

# RCC Footing Details

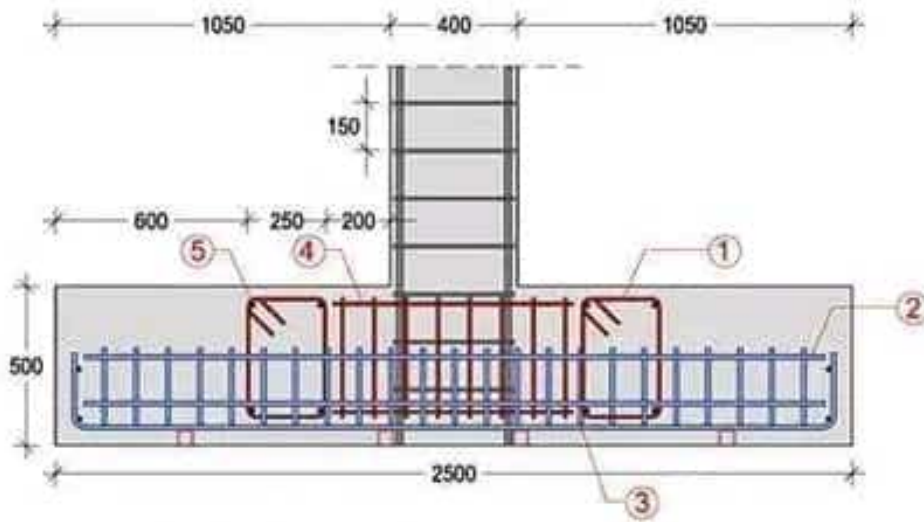


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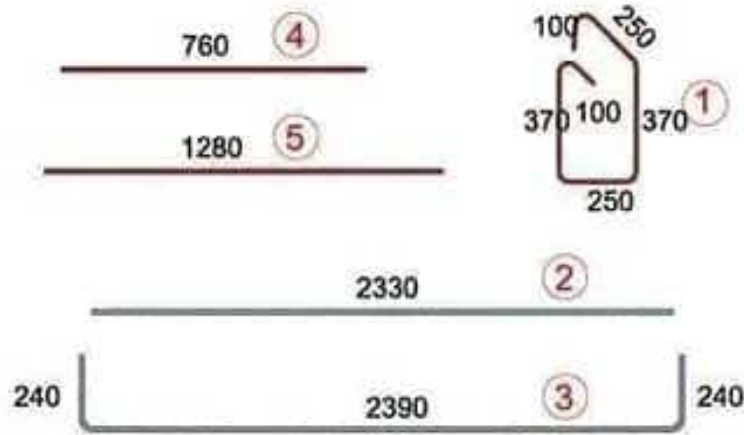


