



BAKHTI Software Ltd

Civil engineering software development

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Project: Suivi RN 18

Project No.: Ref 008/2020

Client: DTP

Location: Medea

Date: 2022-12-01

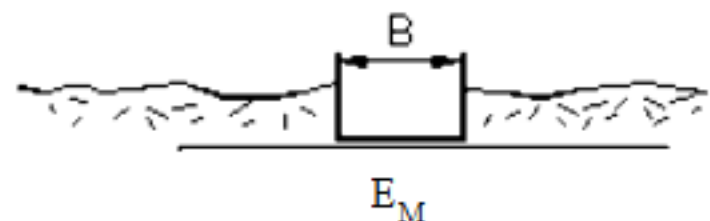
Settlement: Menard PMTs

Standard: Eurocode 7 (NF P 94-261)

$$S_f = S_c + S_d$$

$$s_c = \frac{\alpha}{9E_M} (q' - \sigma'_{v0}) \lambda_c B$$

$$s_d = \frac{2}{9E_M} (q' - \sigma'_{v0}) B_0 \left(\lambda_d \frac{B}{B_0} \right)^\alpha$$



Homogeneous soil

S_f : Total settlement

S_c : Spherical component of the footing settlement

S_d : Deviatoric component of the footing settlement

E_M : Pressuremeter modulus

q' : Area load from the structure

σ'_{v0} : Initial effective stress at the level of the foundation

B_0 : Reference width equal to 0.60 m

B : Footing width

α : Rheological factor

λ_c, λ_d are shape factor

Results:

Total settlement: $S_f = 2,8052$ cm

$S_c = 0,9239$ cm, $S_d = 1,8814$ cm

$\alpha = 1,000$, $q' = 100$ kPa, $\sigma'_{v0} = 36$ kPa

$E_M = 2540$ kPa, $B = 3$ m

$\lambda_c = 1,1$, $\lambda_d = 1,12$