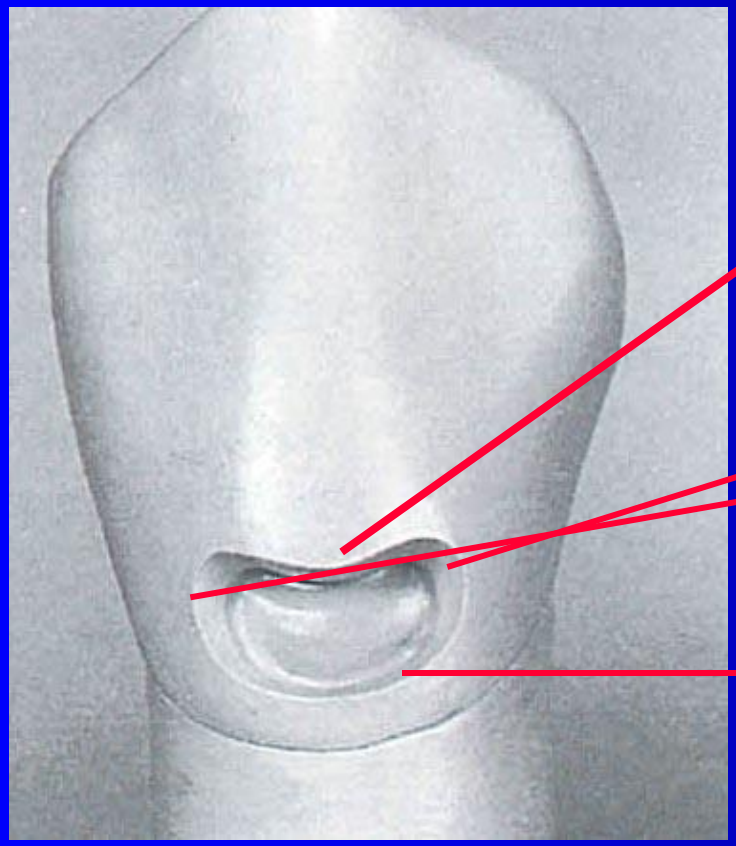
Total dephth: 1 – 1.25 mm. If on root surface -0,75 mm

Resistance

No occlusal forces



The bottom of the cavity follows the convexity of the crown.



Occlusal margin

Mesial and
distal margin

Gingival margin

Filling

Base – pulpal wall

Amalgam – portion by portion, condensor with straight front, burnisher (spatula).

Class V. composit

- Aesthetic area
- Margin in enamel

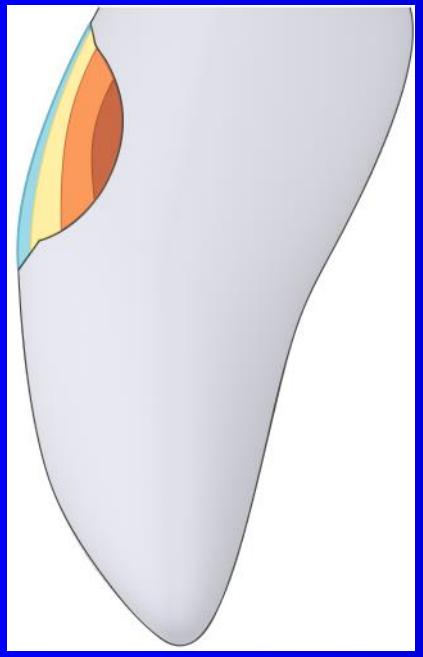
Preparation for composite, making filling

