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Faculty of Engineering at Shoubra

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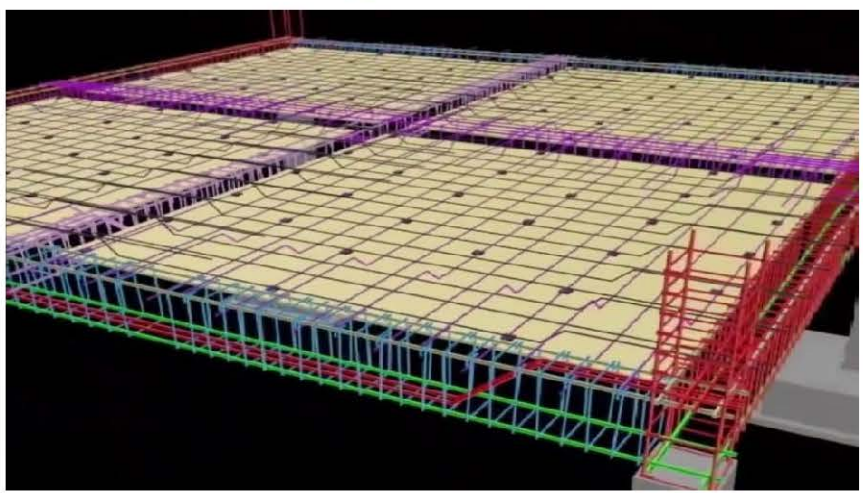
BENHA UNIVERSITY
FACULTY OF ENGINEERING AT SHOUBRA
CIVIL ENGINEERING DEPARTMENT

3rd Year Civil (Structures)- 1st Term

Reinforced Concrete Structures 1-A

Lec.01-"Design of Solid Slabs"



Main Content:

1. Introduction
2. Advantage of Solid slabs
3. Disadvantage of Solid slabs
4. Types of Solid slabs
5. One-way solid slabs
6. Two-way solid slabs
7. Code Requirements for One way solid slabs
8. Application from Site

1. Introduction:

- Reinforced concrete solid slabs are used in floors, roof and deck of bridges. Slabs may be in one direction or two directions depending on the slab dimensions and the surrounding supporting elements.

- Slabs spanning in one direction are refereed to one-way solid slabs while those spanning in two directions are referred to as two-way solid slabs.

- This system consists of beams framing into columns and supporting slabs spanning between the beams. It is a very traditional system. Due to the applied loads on the slabs, it should be designed to resist the bending moment and the deflection.

1. Introduction (Cont.):

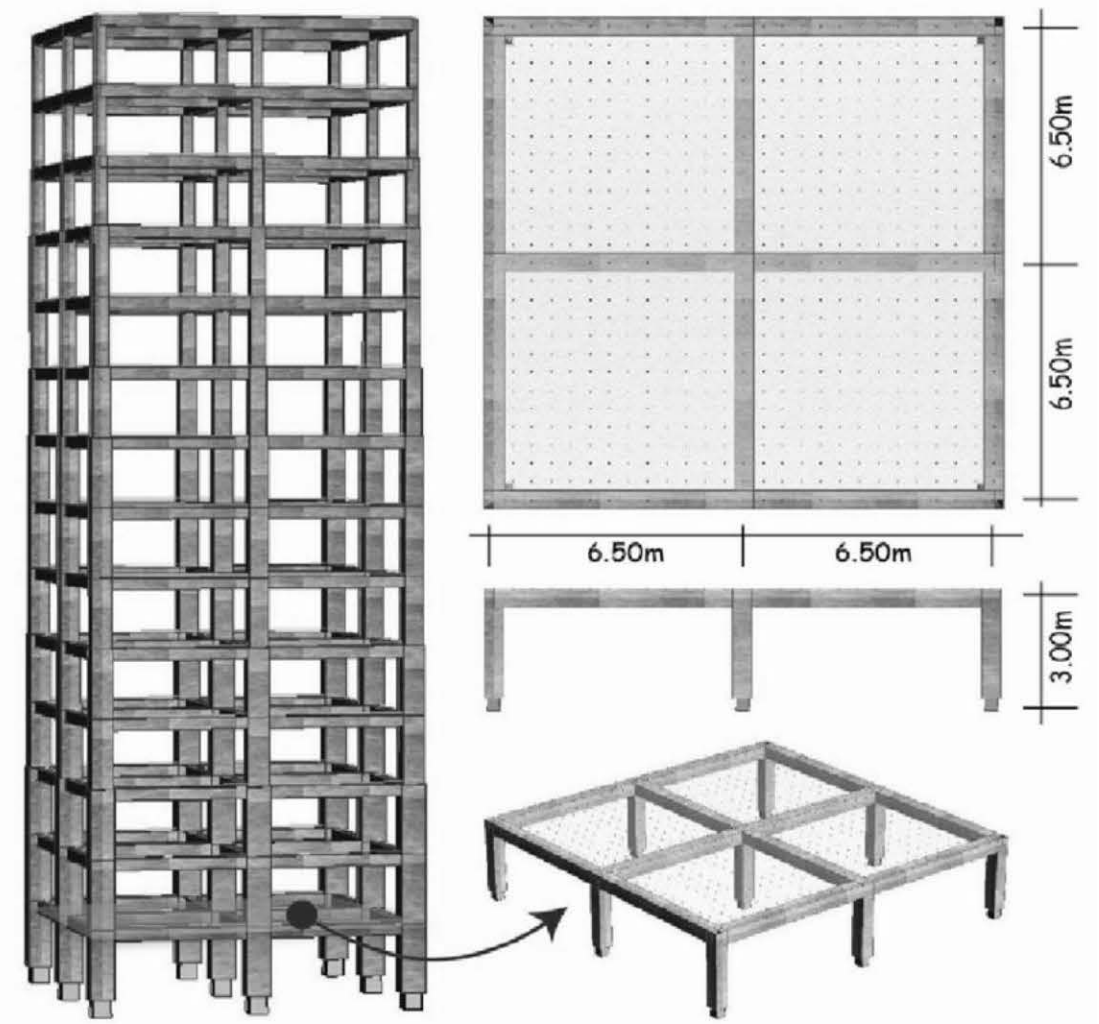
Solid Slab System

2. Advantage of Solid slabs :

Solid slab system considered the most used system in construction due to:

- It is a very traditional system and easy for construction.
- Effective structural system for areas up to 30 m^2.
- Economic cost compared with the other structural system.
- Not a lot of maintenance cost needed
- Amount of reinforcement small compared with the other systems.
- The surrounded beams provide a stiff floor capable to resist lateral loads.

2. Advantage of Solid slabs :



Traditional System for RC Solid Slab System