
Corso di Laboratorio di Geotecnica

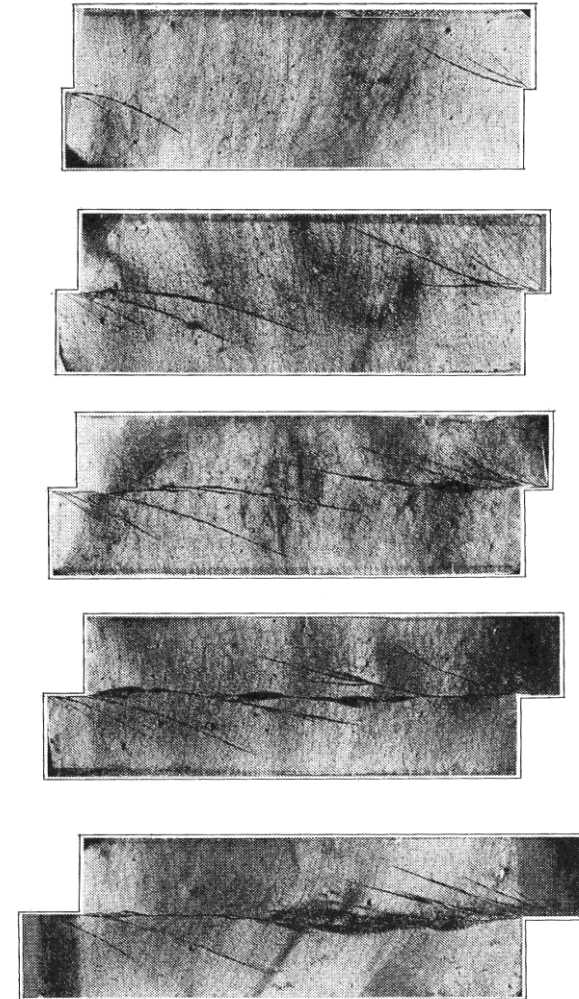
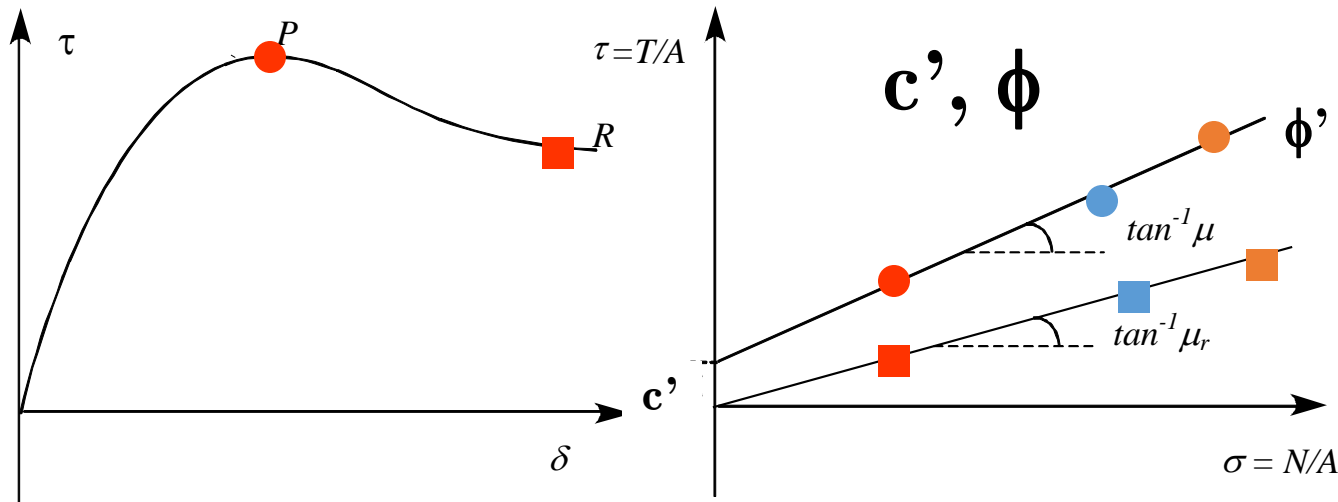
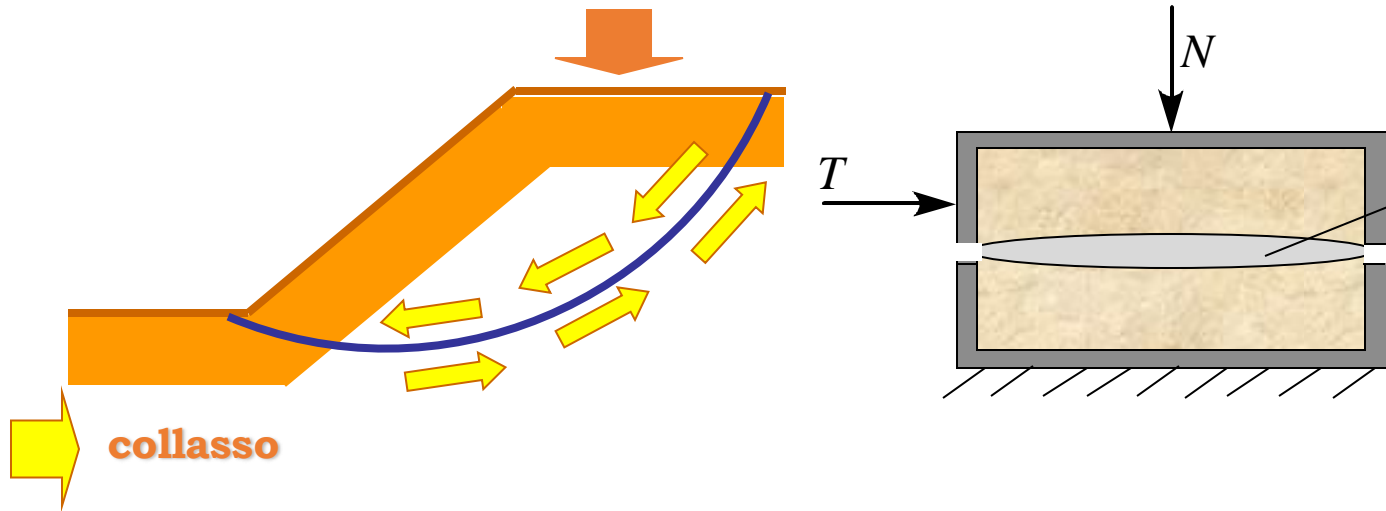
docente: ing. Riccardo Castellanza

