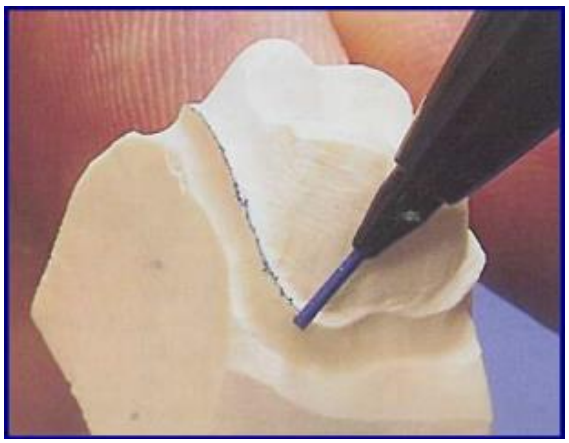
Finishing line of the preparation

Finishing line: is the final margin that separates between the prepared and the unprepared tooth structure.

Requirement of the finishing line:



The finishing line should be:

1. Clear, smooth and well defined.
2. continuous from one surface to the other.
3. Lie on sound tooth structure.

Otherwise it will interfere with the seating of crown if it is poorly do

Position of finishing line (margin placement)

Finishing line can be placed either:

1 .Supragingival:

Placing the margin above the gingival tissue for the following reasons:-

a- Can be easily prepared and finished.

c- The impression can be easily made.

d- The patient can clean the area easily.

f-Less destructive.

e- Most of the time such position is situated on hard enamel.

2.Subgingival:

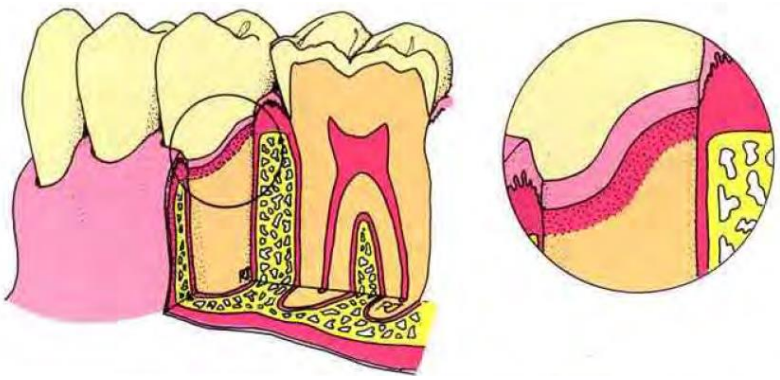
Placing the crown margin below the gingival tissue but not more than 2mm from the free gingival margin.

Subgingival finishing line is indicated for the following reasons:-

a- When the esthetic is a factor.

b- When we need extra retention.

c- When we have caries or filling at the area of finishing line.



3. Placing the margin within gingival level.

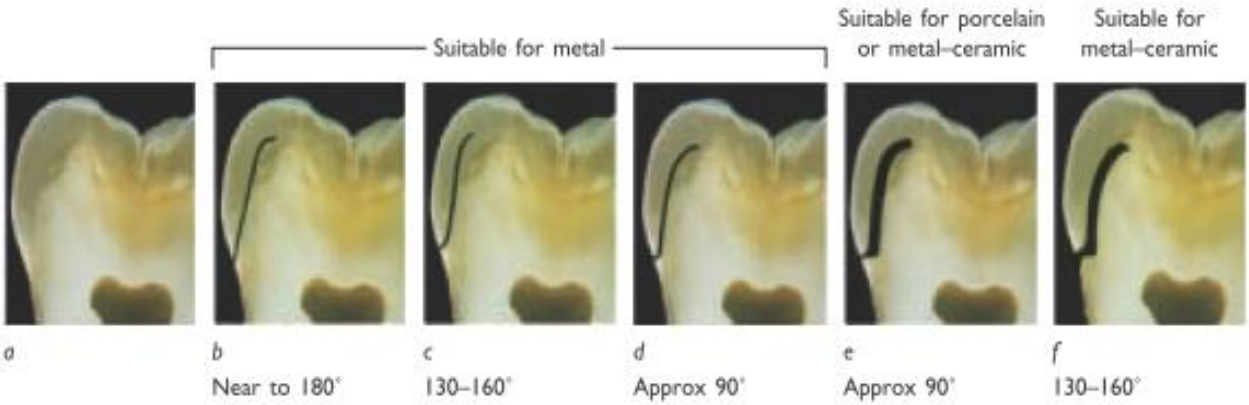
Types of finishing lines (f.l.):