Swipe 

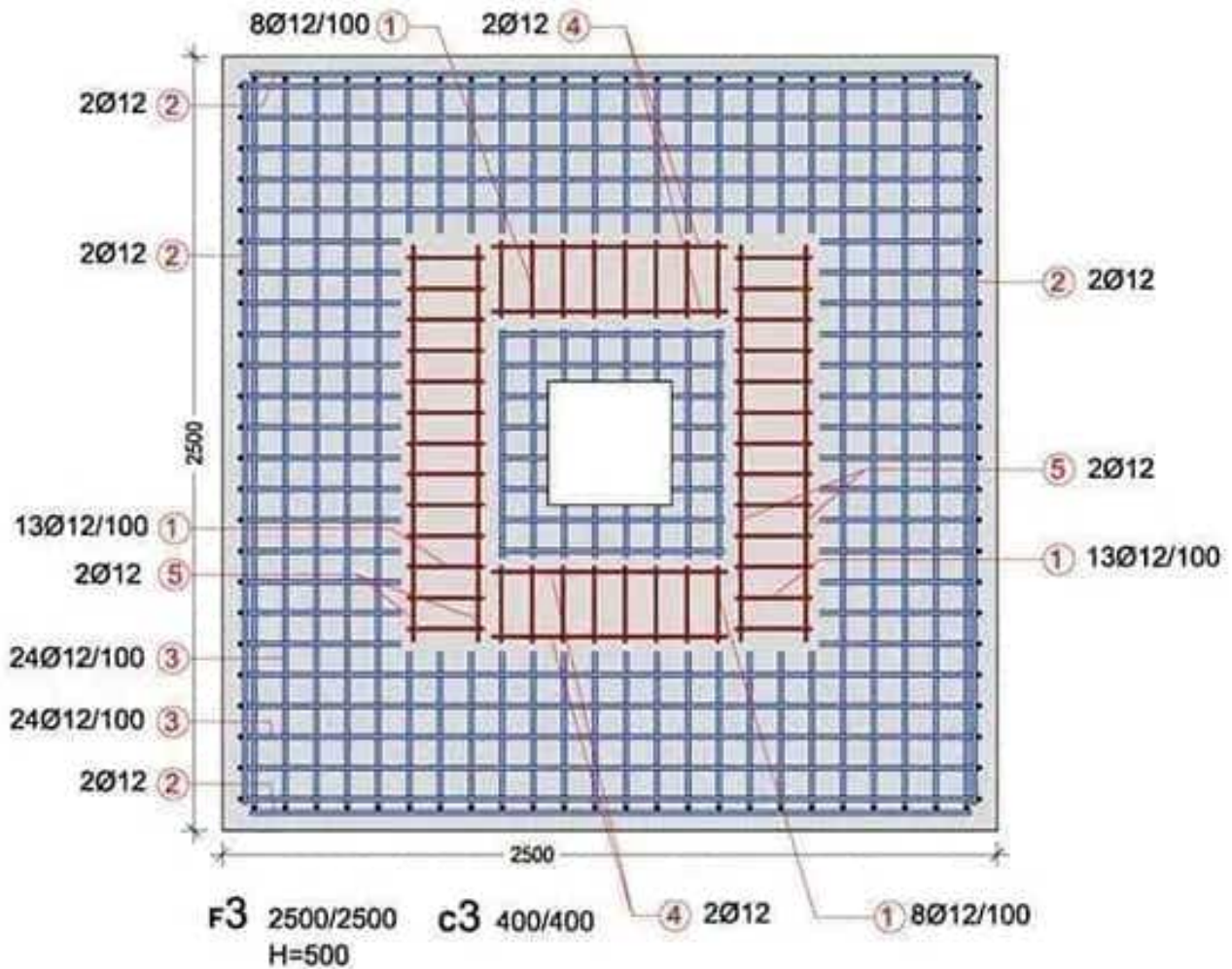
### FACE VIEW



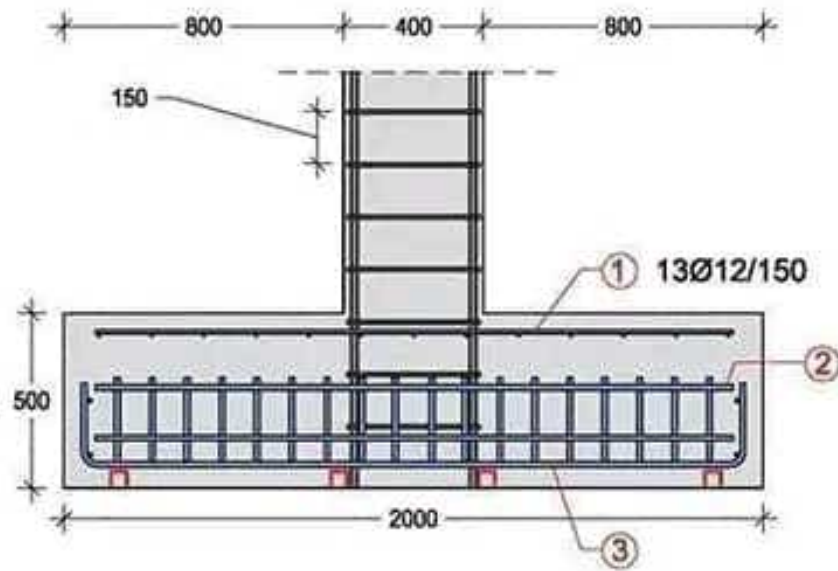
### REINFORCEMENT DETAILING



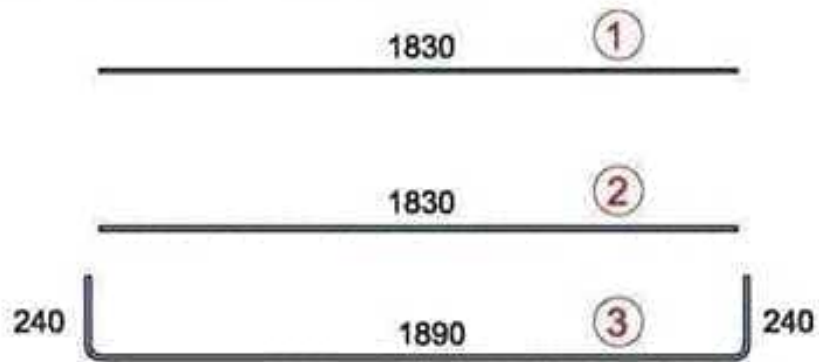
### PLAN VIEW



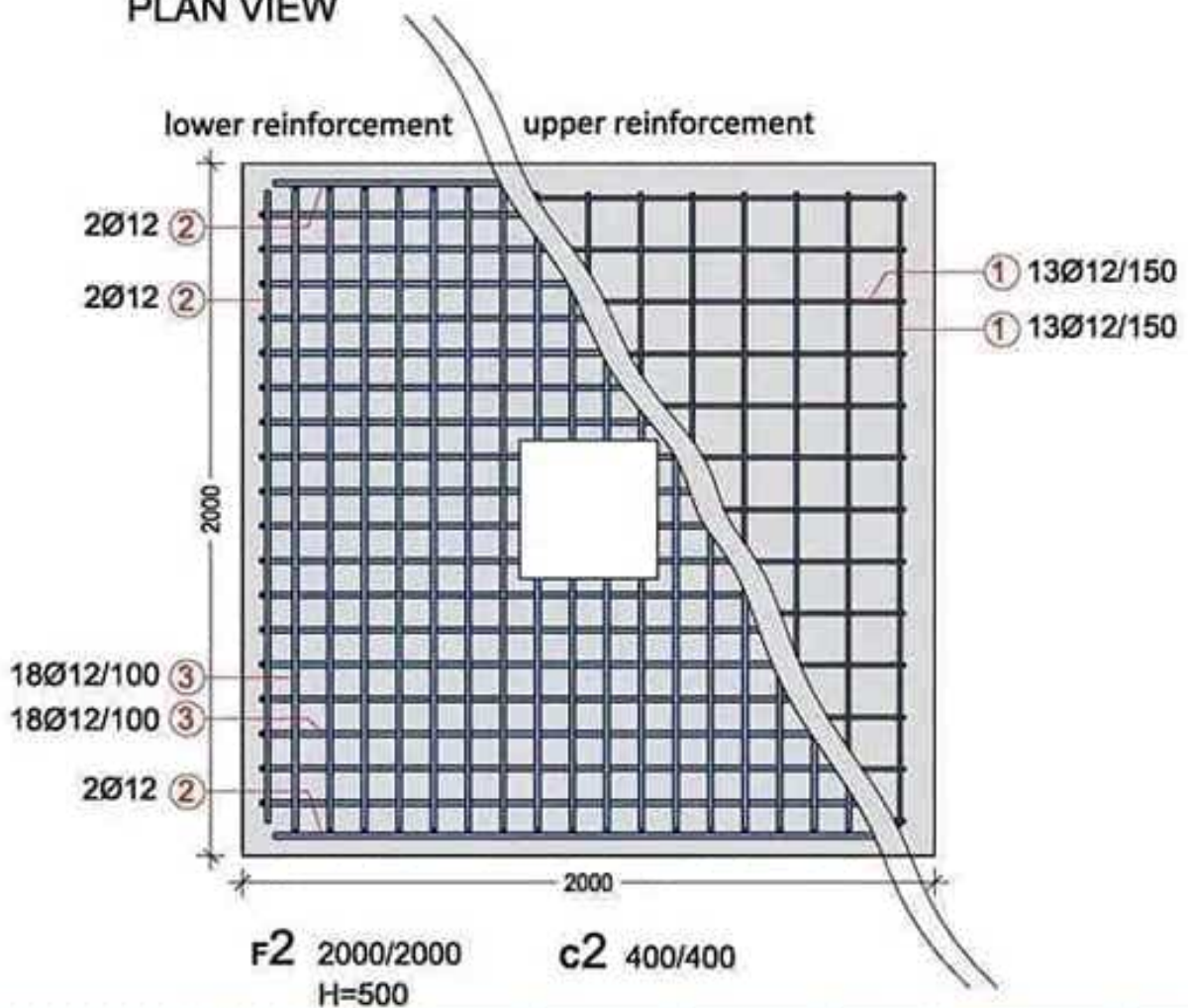
# FACE VIEW



# REINFORCEMENT DETAILING

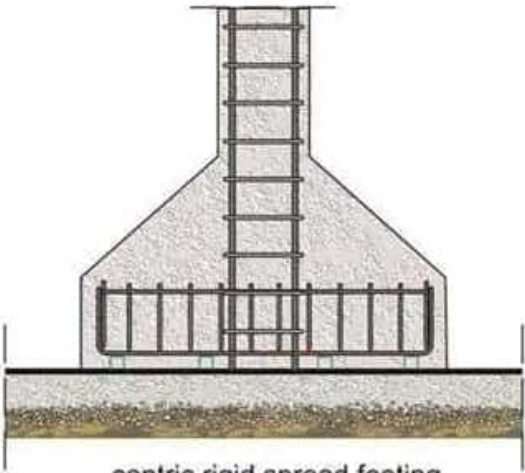


# PLAN VIEW

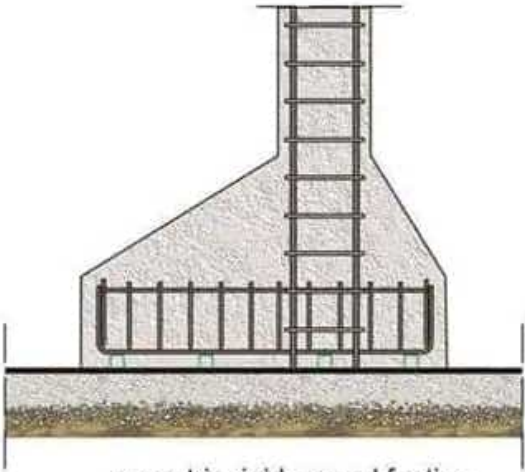




Rigid spread footings

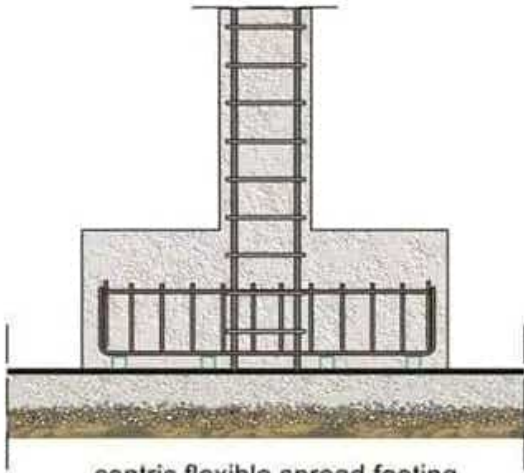


centric rigid spread footing

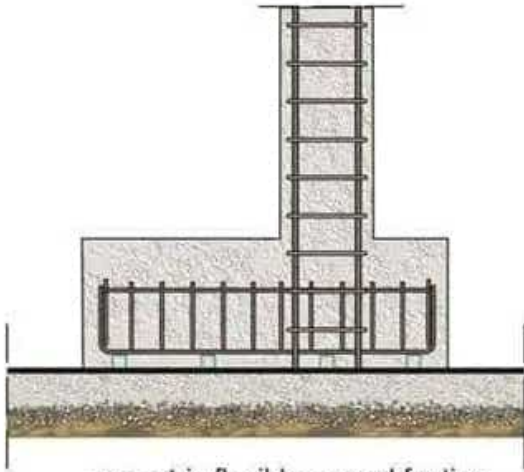


eccentric rigid spread footing

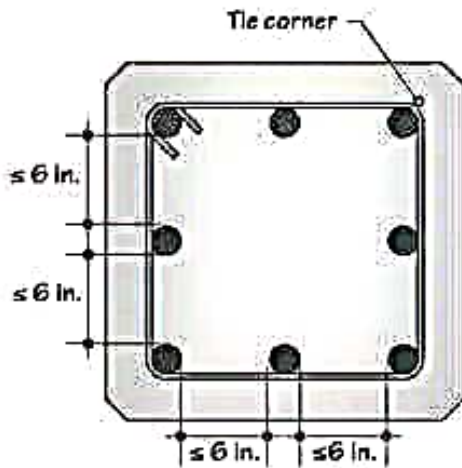
Flexible spread footings



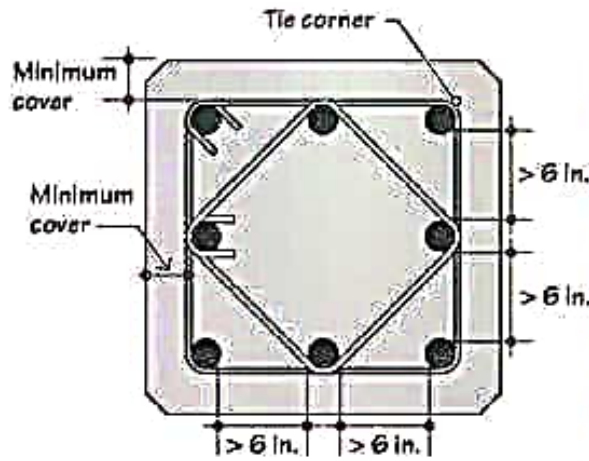
