



Subject: Building Material and Construction-IV

Topic: Scaffolding

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SCAFFOLDING



SCAFFOLDING

- Scaffolding is a temporary structure to support the original structure as well as workmen used it as a platform to carry on the construction works.
- Types of scaffolding varies with the type of construction work.
- Scaffolding is made up of timber or steel.
- It should be stable and strong to support workmen and other construction material placed on it.



MATERIALS USED IN SCAFFOLDING



- There are various materials used in scaffolding.
- It depends on the local availability of materials and its cost. Before the use of metal tubes as scaffolding, in the early 1900's wooden branches or bamboo were widely used as a method of scaffold construction and are still used.
- In India wooden materials are easily available at lower cost.
- Therefore, in India bamboo and wooden poles are used as scaffolding materials.
- Tubular scaffolding of steel or aluminum has largely replaced wooden scaffolding on most large construction projects.
- Tubular scaffolding can easily be erected in any height, shape, or length, with better safety.

TYPES OF SCAFFOLDING USED IN CONSTRUCTION



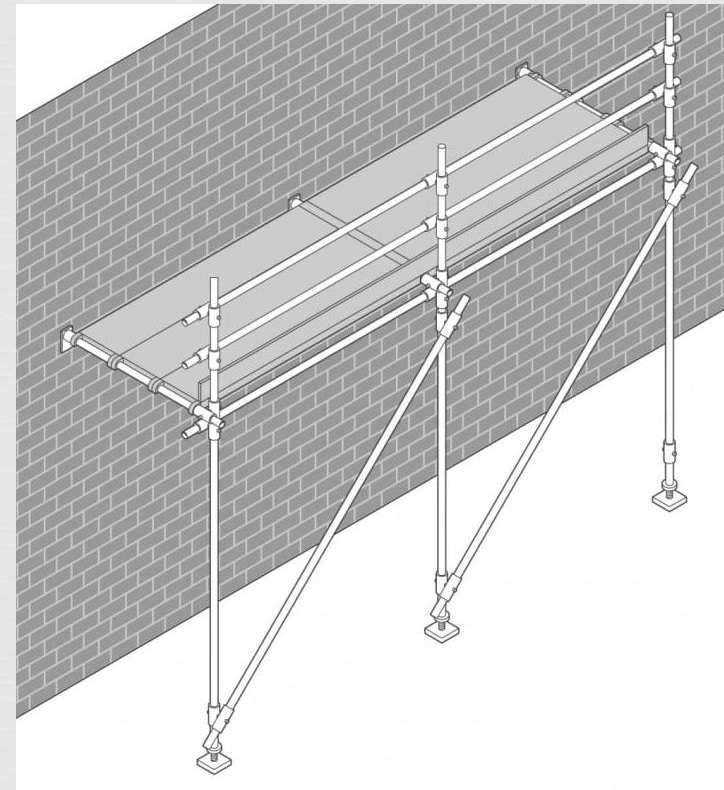
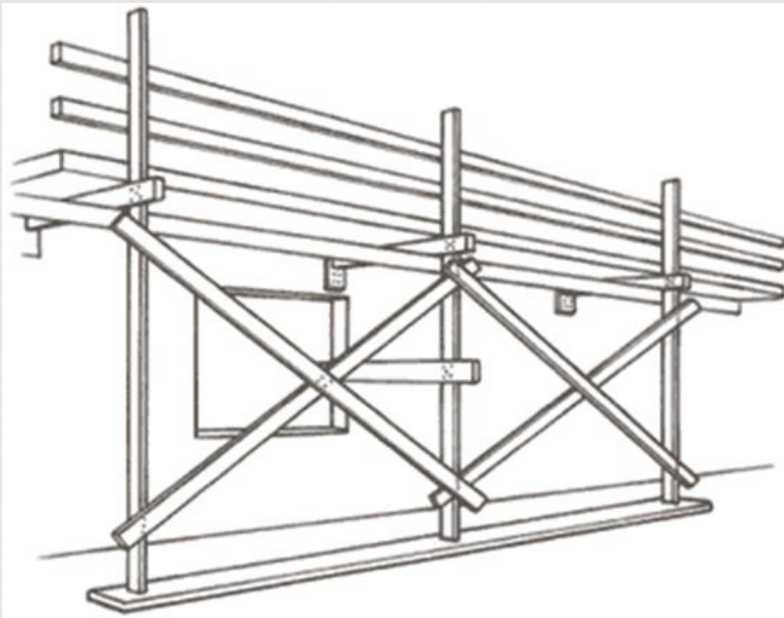
1. Single scaffolding
2. Double scaffolding
3. Cantilever scaffolding
4. Suspended scaffolding
5. Trestle scaffolding
6. Steel scaffolding
7. Patented scaffolding