1- Featheredge (or knife-edge) margin.

2- Chamfer f.l.

3- Shoulder f.l.

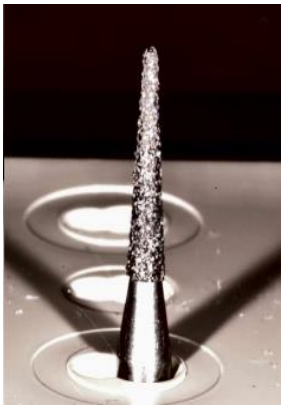
a) Butt shoulder.
b) Radial shoulder.
c) Shoulder with Bevel (modification of shoulder f.l.).

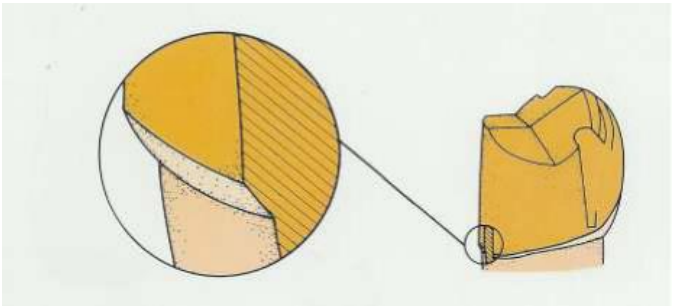


1-**Featheredge or knife edge F.L** :

It's the most conservative type of F.L. (the least amount of tooth structure is removed), but the margin is weak. It forms >160 ̊cavo surface line angle (C.S.L).

The required bur: pointed end tapered fissure bur to provide this type of margin.





Advantages

1. It's the most conservative type of f.l.

2. It’s easy to prepared.

3. Burnishable margin of the restoration.

Burnishing: it is further adaptation of the metal crown margin to the tooth structure.

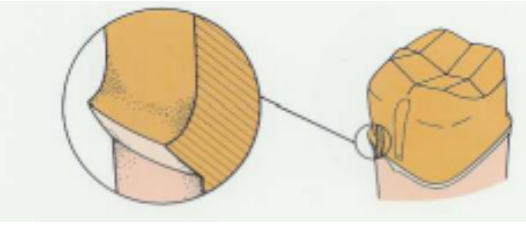
Disadvantages

1. Thin margin that is difficult to identified or accurately wax and cast.
2. More susceptible to distortion so it is rarely used nowadays.

2. Chamfer F.L.:

It is well defined f.l. somewhat like Knife edge f.l. except the cut made deeper, it form 130˚-160˚Cavosurface line angle.

The required bur : round end tapered fissure bur.



Properties:

I. Well defined f.l.

2. Provide enough space at the cervical area to ensure the marginal integrity.

3. It is slightly more difficult to burnish.

it is mainly used for:

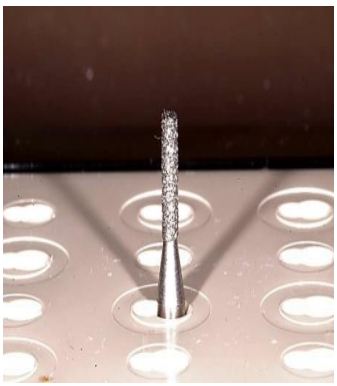
l - Full Metal Crown (All the surfaces).

