


Subject: Building Material and Construction-IV

Topic: Types of scaffolding

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TYPES OF SCAFFOLDING



TYPES OF SCAFFOLDING BASED ON MATERIALS



- Wooden & Bamboo Scaffolding
- Tube & Clip Scaffolding
- Cup lock Scaffolding

WOODEN AND BAMBOO SCAFFOLDING



- Although wooden scaffolding is used almost everywhere, there are regulations for how to build it.
- It is more common outside of North America and Europe.
- Pre-cut lumber was the most common type of scaffolding until steel, and the fabrication of materials, became more affordable.
- Normally all wooden members, vertical and horizontal are tied with coconut coir rope at all joints.
- This has low initial cost but short life.
- They are not suitable where duration for which scaffolding has to be kept is more or there comes monsoon in between as its strength entirely depends on coconut coir rope.

TUBE & CLIP SCAFFOLDING



- This scaffolding is one of the earliest types of steel scaffolding.
- It consists of two parts, including the tubes and clips, sometimes called 'couples'.
- It is very simple and one also popular because of its' easiness in assembly and disassembly.
- To erect the scaffold, you have to connect tubes together to make long runs and then connect the verticals and horizontals together with clamps built specifically for these tubes.
- This system is very flexible as you can place the verticals tube wherever you need them.
- Where other types of scaffolding don't easily form or adjust to odd shapes, tube and clamp scaffolding can be adapted to round, straight, or irregular shapes.

TUBE & CLIP SCAFFOLDING

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- The steel in this type of scaffolding is specially designed to protect against corrosion and rust, which mean that it is a good choice for regions with harsh weather.
 - There are specific requirements that scaffold companies and designers must fulfill.
 - This has long life but high initial cost.



CUP LOCK SYSTEMS SCAFFOLDING



- This type of scaffolding is generally made from galvanized steel.
- This scaffolding is popular for its capacity to support heavy loads.
- By using cup locks at every 500 mm to 1,000 mm, this type of scaffolding creates highly standardized systems that work well for scaffolding designs with repeated patterns.
- This is even costlier, but it is quite strong and safe.

CUP LOCK SYSTEMS SCAFFOLDING



TYPES OF SCAFFOLDING BASED ON COMPONENT USED



Types of Scaffolding Based on Component Used:

1. Staircase Tower Scaffolding
2. Frame & Brace Scaffolding

STAIRCASE TOWERS SCAFFOLDING



- Most of the scaffold manufacturers produce special components that are used to build a staircase scaffold tower as shown in figure.
- Oftentimes these staircases are a part of the scaffold structure that permit the workers to travel from level to level, but sometimes a stair tower is used on its own.
- As a scaffold designer, these particularly come in handy when workers need temporary, safe access to a section of the building.

STAIRCASE TOWERS SCAFFOLDING



FRAME & BRACE SCAFFOLDING



- This type of scaffolding is very common for residential and commercial applications in North America and Europe.
- This type of modularized framework consists of frames, braces, planks, and bases.
- This scaffold is very light and can be erected very speedily.
- But, this type of scaffolding isn't as strong as system scaffolding.
- You can see in image that, the frames stacked vertically on top of each other, and the cross bracing that connects them together.
- This type of scaffolding is commonly used in small-scale projects.

FRAME & BRACE SCAFFOLDING



TYPES OF SCAFFOLDING BASED ON ITS USE



1. Mast Climbing Scaffolding

- Similar to suspended scaffolding, this type of scaffolding can extend to various heights.
- Instead of hanging from wires, this type of scaffold can go up and down on fixed mast structures that are placed on the ground.
- This type of scaffolding is used for heavy loads. Where there is a brick or block wall that needs to be built, you'll see mast climbing scaffolding as it can be adjusted to get to various heights in small increments.
- These scaffolds range in height, some only a couple floors tall while others climb up to several stories.
- Since mast climbers don't require more space at the base of the structure, they're ideal for projects with limited ground area.

MAST CLIMBING SCAFFOLDING





2. Shoring

- Whenever you see a concrete slab for a building floor, the concrete is almost poured on top of a form in order to hold the liquid concrete until it cures into a solid that can support itself.
- Most often the structure underneath consists of scaffolding.
- There are frame and brace systems that are manufactured to hold this weight, but it can be built out of any available materials.

SHORING



THANK YOU...

