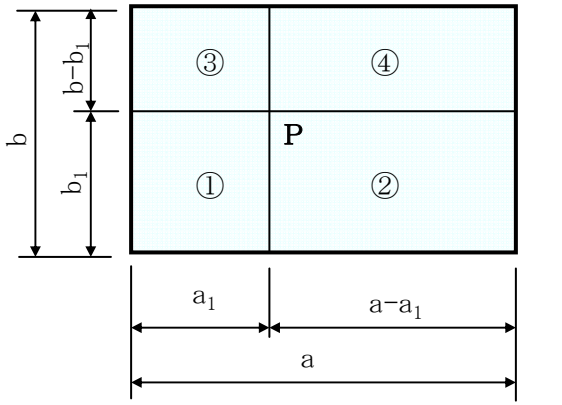
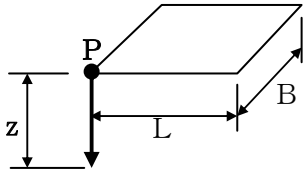
# Ｆadumによる増加応力･即時沈下量の算定

| | | |
|---|---|---|
| 盛土の単体 | $\rho_t$＝ | 20.0KN/mˆ3 |
| 盛土高 | H＝ | 10.0 m |
| 荷重強度 | q ＝ | 200.0 m |
| 荷重面形状 | a ＝ | 50.0 m |
| | b ＝ | 40.0 m |
| 応力を求める位　置 | $a_1$＝ | 20.0 m |
| | $b_1$＝ | 15.0 m |
| | Z ＝ | 5.0 m |
| 土　の特　性　値 | ﾎﾟｱｿﾝ比　$\nu$ | 0.50 |
| | 変形係数 E | 2000.KN/mˆ2 |




| | ① | ② | ③ | ④ |
|---|---|---|---|---|
| L (m) | 20.0 | 30.0 | 20.0 | 30.0 |
| B (m) | 15.0 | 15.0 | 25.0 | 25.0 |
| $R_1^2$ | 250.0 | 250.0 | 650.0 | 650.0 |
| $R_2^2$ | 425.0 | 925.0 | 425.0 | 925.0 |
| $R_3^2$ | 650.0 | 1150.0 | 1050.0 | 1550.0 |
| Ｉz(i) | 0.24554 | 0.24630 | 0.24791 | 0.79461 |
| Σ Ｉz | 1.534 | | | |
| ⊿P | 306.8 | | | |

$$Iz=\frac{1}{2\pi}\left\{\frac{BLZ}{R_3}\times\left(\frac{1}{R_1^2}+\frac{1}{R_2^2}\right)+Tan^{-1}\frac{BL}{ZR_3}\right\}$$

※　$R_1^2=B^2+Z^2$

$R_2^2=L^2+Z^2$

$R_3^2=L^2+B^2+Z^2$

沈下

| | ① | ② | ③ | ④ |
|---|---|---|---|---|
| K=L/B | 1.33 | 2.00 | 0.80 | 1.20 |
| 隅角部の沈下 Wci (Z=0) | 0.263 | 0.334 | 0.33 | 0.413 |
| ΣWc | 1.34 | | | |
| 平均の沈下 Wmi | 0.225 | 0.321 | 0.270 | 0.347 |
| ΣWm | 1.163 | | | |

$$W_c=\left\{qB(1-\nu^2/\pi E\right\}\times\left\{KLog\left(\frac{1}{K}+\sqrt{1+\frac{1}{K^2}}\right)^2+Log\left(K+\sqrt{1+K^2}\right)^2\right\}$$

$$W_m=2W_c-\left\{2qB(1-\nu^2)/3\pi E\right\}\times\left\{\left(\sqrt{1+K^2}\right)^3/K-1/K-K^2\right\}$$