

$$5 \quad G_2 = 18 \text{ kN} / \text{m}^3$$

$$G = \quad + \quad +$$

$$W = 15 L_0$$

$$\frac{W}{G} = \frac{15}{18} = \frac{5}{6} = \frac{1.5}{1.8} = \frac{h_w}{K}$$

$$L_0 = \frac{1.05 \times 10 \times 13.8 \times 3 \times 10 \times 0.5 \times 25 \times 18 \times 1.5}{15} = 5.02 \text{ m}$$

$$L_0 = 5.5 \text{ m}$$

2

$$36 \text{ mm} \times 1080$$

$$1.8 \text{ m} \times 1.8 \text{ m}$$

$$R_a = 450 \text{ kN}$$

2m

$$5.5 \text{ m} (3.5 \text{ m});$$

$$110 \text{ mm}$$

$$110 \text{ mm}$$

$$180 \text{ mm}$$

III

1

$$3.5 \text{ m} \quad N_{tk} = 362.7 \text{ kN}$$

$$2.0 \text{ m} \quad N_{tk} = 276.3 \text{ kN}$$

2

$$N_{tk} = 2.6 \times 3 \times 4.24 \times 10^3 \times 15935 \times 10^{-6} = 527 \text{ kN}$$

$$A_{ln} = \left(\frac{180}{2} \right)^2 + \left(\frac{110}{2} \right)^2 = 15935 \text{ mm}^2$$

3

$$K_r N_{tk} = 362.7 + 276.3 + 527 = 1166 \text{ kN}$$

$$N_{tk} = 1166 / 2 = 583 \text{ kN}$$

$$A_s-$$

$$A_{s(36)}=1017\text{mm}^2$$