Prove di taglio diretto



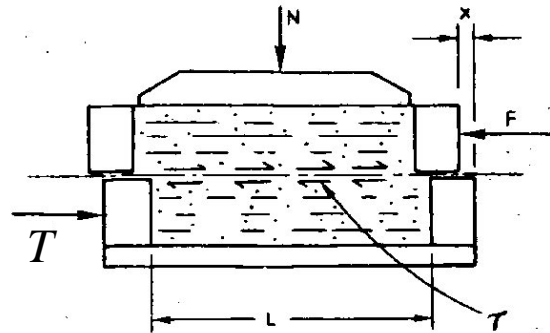
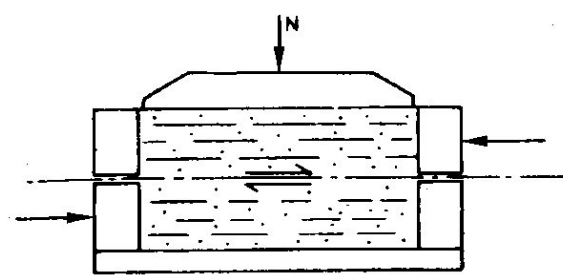
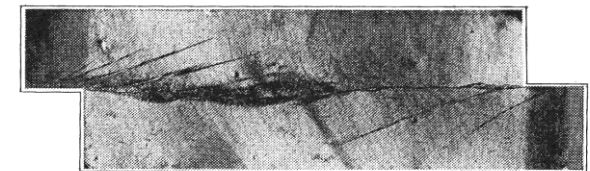
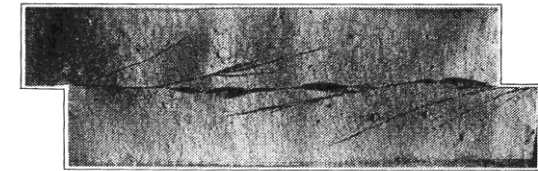
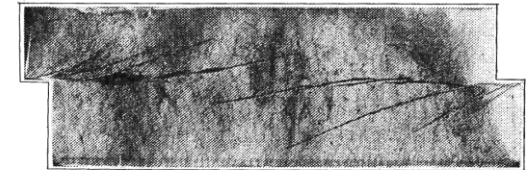
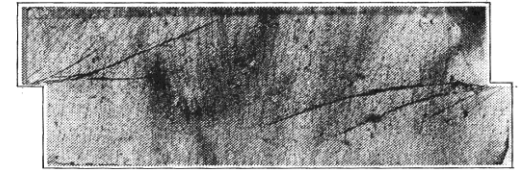
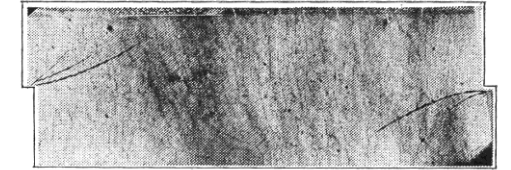
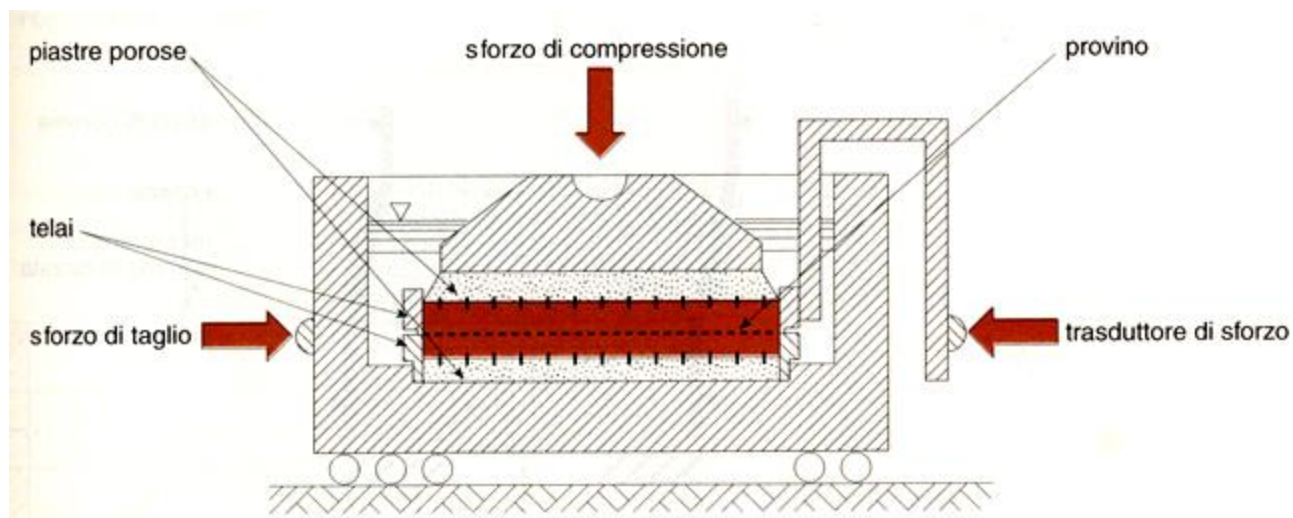
TD: prova di taglio diretto

Fase2: Prova di taglio diretto



Immagini tratte:
Nova R. (2002) Fondamenti di Meccanica delle Terre, ed. Mc Graw Hill.

Apparecchio di Casagrande



$$\sigma'_n = \frac{N}{A} \quad \tau = \frac{T}{A}$$

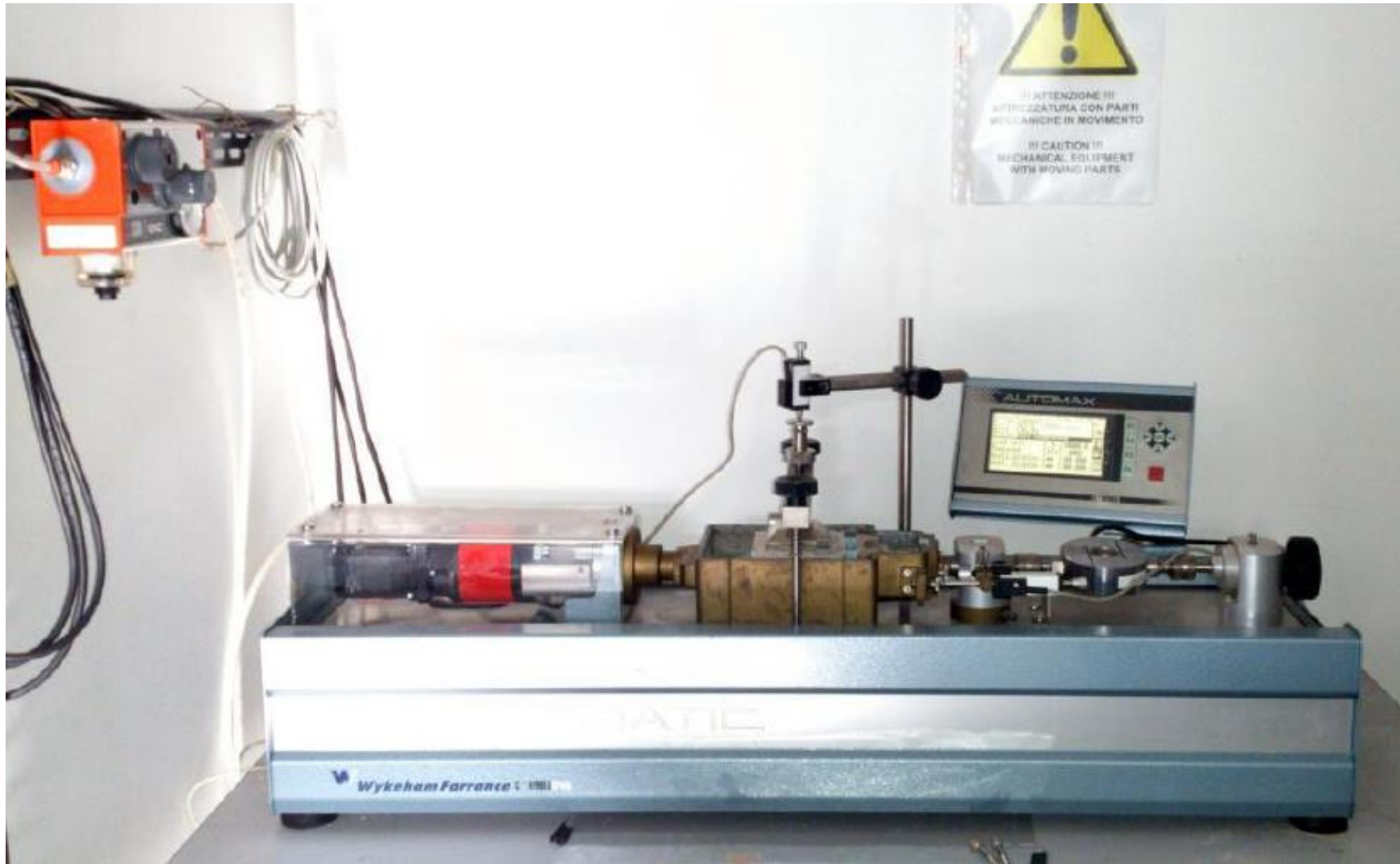
Immagini tratte:

Lancellotta R. (1993) Geotecnica, ed. Zanichelli; Colombo P. Colleselli F (1996), Elementi di geotecnica, ed. Zanichelli

Apparecchio di Casagrande



Apparecchio di Casagrande



SSA: prova di taglio semplice

SSA: Simple shear apparatus

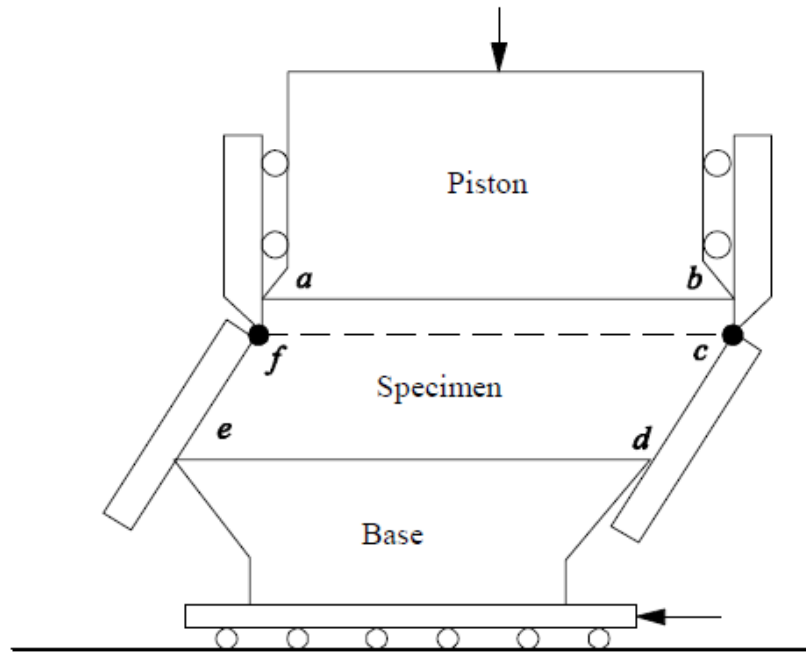


Figure 2.4. Schematic representation of a simple shear apparatus after Bassett (1967)