SINGLE SCAFFOLDING



- Single scaffolding is generally used for brick masonry and is also called as bricklayers scaffolding.
- Single scaffolding consists of standards, ledgers, putlogs etc., which is parallel to the wall at a distance of about 1.2 m.
- Distance between the standards is about 2 to 2.5 m.
- Ledgers connect the standards at vertical interval of 1.2 to 1.5 m.
- Putlogs are taken out from the hole left in the wall to one end of the ledgers.
- Putlogs are placed at an interval of 1.2 to 1.5 m.

SINGLE SCAFFOLDING

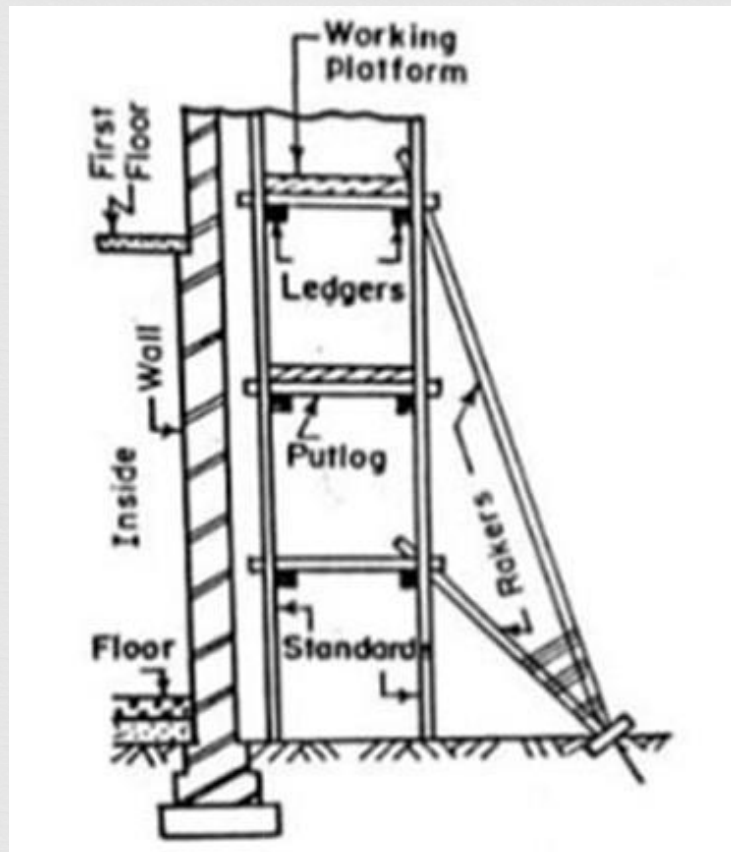


DOUBLE SCAFFOLDING



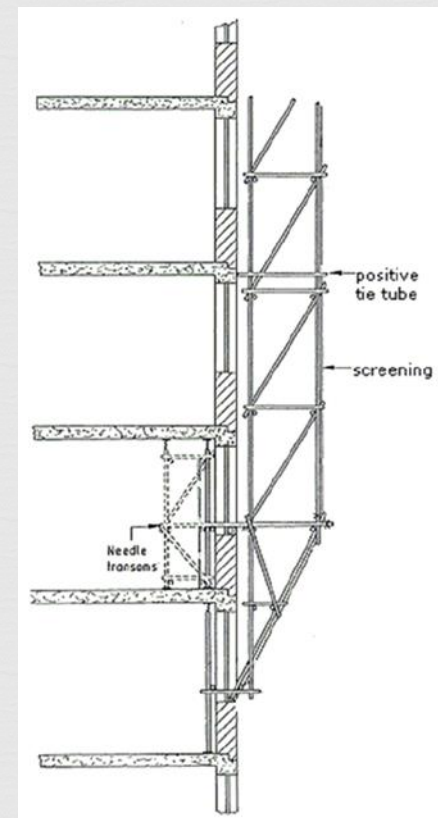
- Double Scaffolding is generally used for stone masonry so, it is also called as mason's scaffolding.
- In stone walls, it is hard to make holes in the wall to support putlogs. So, two rows of scaffolding is constructed to make it strong.
- The first row is 20 – 30 cm away from the wall and the other one is 1m away from the first row.
- Then putlogs are placed which are supported by the both frames.
- To make it more strong rakers and cross braces are provided.
- This is also called as independent scaffolding

DOUBLE SCAFFOLDING



CANTILEVER SCAFFOLDING

- This a type of scaffolding in which the standards are supported on series of needles and these needles are taken out through holes in the wall.
- This is called single frame type scaffolding. In the other type needles are strutted inside the floors through the openings and this is called independent or double frame type scaffolding.
- Care should be taken while construction of cantilever scaffolding.



CANTILEVER SCAFFOLDING

Generally cantilever scaffoldings are used under conditions such as-

- When the ground does not having the capacity to support standards,
- When the Ground near the wall is to be free from traffic,
- When upper part of the wall is under construction.