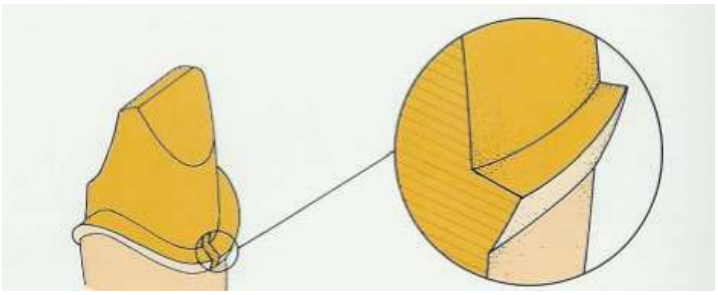
2- Lingual and proximal surfaces of full veneer crown, 3/4 crown and post crown.

Shoulder f.l.

i. Butt shoulder:

It's the least conservative type of f.l. because we need to remove excessive amount of tooth structure. Axial walls meet the F.L. at right angle 90̊.





The required bur: Flat end straight fissure bur.

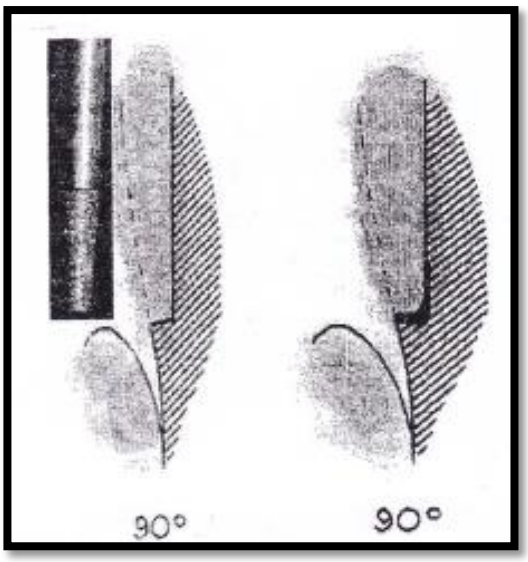
It is mainly used for Jacket crown.

Properties

I-It provide sufficient thickness for plastic material (jacket crown) to:

- withstand occlusal force.
- provide more translucent porcelain to simulate the appearance of natural tooth.

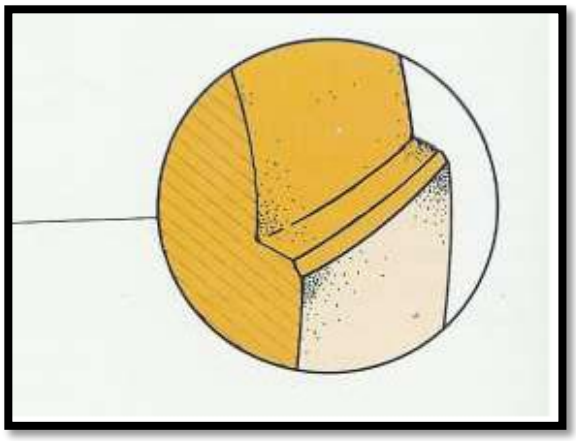
ii. Radial Shoulder:



Modification of Shoulder F.L. with rounded internal line angles this will minimize stress concentration on tooth structure.

The required bur: round end straight fissure bur.

iii. Shoulder with bevel F.L.:



It is modification of shoulder F.L., by adding bevel to the shoulder to produce a f.L. like knife edge, the bevel is 45˚.

Properties

1. The bevel provides a burnishable margin for the metal that may extend subgingivally. (The thin metal is the more adaptable to the tooth surface).

2. Provide enough space for shape and contour.

3. To reduce marginal discrepancies.

4. Removing unsupported tooth structure (enamel).

It is mainly used for labial surface of full veneer crown (combination of metal with facing material (acrylic or porcelain) and it is **<u>recommended for extremely short walls.</u>**

Factors affecting the selection of F.L.

1. Type of the restoration.
2. Materials used in construction.
3. The amount of occlusal force (stress) the restoration will bear.