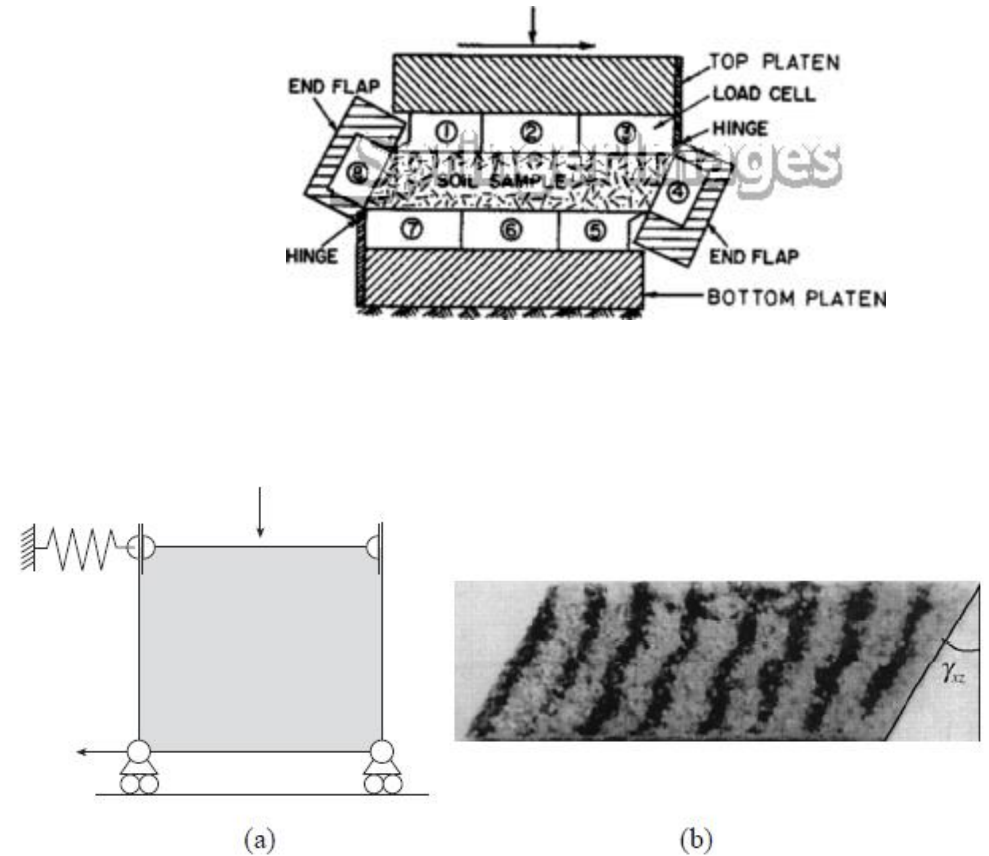
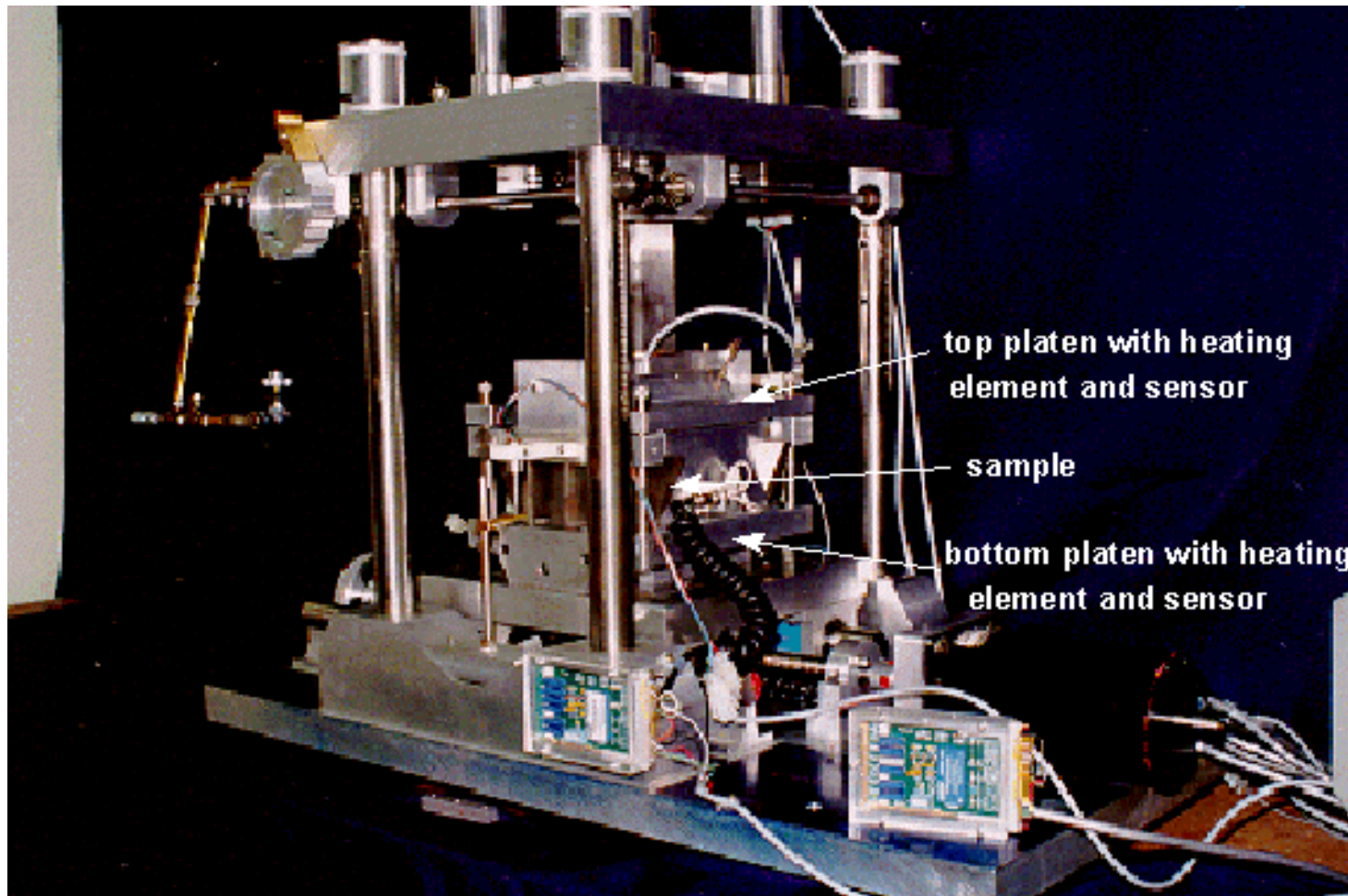


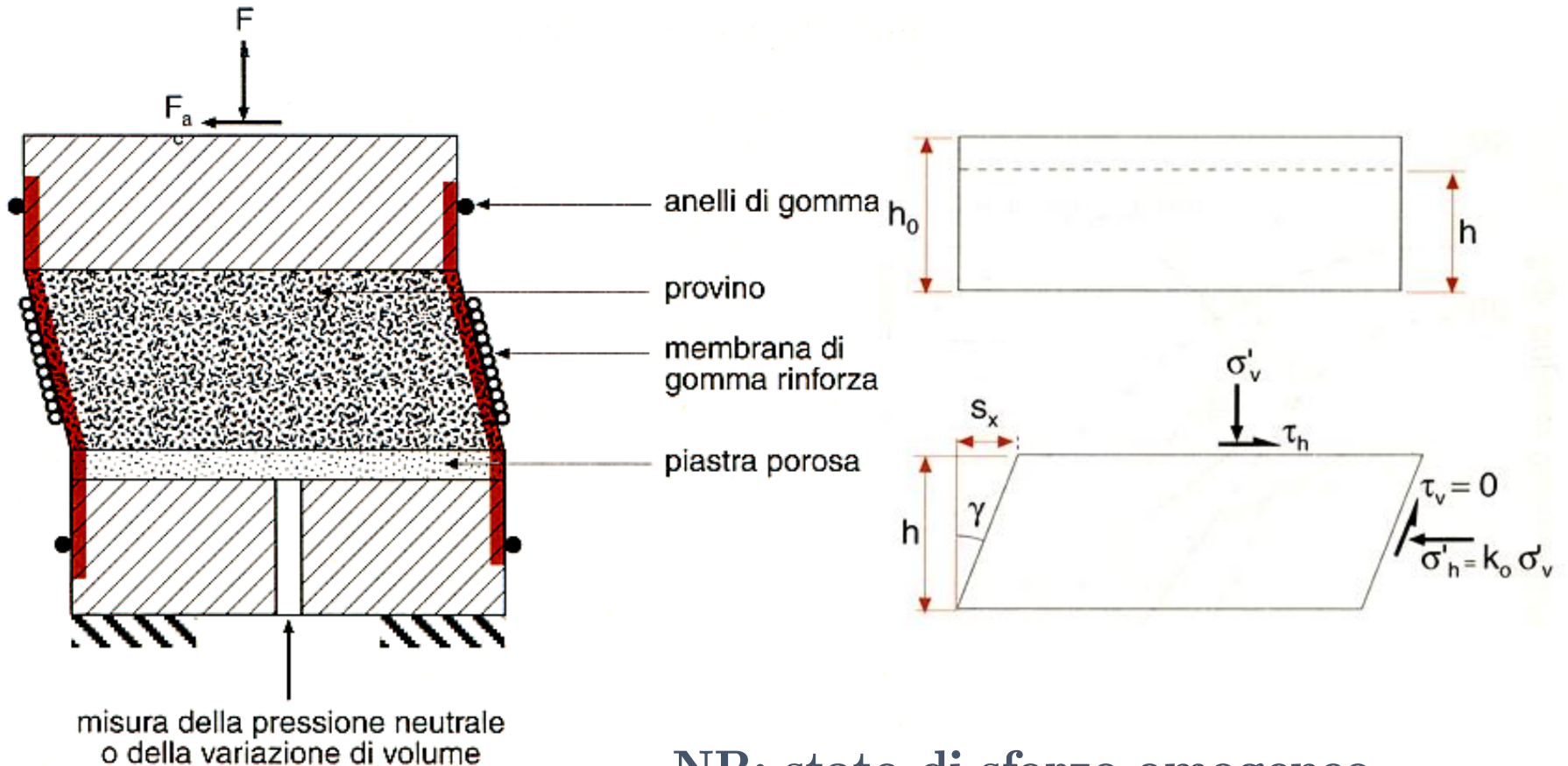
Figure 2.5. a) Structure scheme of SSA;
b) Strain field of a specimen, after Wroth (1958)

