BAKHTI Software Ltd

Civil engineering software development

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Project:

Client:
Location:
Date: 2026-09-29

Bearing capacity: Menard PMTs

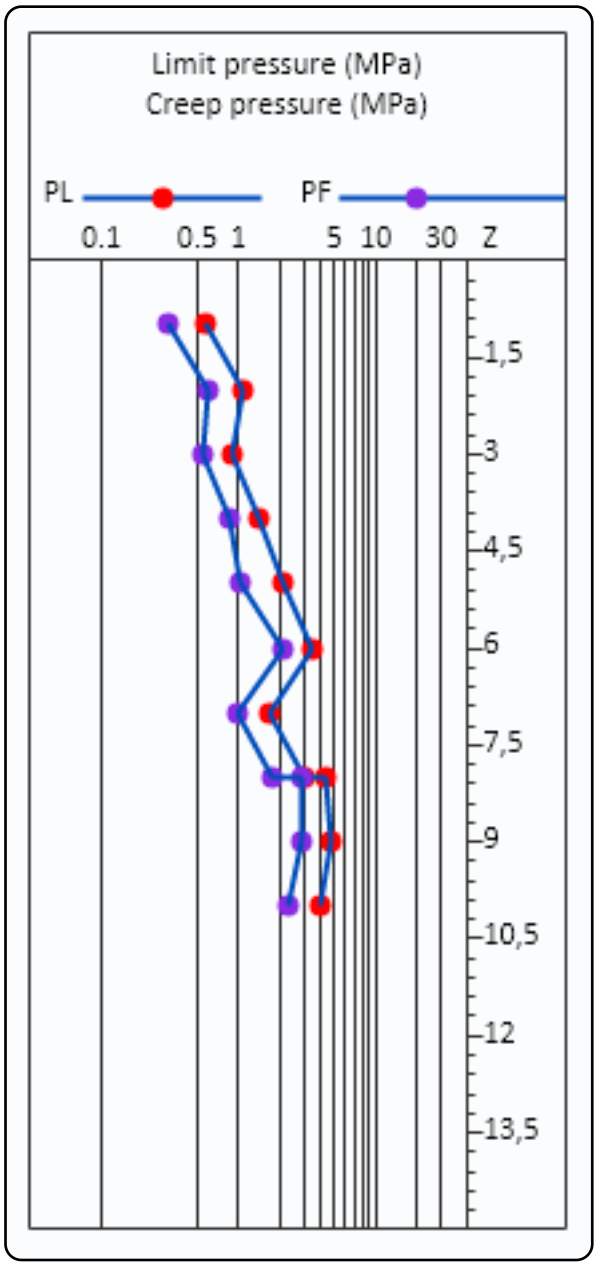
Standard: Eurocode 7 (NF P 94-261)

Formulas:

$$\sigma_{V;d} \leq \frac{qnet}{\gamma_{R;v}\ \gamma_{R;d;v}} + q_0 \ \text{With}\ q_{net} = K_p\ q^*_{le}\ i_\delta\ i_\beta$$

Detailed Calculations:

The equivalent net limit pressure (q^*_{le}) $= 1123,45$ kPa
Bearing capacity factor (k_p) $= 1,024$
Load inclination correction factor (i_δ) $= 1,000$
Reduction coefficient $-$ Slope embankment $-$ (i_β) $= 1,000$
The soil density (γ_1) $= 18,00$ kN/m^3
Soil cohesion (c) $= 35,00$ kPa
Friction angle (ϕ) $= 7,00°$
The embedding depth (D) $= 2,00$ m
Footing dimensions $(1,50x2,00$ m$)$
SLS : $\gamma_{R;d;v} = 1,2$ ULS : $\gamma_{R;d;v} = 1,2$
SLS : $\gamma_{R;v} = 2,3$ ULS : $\gamma_{R;v} = 1,4$



Results:

Ultimate Limit State (ULS): $\sigma_{V;d} \leq 720,91 \text{kPa}$ ✅
Serviceability Limit State (SLS): $\sigma_{V;d} \leq 452,90 \text{kPa}$ ✅
Net Bearing Capacity: $q_{net} = 1150,65$ kPa