Comparison of vertical and horizontal permeabilities in intact natural clays.

For marine clays (mostly Canada)

Typical $r_k = k_h/k_v = 1.0 - 1.5$

$k_v = 10 \pm 5 \times 10^{-8}$ cm/sec

The e vs. lg σ'_v and e vs. lg k relationships from a typical OEDK test on Louiseville clay.

Relation between the permeability change index C_k and e_o for all clays tested.

Adapted from Tavenas et al. (1983). "The Permeability of Natural Salt Clays: Parts I & II." CGJ 20(4), 629-668

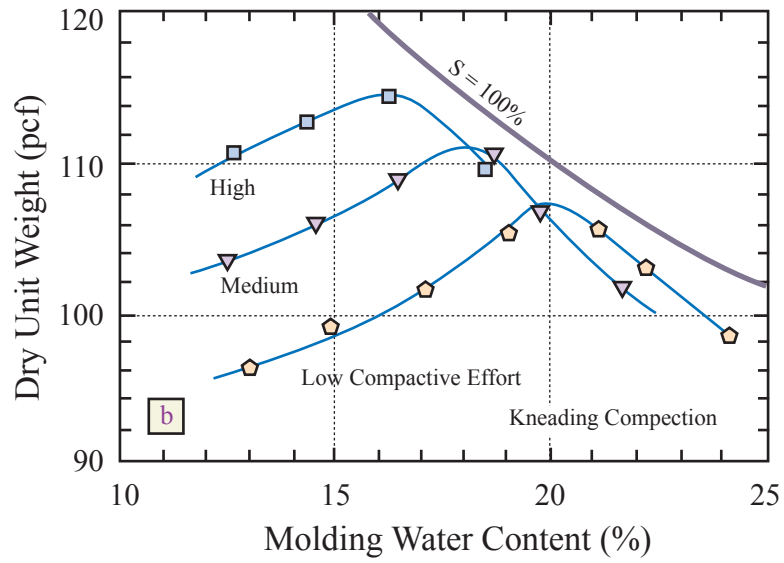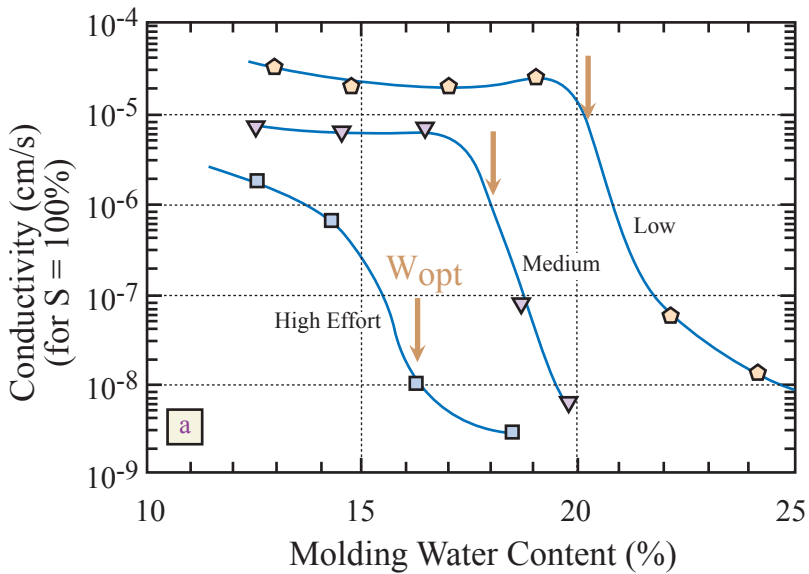$c_k = de / d \log k \approx \left(\frac{1}{2} - \frac{1}{3}\right) e_o$

(A)

Vicksburg Silty Clay: $W_L = 37$, $W_P = 23$ & $I_P = 14$

Data from Mitchell et al. ASCE, JSMFD 91(4). (1965) for Silty Clay Compacted with Impact Compaction: (a) Hydraulic Conductivity versus Molding Water Content; (b) Compection Curve (1 pct = 0.157 kN/m³)

Adapted from Daniel & Benson (1990), ASCE JGE 116(12)

C