TYPES OF PATTERN

The types of pattern to be used for a particular casting depends upon many factors.

The following types of patterns are commonly used:

I) Solid or Single piece pattern
II) Two-piece or Split pattern
III) Multipiece pattern
IV) Match plate pattern.
V) Grated pattern
VI) Skeleton pattern.
VII. Sweep pattern
VIII. Pattern with loose pieces.
IX. Cope and Drag pattern
X. Follow board pattern.
XI. Segmental pattern.

1) SOLID / SINGLE PIECE PATTERN:

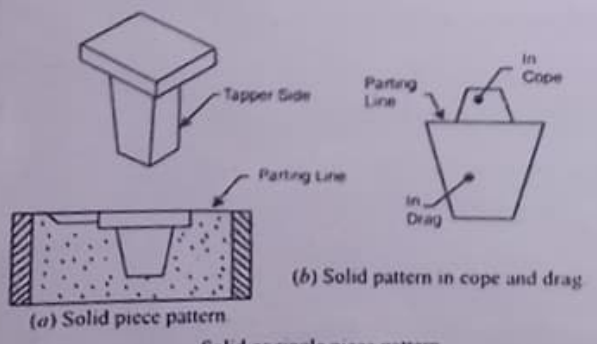
- Simplest pattern.
- One of the surface of the pattern is flat.
- Flat surface must coincide with the parting line.
- Made up of one piece and carries no joint.

2) SPLIT / TWO-PIECE PATTERN:

- Used for complex shaped object and symmetrical castings.
- Pattern can be split into no. of split pieces along the parting line such that they can be removed from Cope & Drag boxes separately.

3) Multipiece pattern:

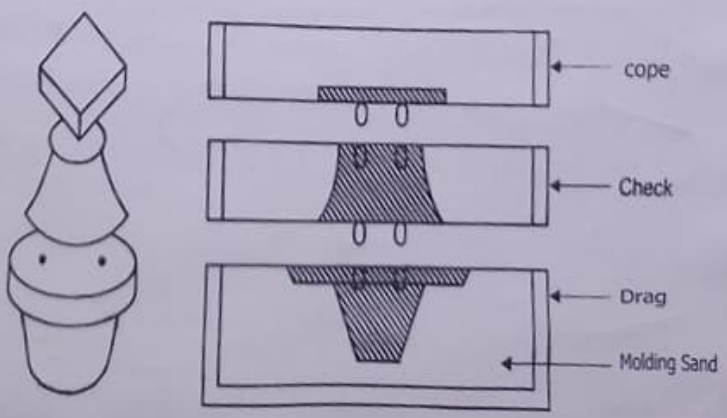
- More Complicated Design.
- Pattern split into more than two parts.



(a) Solid piece pattern

(b) Solid pattern in cope and drag

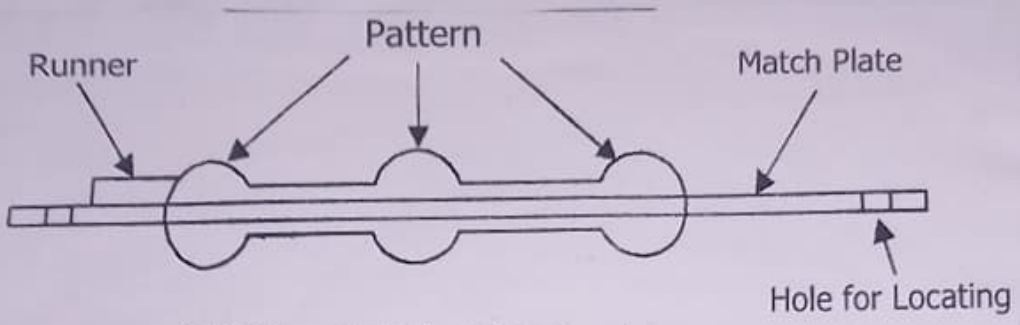
Solid or single piece pattern



MULTI PIECE PATTERN

ATCH PLATE PATTERN

- Pattern can be split along the parting line. in match plate.
- In the match plate, no role of cavity.
- Used for symmetrical castings.
- Gate and runners are also attached in the plate.
- Used for mass production.