Immagini tratte:
Nova R. (1993) Fondamenti di Meccanica delle Terre. Mc Graw Hill (2002)

SSA: Simple shear apparatus



SSA: Simple shear apparatus



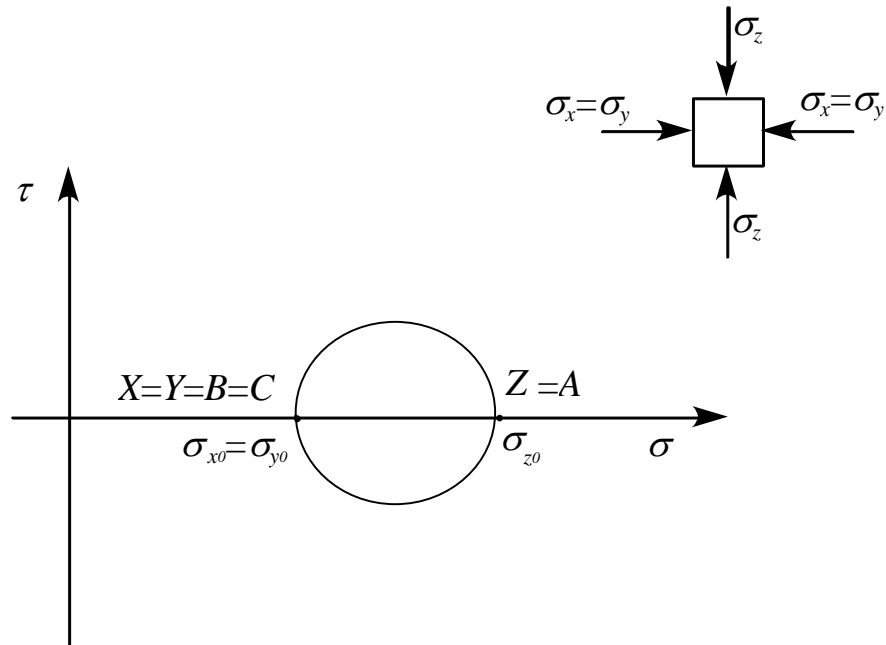
NB: stato di sforzo omogeneo

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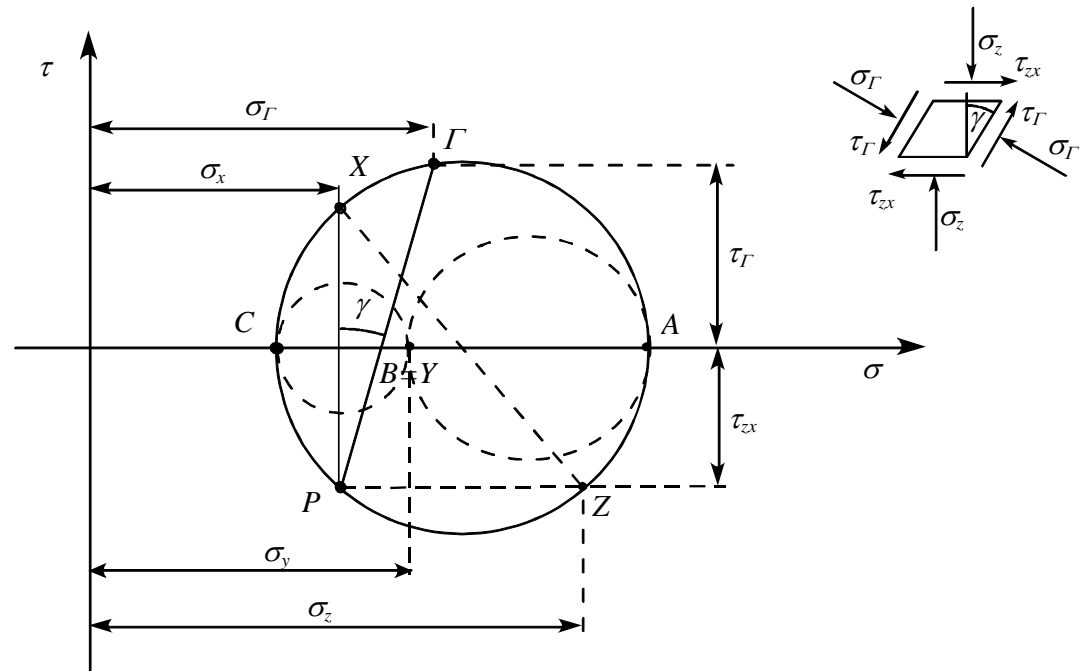
Lancellotta R. (1993) Geotecnica, ed. Zanichelli; Colombo P. Colleselli F (1996) , Elementi di geotecnica, ed. Zanichelli

Stato tensionale nell'apparecchio di taglio semplice

a)



b)



