

11

REINFORCED CEMENT CONCRETE

11.1 INTRODUCTION

The concrete of the mixture of cement, sand, water and aggregate in a certain proportion with steel bars by a known method is termed as Reinforcement Cement Concrete.

11.2 OBJECTIVES

After reading this lesson you will be able to:

- explain Reinforcement Cement Concrete;
- explain why, reinforced cement concrete cover is provided and where it is;
- describe the behaviour of RMC in concrete used in large scale;
- take precautionary measures in placing reinforced cement concrete;
- describe preparation of form work for construction of reinforced cement concrete structure;
- explain the points to be remembered in removing of form work used in reinforced cement concrete structure.

11.3 STEPS FOR PLACING RCC

11.3.1 Form work, shuttering, centering

For casting of slab or column, there is a requirement of form work, which should

be covered from four sides to retain the concrete. For casting of slab, shuttering is also required. Form work and shuttering are done by plywood or steel plates (panels) where an arch is provided in wall. Form work is done according to the curve of the arch, which is known as centering.

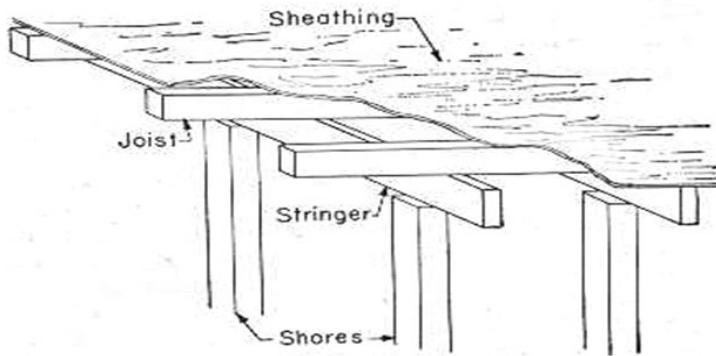


Fig. 11.1: Shuttering for slab



Fig. 11.2: Form work for column

The wooden planks or steel panels used as mould, in which concrete is poured and the stand of ballies (Bamboos) or steel posts is known as shuttering. It is provided till concrete get hardened to bear loads. The diameter of ballies should not be less than 100 mm and at extreme 80 mm. Ballies should be provided at the distance of the column and should be placed straight. Wooden planks of size 40×40 cm. are provided at the bottom of ballies.



Fig. 11.3: Ballies below wood planks

Shuttering should be kept at the middle (4 mm in a meter span) to hold concrete not below the horizontal level when settled with their own weight.



Fig. 11.4: Horizontal shuttering

When shuttering is provided at projected portion (known as cantilever), it is kept little up at projected portion (1 in 50) so that after removing the shuttering, hardened concrete becomes horizontal.

Wooden planks used for shuttering should not be made of too dry or green wood because it will absorb water from concrete leaving the slab base uneven and disfigured. Provision are given for lights and fans in the form of small steel box.