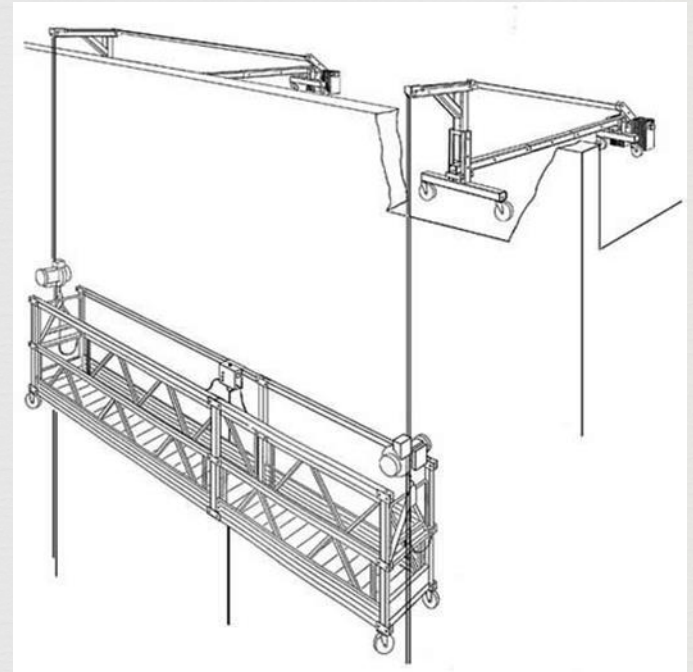


SUSPENDED SCAFFOLDING



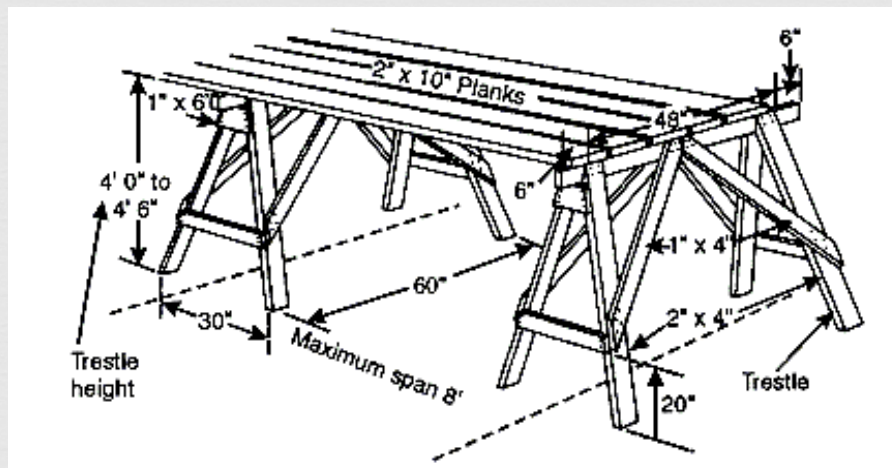
- In suspended scaffolding, the working platform is suspended from roofs with the help of wire ropes or chains etc.
- It can be raised or lowered to our required level.
- This type of scaffolding is used for repair works, pointing, paintings etc.
- This type of scaffoldings can provide significant savings on very tall structures that need light duty access, like ongoing building maintenance and small improvements.

SUSPENDED SCAFFOLDING



TRESTLE SCAFFOLDING

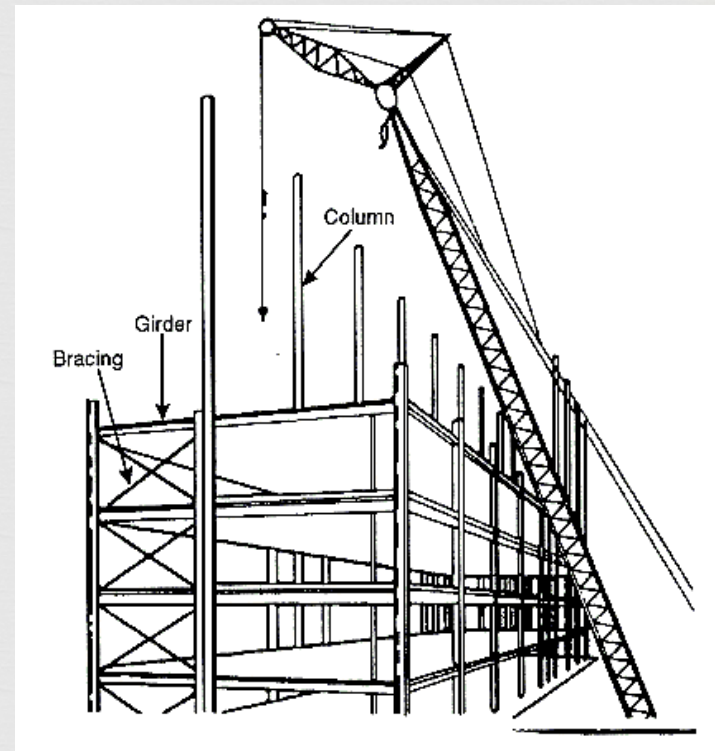
- In Trestle scaffolding, the working platform is supported on movable tripods or ladders.
- This is generally used for work inside the room, such as paintings, repairs etc., up to a height of 5m.



Steel Scaffolding



- Steel scaffolding is constructed by steel tubes which are fixed together by steel couplers or fittings.
- It is very easy to construct or dismantle.
- It has greater strength, greater durability and higher fire resistance.
- It is not economical but will give more safety for workers.
- So, it is used extensively nowadays.



Patented Scaffolding



- Patented scaffoldings are made up of steel but these are equipped with special couplings and frames etc., these are readymade scaffoldings which are available in the market.
- In this type of scaffolding working platform is arranged on brackets which can be adjustable to our required level.



THANK YOU...

