



Subject: Building Material and Construction-IV

Topic: Formwork

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FORMWORK



FORMWORK

Form work : All arrangement done to support the green concrete till it attains the strength is known as form work or temporary work. Form work determines the geometry, shape. size and finish of the form work.



Types of formwork



- Timber formwork
- Plywood formwork
- Steel formwork
- S-formwork

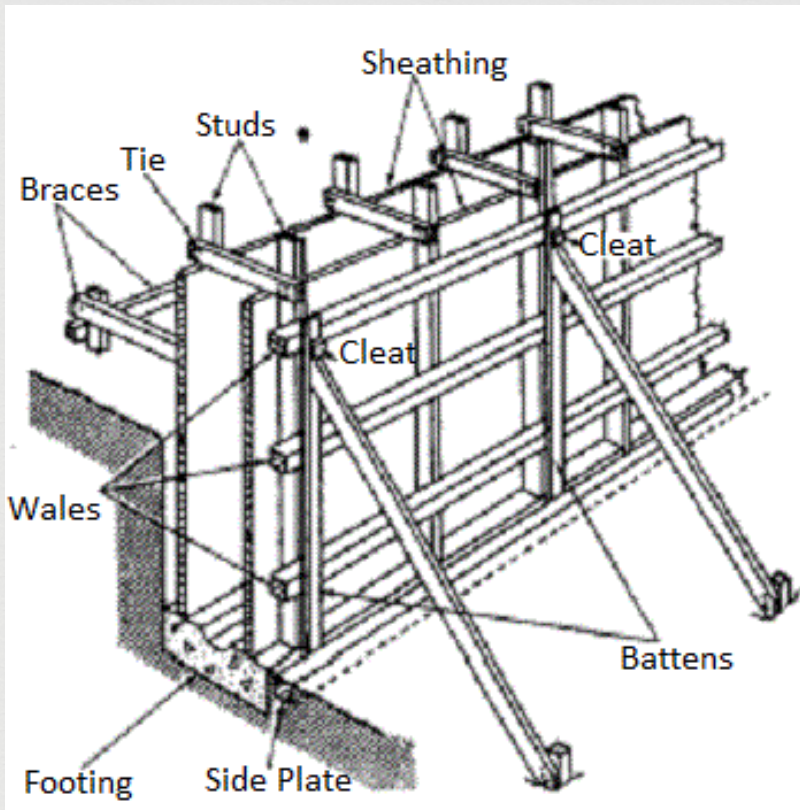
TIMBER FORMWORK



- ∞ The timber is the most widely used and universally adopted formwork material.
- ∞ It is cheaper, easily available, easy to fix, impact resistant, easy to remove, can be used several number of times, can give larger level surface and can be used to obtain any geometrical shape.

Sheeting for slab, beam, column side and beam bottom	25mm to 40mm thick
Joints and ledges	50 x 70mm to 50 x 250 mm
Posts	75 x 100 mm to 100 x 100mm

TIMBER FORMWORK



PLYWOOD FORMWORK



- Most common material use for facing panel.
- Easily cut to shape on site.
- It can be used many times.
- Thinner plywood used to facilitate bending.
- The main advantage is that large panel surface are available.
- The fixing of forms is rapid and economical.
- It does not warp, swell and shrink during the setting of concrete.
- It has high impact resistance.

PLYWOOD FORMWORK



STEEL FORMWORK



- Steel formwork are commonly employed for big project, where the forms are to be repeatedly used.
- They give smooth surfaces needing very little finishing. These prove to be economical and are best suited for circular columns and flat slab construction.
- Generally, we can say that:
 - 1) They are easy to assemble.
 - 2) Gives smooth surface.
 - 3) High strength and impact value.
 - 4) For big project if produced on large scale they are economical otherwise highly costed.

STEEL FORMWORK

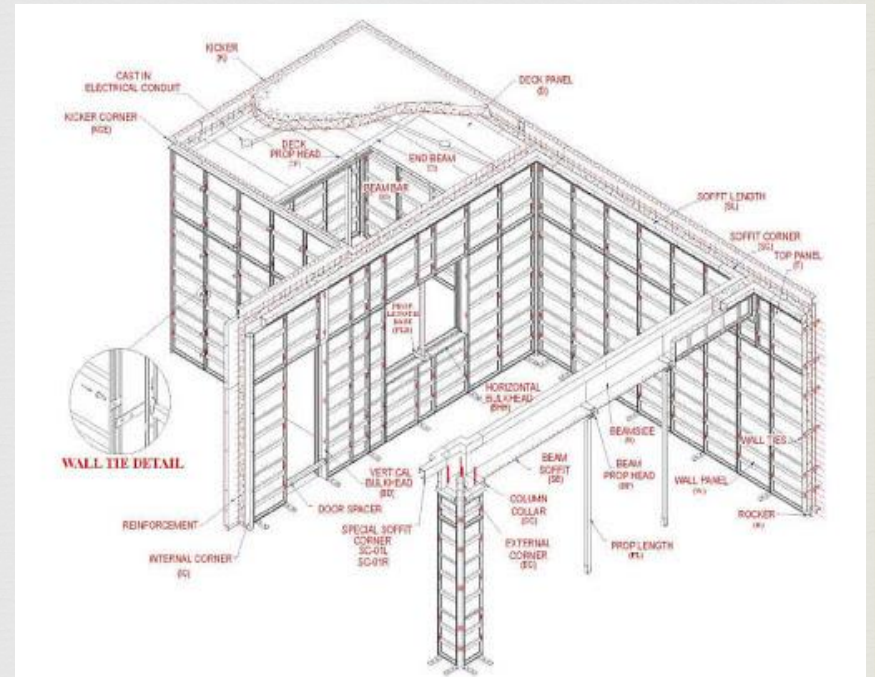


ALUMINUM FORMWORK(MIVAN)



- Aluminum formwork system is a comparatively new technology in India.
- It saves cost, times and improve the quality of the construction.
- It is strong and light easy to handle.
- It suitable when:-
 - i. mass housing,
 - ii. Typical floors,
 - iii. Fast construction required,
 - iv. Column less structure.

ALUMINIUM FORMWORK



ADVANTAGE OF ALUMINUM FORMWORK



- Aluminum does not rust like steel, therefore a aluminum formwork can be reused hundreds of times.
- Formwork is made with an aluminum alloy which has high tensile strength and is also very hard.
- Doesn't required timber or plywood for construction activities, so its save the environment.

Requirements of Good Formwork



- It should be strong enough to withstand all types of dead and live loads.
- It should be rigidly constructed and efficiently propped and braced both horizontally and vertically, to retain its shape.
- The joints in the formwork should be tight against leakage of cement grout.
- Construction of formwork should permit removal of various parts in desired sequences without damage to the concrete.

Requirements of Good Formwork



- The material of the formwork should be cheap, readily available, and should be suitable for reuse.
- The formwork should be set accurately to the desired line, and levels should have a plane surface.
- It should be as light as possible.
- The material of the formwork should not warp or get distorted when exposed to the elements.
- It should rest on a firm base.

THANK YOU...

