±0.000m 37.60m 36.00m

500mm 37.60m 22.70m

22.20m 22510m^2 1434m^2 1700m^2 1830m^2

f_{ak}=1000KPa

f_{rk}=4.24MPa

1.8m×1.8m 220mm 3Φ32

6m 8m 450kN

1

1

(GB

50086-2015)11.2.4 W+G /

$F_f \geq K$

$F_f = \gamma_w \Delta H A$

F_f—

A—

—

W—

G—

K— K=1.05

2

1 A=22510-1434-1700-1830=19146m^2

2 ΔH 36.00-22.20=13.8m

3 $\gamma = 15KN/m^3$

4 $G_1 = 10KN/m^2$

5 $G_2 = 18KN/m^3$

G = + +

$W=15\times L_0$

$$W+G\ /F_f = 15\times A\times L_0+10\times A+18\times 1.5\ /\ 10\times A\times h_w \geq K$$

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

L_0=5.5m

2

36mm 1080 1.8m×1.8m

Ra=450kN

2m 5.5m(3.5);

110mm 110mm 180mm

III

1

3.5m N_{t1k} $_{mck}$ $_a$=0.001×3.14×110×0.3×10^3×1.0×3.5=362.7KN

2.0m N_{t1k} $_{mck}$ $_a$=0.001×3.14×110×0.4×10^3×1.0×2.0=276.3KN

2

N_{t2k} $_l$ $_r$ $_l f_{rk} A_{ln}$ =2.6×3×4.24×10^3×15935×10^{-6}=527KN

A_{ln}- $A_{ln} = \pi(\frac{180}{2})^2 - \pi(\frac{110}{2})^2 = 15935mm^2$

3

$K_r N_{tk}$ $_{tk1}$ + N_{tk2}= 362.7+276.3+527=1166kN

N_{tk} =1166/2=583kN

N

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