NB: stato di sforzo omogeneo

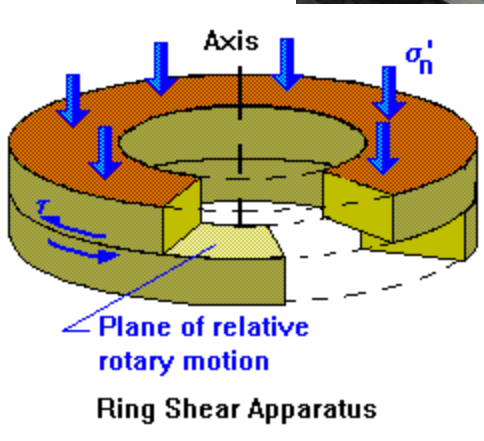
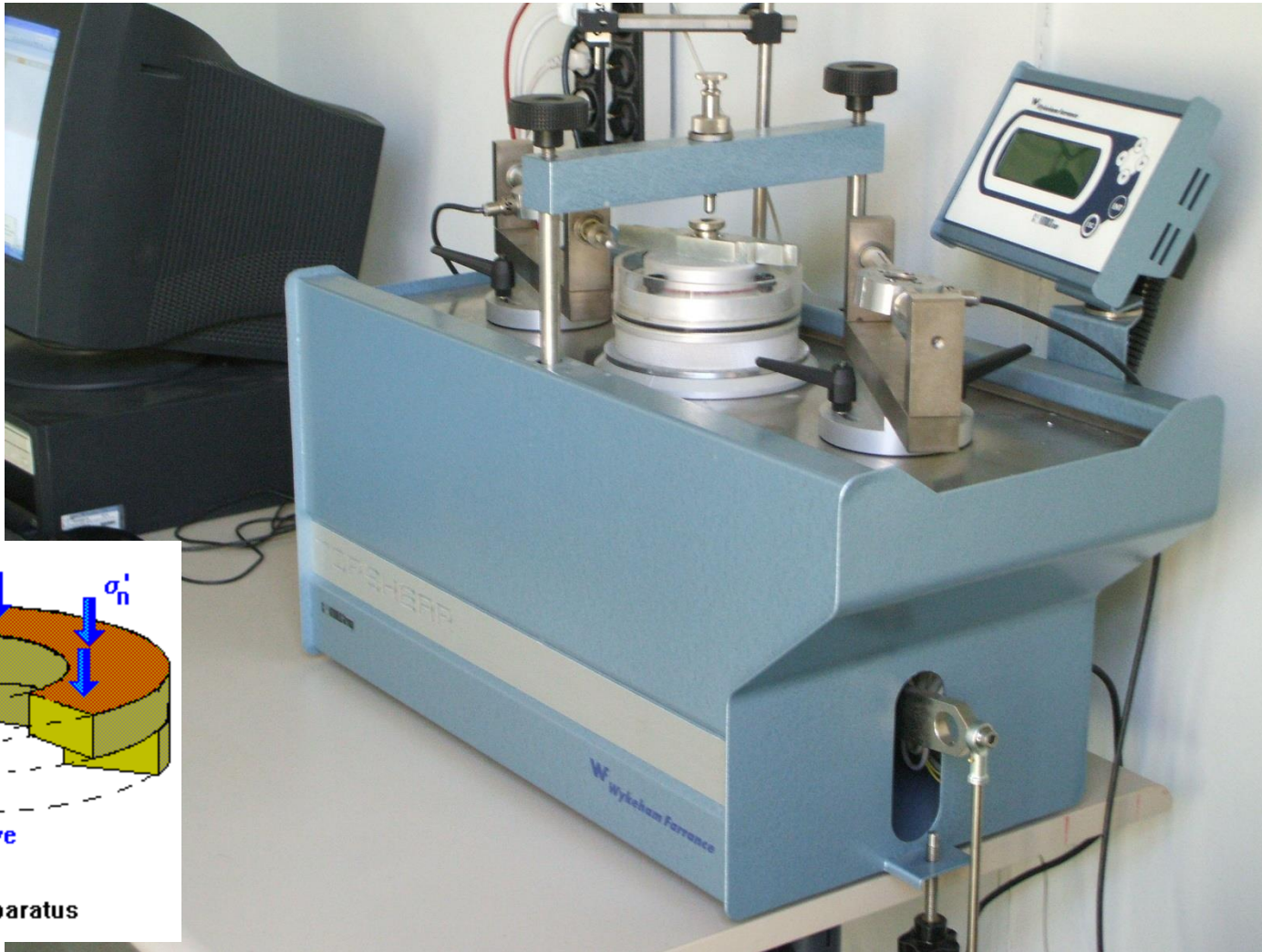
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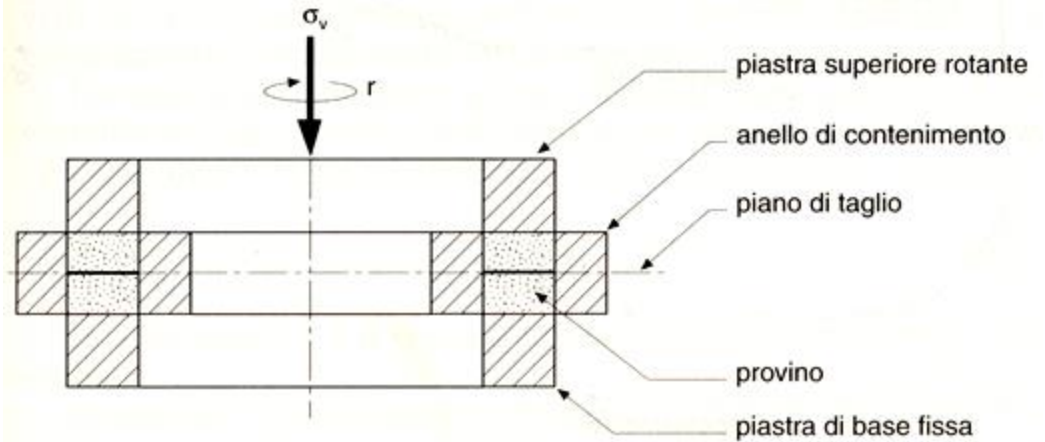
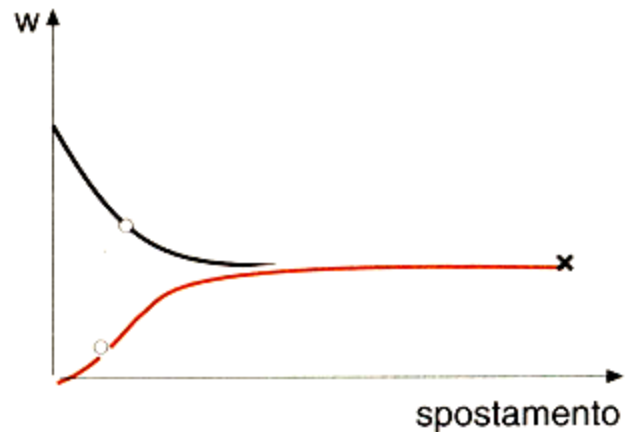
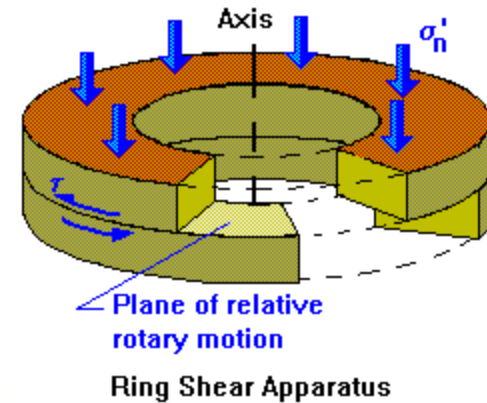
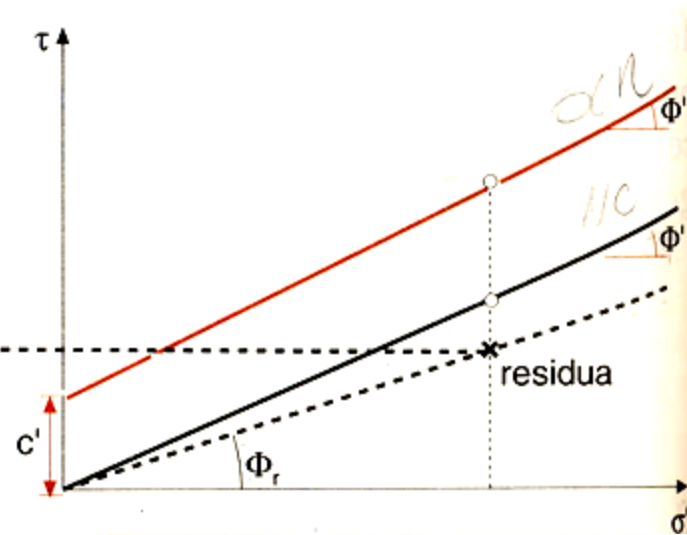
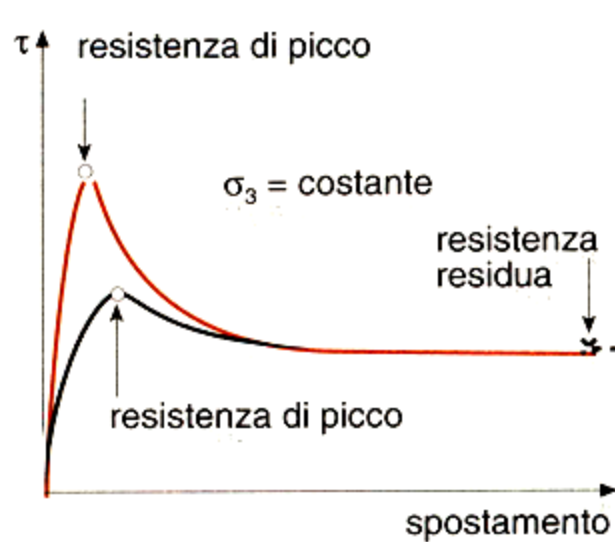
TDA: apparecchio di taglio anulare