centric flexible spread footing



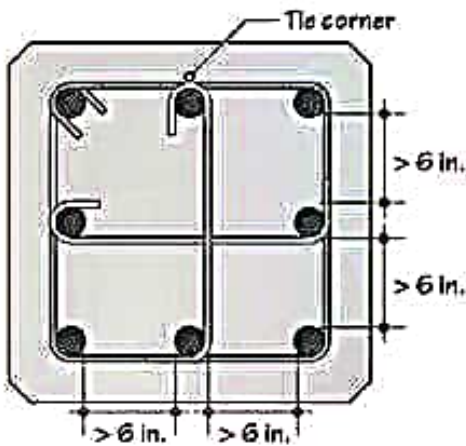
eccentric flexible spread footing



(a) Tie arrangement in a square column with 8 longitudinal bars and one tie set. This arrangement can only be used if the clear space between a supported and an unsupported longitudinal bar is less than or equal to 6 in.



(b) Tie arrangement in a square column with 8 longitudinal bars and a set of two ties. See also (c)



(c) Tie arrangement in a square column with 8 longitudinal bars that uses a set of three ties—an alternative to the arrangement shown in (b)



(d) Tie arrangement in a rectangular column with 10 longitudinal bars and a set of three ties

Every longitudinal bar must be supported against buckling by a tie corner, as shown in (b), (c) and (d). However, if the clear distance between longitudinal bars is  $\leq 6$  in., an alternate bar may be left unsupported, as shown in (a).

A set of ties may consist of one tie shape, as shown in (a), a set of two ties, as shown in (b), a set of three ties, as shown in (c) and (d), etc.

The center-to-center spacing of the tie set is governed by empirical code requirements.

FIGURE 22.27 Tie arrangements in a typical rectangular or square reinforced-concrete column.

# STEEL IN RCC

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## Thumb Rule

As per type of structure:

| Type of Structure    | Steel Used [kg/ft] |
|----------------------|--------------------|
| Residential Building | 2.5 to 4.5         |
| Commercial Building  | 4.5 to 5.5         |
| Heavy Structures     | 8 to 9             |

As per structural element:

| Structural Element | % Steel in Concrete |
|--------------------|---------------------|
| Slab               | 1%                  |
| Beam               | 1% to 2%            |
| Column             | 2.5%                |
| Footing            | 0.85%               |

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