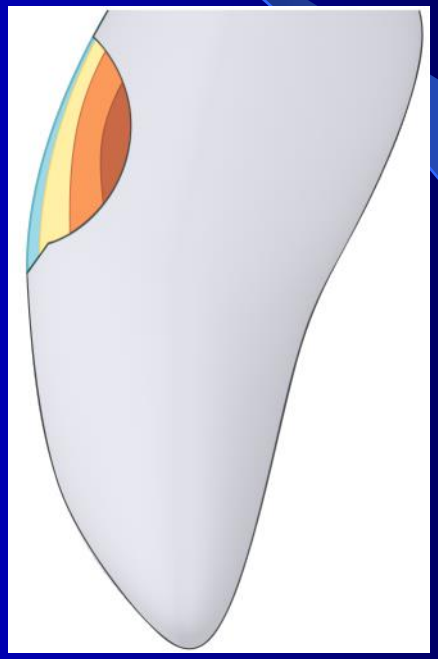
Cavity is limited on caries lesion only

Enamel must be beveled

Etching, priming + bonding

Placement of composite





Matrices

Transparent cervical matrices

Matrix band acc. to Belvedere

Laser

Rotační nástroj

Class V. glassionomer

- Cavities with margins in cementum
- Or also in enamel or partly in enamel (in patients with worse level of oral hygiene)

Glassionomer

- Bonds chemically
- Realease fluoride ions
- Thermal expansion similar to dentin
- Acceptable aesthetics

Preparation for glassionomer making filling

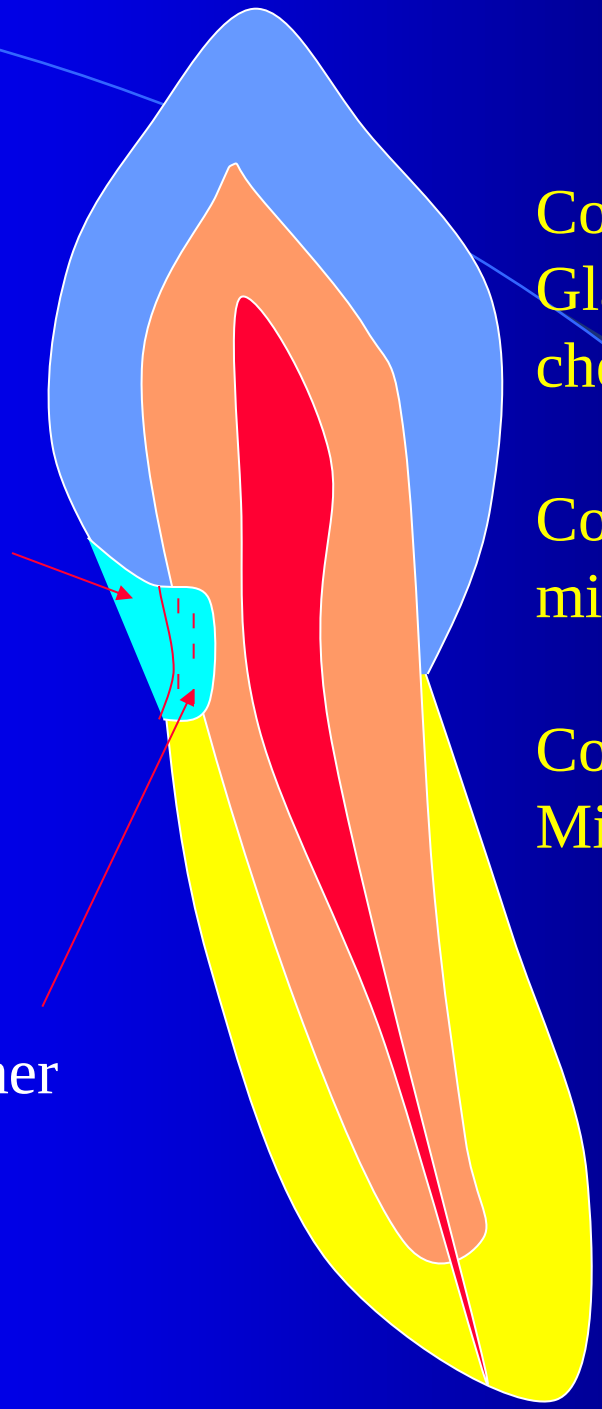
- Cavity is limited on carious lesion only
- Margins sholud be smoothen (no bevel)
- Conditioner (polyacrylic acid) -20 s
- Washing
- Placement of glassionomer (one bulk)
- Matrix (transparent or aluminium cervical
- matrix)