Resistenza al taglio residua

Apparecchio di taglio torsionale



Resistenza al taglio residua

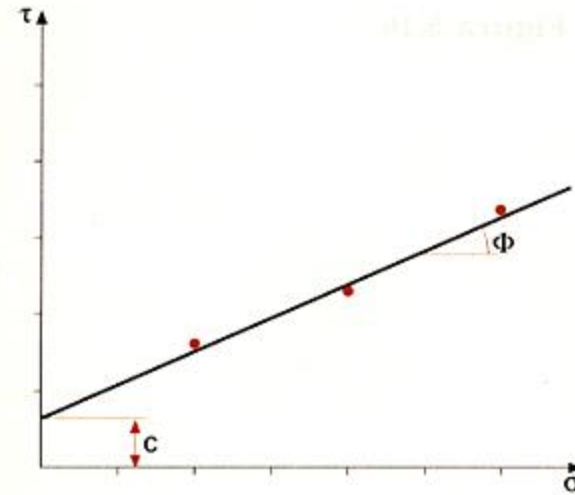
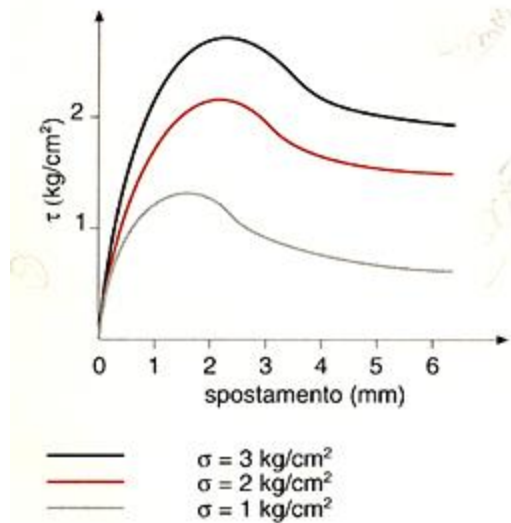
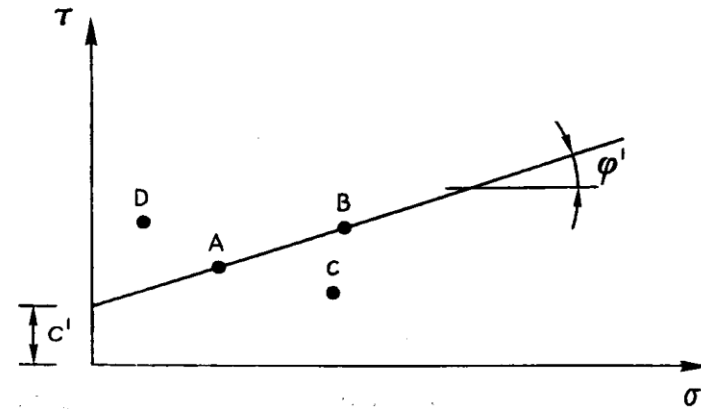
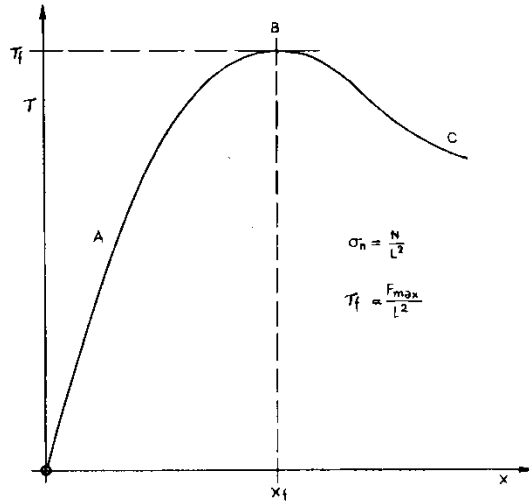


Apparecchio di taglio torsionale

Immagini tratte:
Colombo P. Colleselli F (1996), Elementi di geotecnica, ed. Zanichelli

Rielaborazioni e Risultati

Risultati prove e involucri di rottura

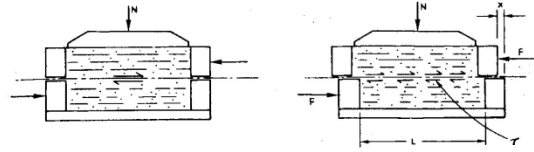


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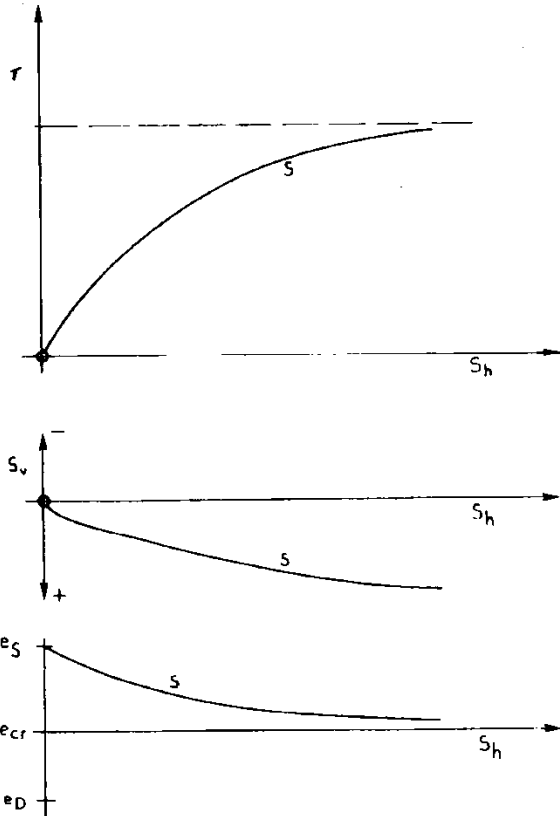
Nova R. (2002) Fondamenti di Meccanica delle Terre, ed. Mc Graw Hill.

