

Design of Structure-2

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Civil Technology

Axially Loaded Column

- ▶ Types of Rcc Column
- ▶ Tied Column and Spiral Column

Types of Column used in Construction



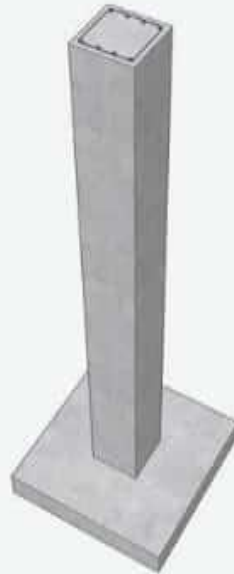
**Rectangular
Column**



**Circular
Column**



**Axially Loaded
Column**

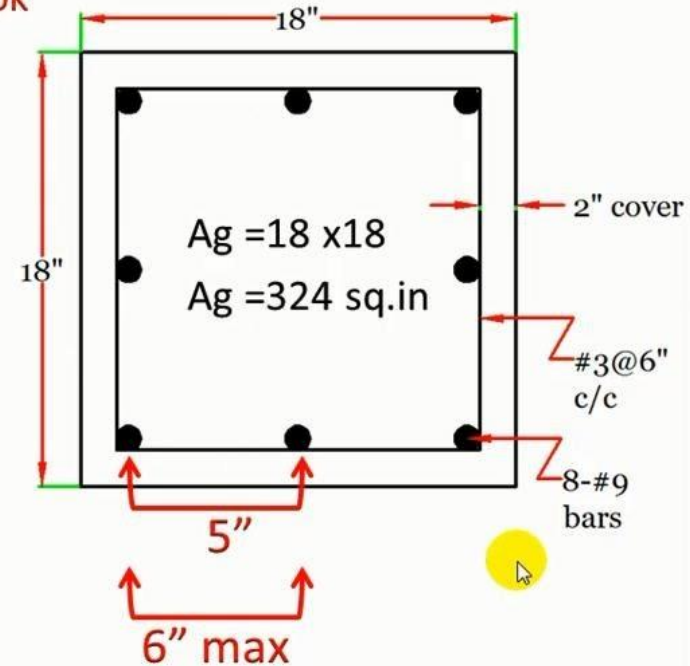


Reinforced Concrete Column



Detailing check:-

- Steel percentage= $\frac{A_{st}}{A_g} = \frac{8}{324} = 0.024 = 2.4\%$ **ok**
- Number of bars= 8 no's **ok**
- Minimum tie size= #3 **ok**
- Minimum tie spacing= 1" **ok**
- maximum tie spacing=
 - = $48d = 48 \left(\frac{3}{8}\right) = 18''$
 - = $16D = 16 \left(\frac{9}{8}\right) = 18''$
 - = least column dimension=18" **ok**
- Main bars spacing = $\frac{18'' - 2(2) - 2(3/8) - 3(1.125'')}{2}$
- Main bars spacing = 5" **ok**



In plane.

$$t = 0.80$$

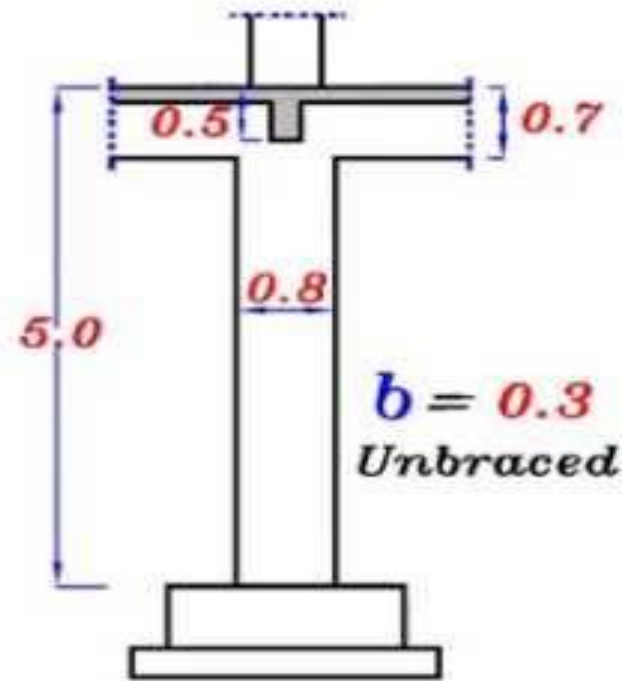
$$H_o = 4.30$$

Upper Case ②

Lower Case ①

$$k = 1.30$$

$$\lambda_{bin} = 1.3$$



By: Eng. Yasser El-Leathy.