Combination of materials

- Glassionomer – replaces lost dentin
- Composite – replaces lost enamel

Composite

base of glassionomer

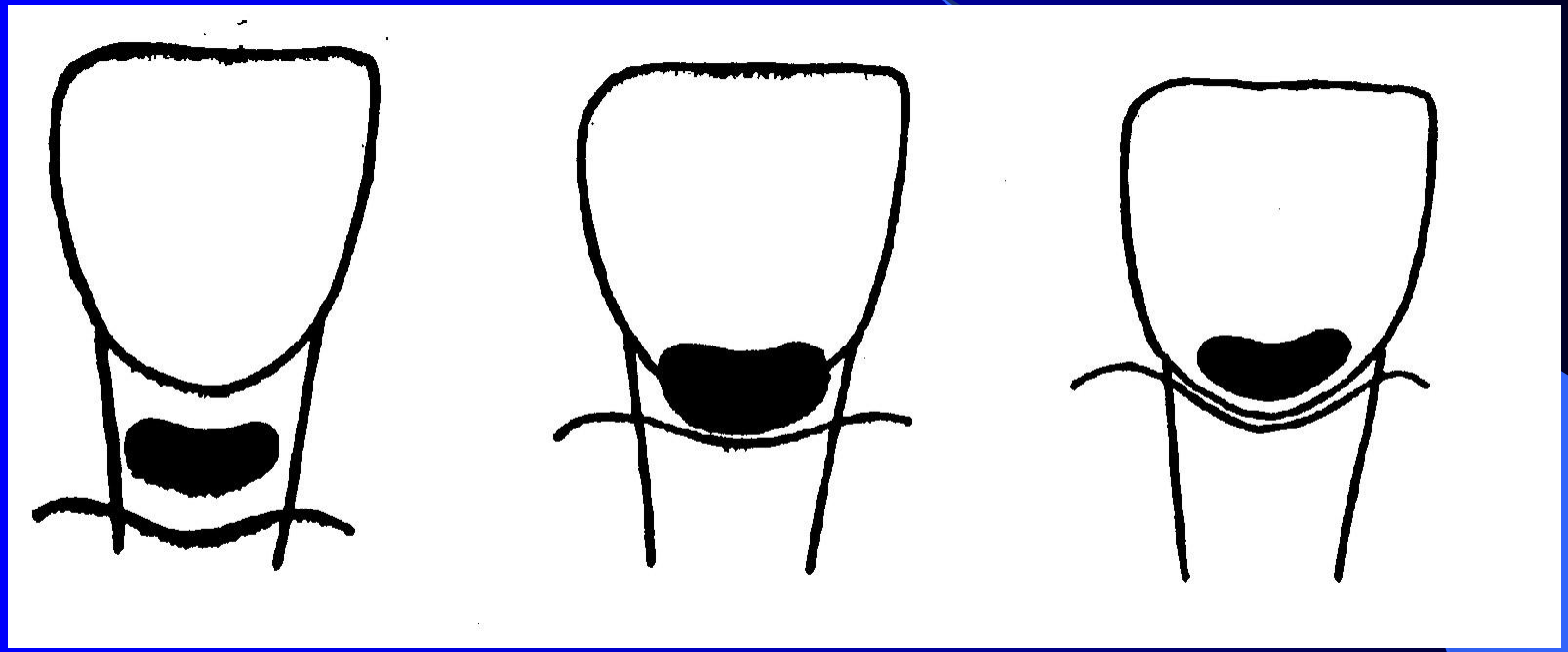


Connection
Glassionomer – tooth: chemical

Composite – tooth: micromechanical

Composite – glassionomer Micromechanical.

Choice of materials



Glassionomer Combination Composite

Or amalgam in posterior area