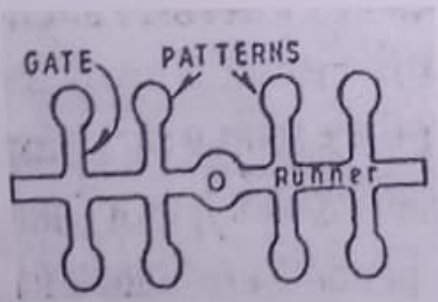
MATCH PLATE PATTERN

(5) GATED PATTERN:

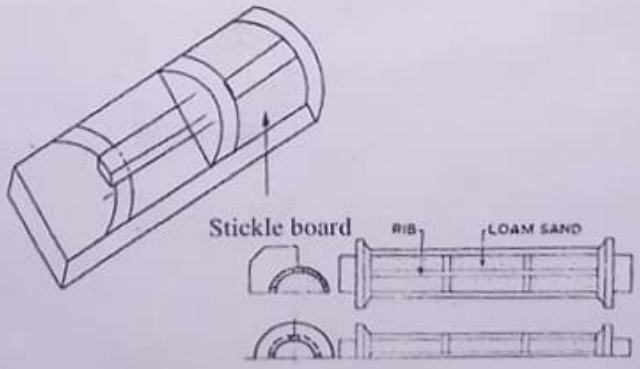
- Used in mass production of small castings.
- Multi-cavity moulds are prepared.
- All pattern are connected with gates
- Single runner can be used for feeding all the cavities.

(6) SKELETON PATTERN:

- Size of the pattern is very large, but easy to shape.
- pattern consisting of a wooden frame, strips, wires.
- Mould made by Loam sand.



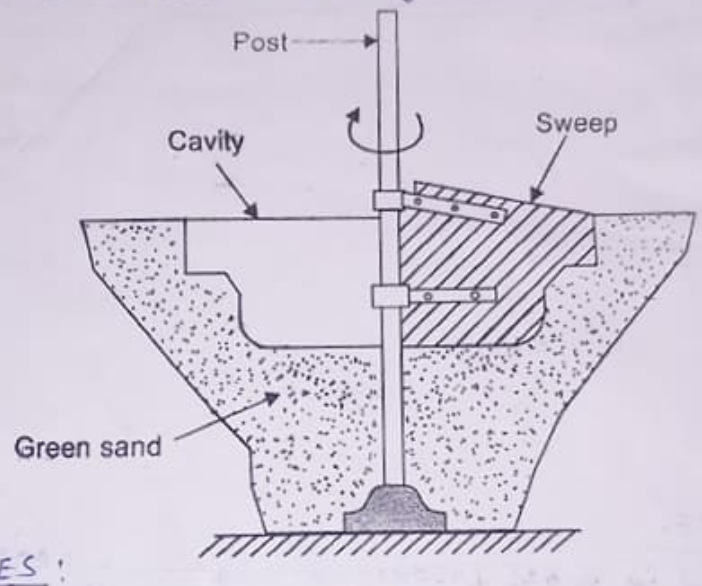
GATED PATTERN



SKELETON PATTERN

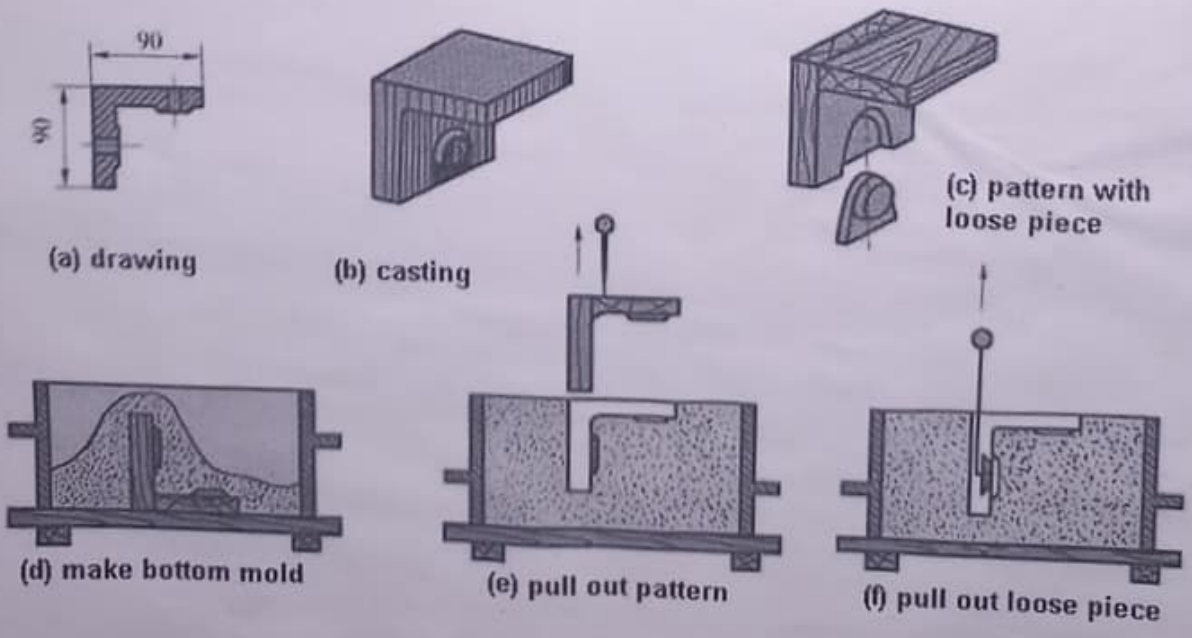
(7) SWEEP PATTERN:

