

TYPES OF PATTERNS AND PATTERN MATERIALS

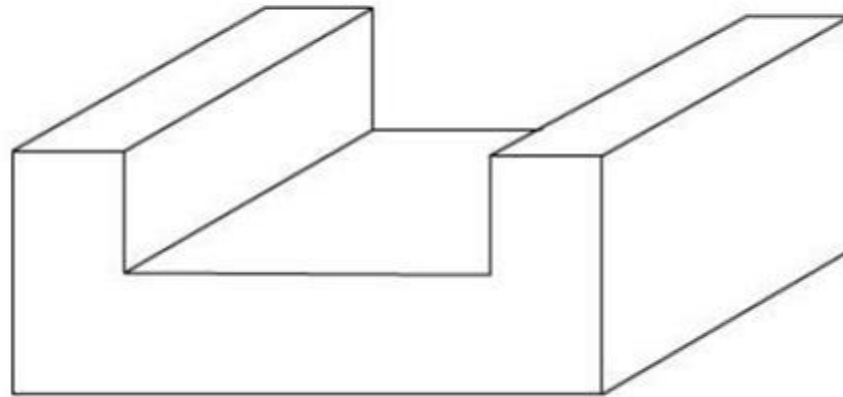


- **Requirements of good pattern material:**
 - Easily worked, shaped and joined.
 - Light in weight.
 - Strong, hard and durable.
 - Dimensionally stable in all situation.
 - Easily available at low cost.
 - Repairable and reused.
 - Able to take good surface finish.



Single Piece Pattern

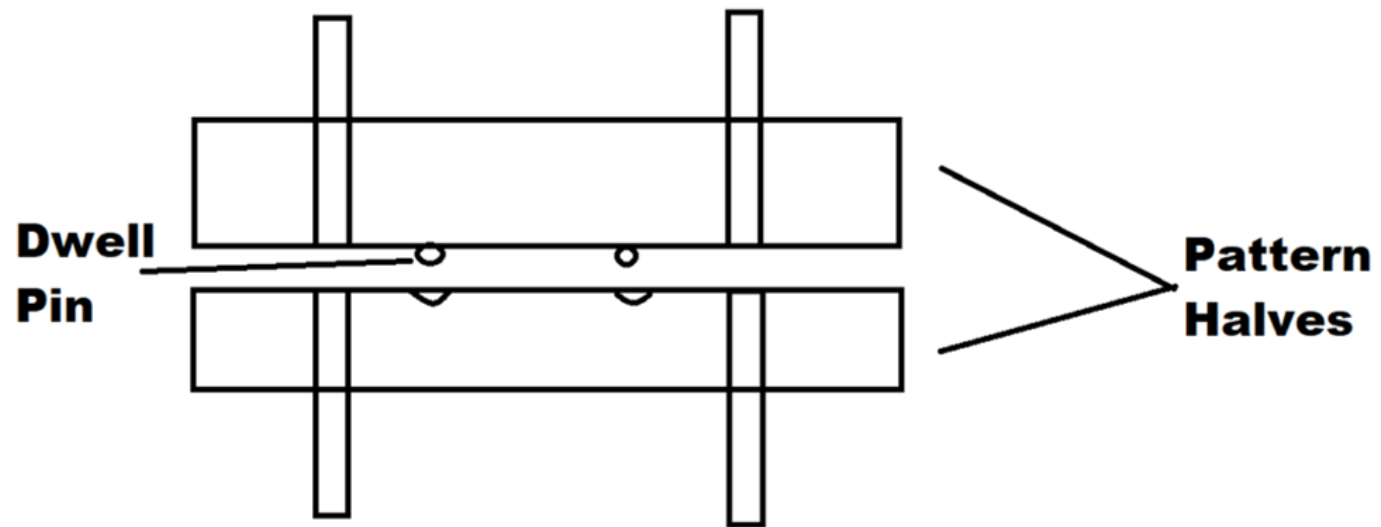
As the name denotes a single piece that means it has only 1 section, and inside this, the shape of the pattern is made.





