



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: 2022-11-30

Bearing capacity: Static penetrometer

Standard: NF P 94-261

The general bearing capacity equation is given by:

$$q_{net} = k_c q_{ce} i_\delta i_\beta$$

With:

- q_{ce} : equivalent cone resistance calculated as the average value of the cone resistances
- k_c : bearing capacity factor
- i_δ : Load inclination correction factor.
- i_β : reduction coefficient linked to the presence of a slope embankment

Results

$$\sigma_{V;d} \leq \frac{q_{net}}{\gamma_{R;v} \gamma_{R;d;v}} + q_0$$

ELU: $\sigma_{V;d} \leq 192,08 \text{ kPa}$

ELS: $\sigma_{V;d} \leq 116,92 \text{ kPa}$

 $q_{net} = 322,69 \text{ kPa}$

$\gamma_{R;v;d} = 1,2$; ELS: $\gamma_{R;v} = 2,3$; ELU: $\gamma_{R;v} = 1,4$

$B = 3,00 \text{ m}$, $L = 5,00 \text{ m}$, $D = 4,00 \text{ m}$

$C = 32,00 \text{ kPa}$; $\varphi = 7,50^\circ$

$i_\delta = 1,000$; $i_\beta = 1,000$; $k_c = 0,340$

$\gamma_1 = 0,000 \text{ kN/m}^3$