- To produce 3-D Complex shape of the mould cavities 2-D plane pattern can be rotated in the mould.
- Used for axis-symmetric objects only.
- Large saving in time, Labour and material.
- Can produce both solid and hollow castings.



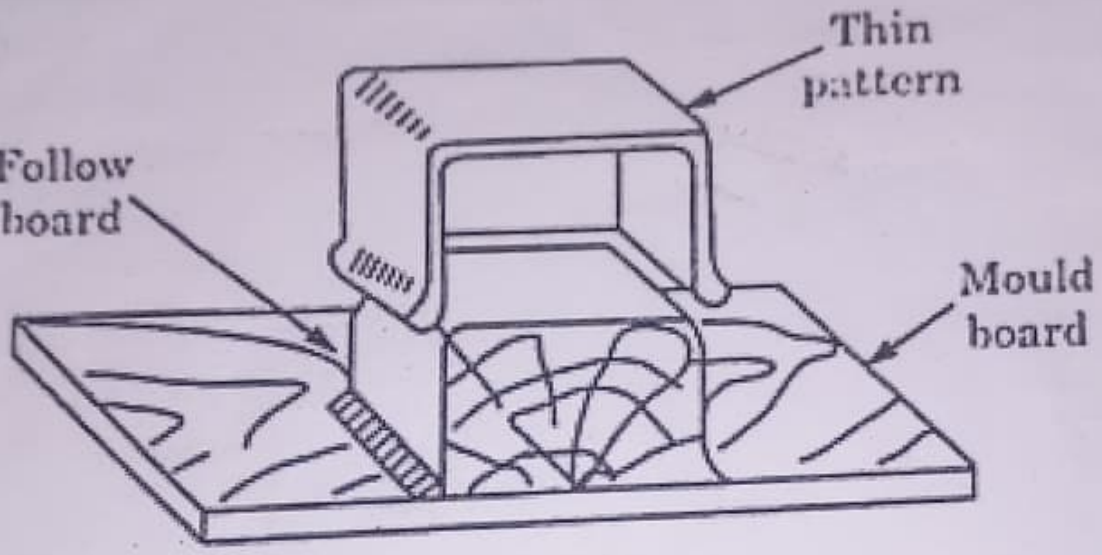
(8) PATTERN WITH LOOSE-PIECES:

- If the objects are having internal projections or undercut, loose piece patterns can be used.
- After the mould completes, the pattern is withdrawn leaving the pieces in the sand, which are later withdrawn separately through the lifter.



2.4. FLOW BOARD PATTERN:

If the pattern are not having sufficient strength, due to ramming force, there is a possibility of breaking of the pattern. To overcome this, patterns are supported by providing flow board. that cavity is made mould later and after solidification, the mould is broken to get the product.



Follow-board Pattern.

PATTERN COLOURS:

There is no universal method of colouring but following method is followed as a practice for colouring of patterns and core boxes.

(1) Red → machining surface.
(2) Black → Unmachined surface.
(3) Yellow → Core prints.
(4) Red Strip on Yellow base → Seat for loose pieces.
(5) Without colour - parting surface.