Split Piece Pattern

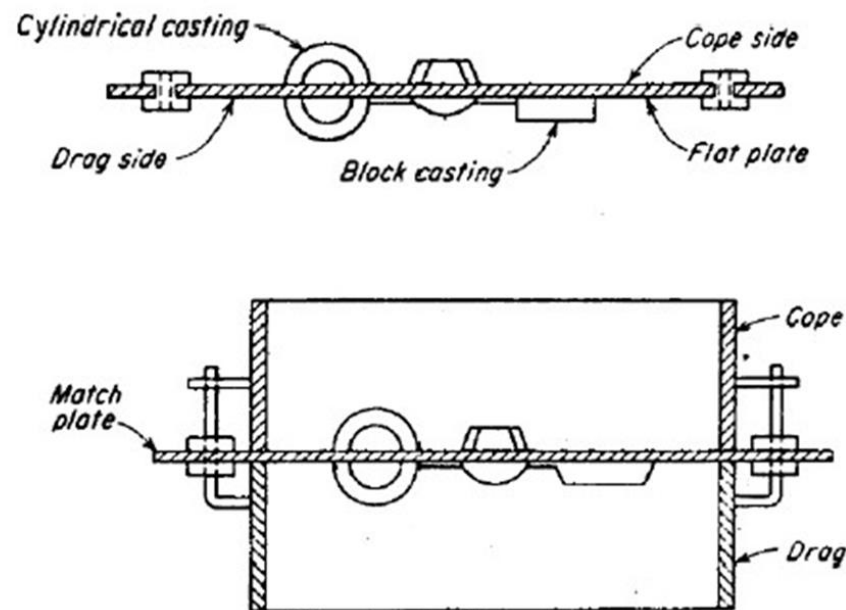
- It has two sections and this two-section is connected by pin named dwell pin to attach the two-portion.
- When we joined the two-block the joining surface is called parting surface.
- Generally, it is used to make the hollow cylindrical casting.





Match Plate Pattern

- In match Plate Pattern, the cope and drag section of the split pattern are mounted on the opposite of metal or wood plate.
- This type of pattern is divided into two sections along the parting line formed by the metal or wood plate.





Cope and Drag Pattern



Gated Pattern



Loose-piece Pattern



LOOSE PIECE PATTERN



LOOSE PIECE PATTERN



Sweep Pattern



SWEEP PATTERNS



Skeleton Pattern





Follow Board Pattern



Segmental Pattern



Activity

Guess the type of pattern required for casting this object?





PATTERN MATERIALS

Wood:

Advantages using wood in pattern are:

- Wood is light in weight
- Easily Available in the market
- You can make any shape using wood
- Woods gives good surface finish



PATTERN MATERIALS

Metals:

Advantages of using Metal Pattern:

- Smooth surface finish can be obtained by metal patterns.
- Deformation is less.
- Closer dimensional tolerance.



PATTERN MATERIALS

Plastics:

Advantages of using plastic pattern are:

- Light in weight.
- Cheap in price.
- It possesses good compressive strength.
- No tendency of rusting or moisture absorbing.



PATTERN MATERIALS

Plaster of Paris:

- It is generally used if you need to set up the pattern quickly.
- The main advantage of this pattern is it can easily cast into intricate shapes.
- However, it is not ideal for repetitive usages as it is fragile.

Wax:

- A wax pattern used in the investment casting process.
- By using this pattern we get a high degree of accuracy and have an excellent surface finish.
- However it needs little care handling otherwise it can be broken, and hence it is used in only small casting.

REFERENCES

1. Rao, P.N. "Manufacturing Technology Foundry, Forming and Welding", 4th Edition, TMH-2013.
2. Sharma, P.C., "A Text book of production Technology", S.Chand and Co. Ltd., 2014