Risultati prove su sabbia

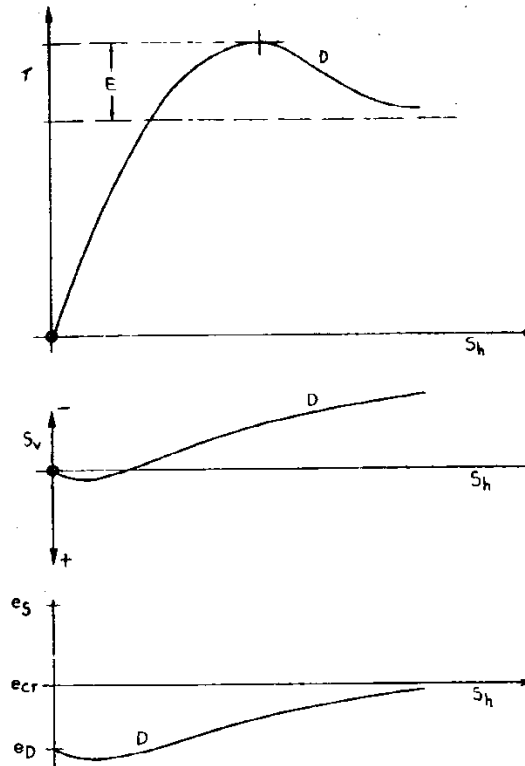
Sabbie sciolte



Sabbie dense



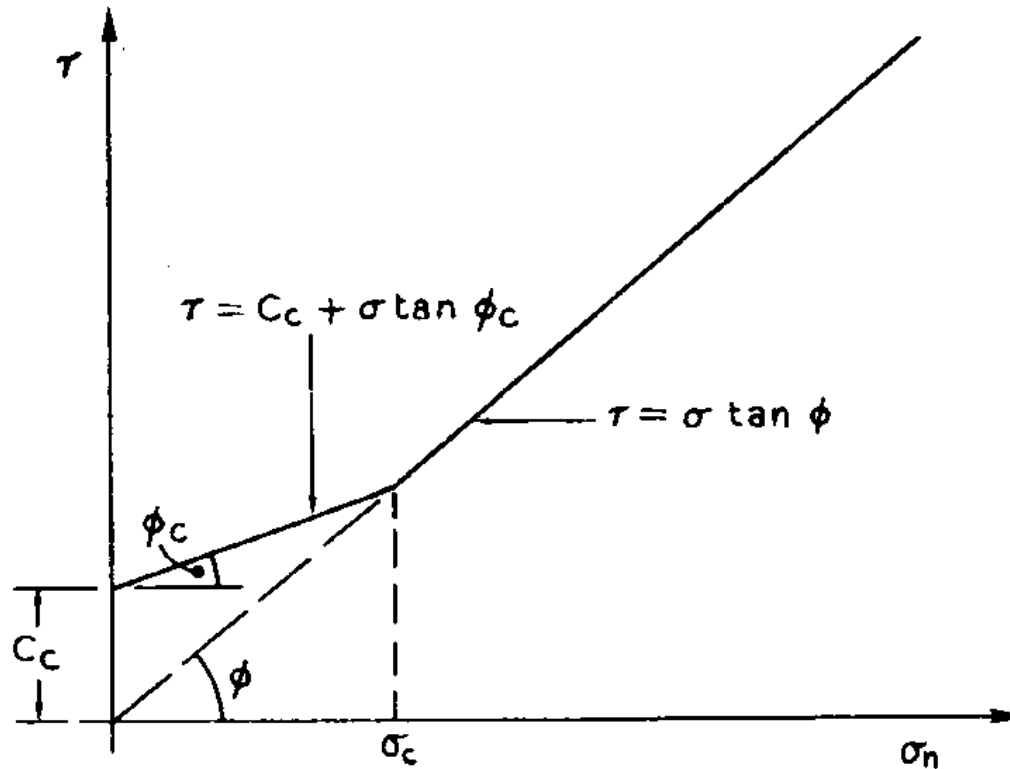
Comportamento delle sabbie sciolte nella prova di taglio diretto (Head, 1982)



- rigonfiamento
- + cedimento

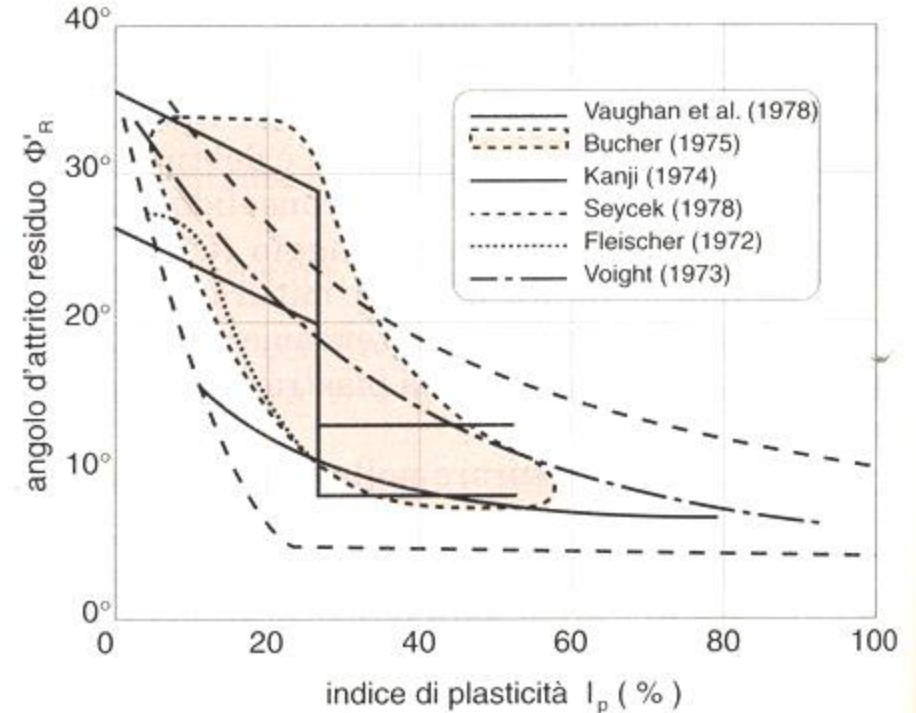
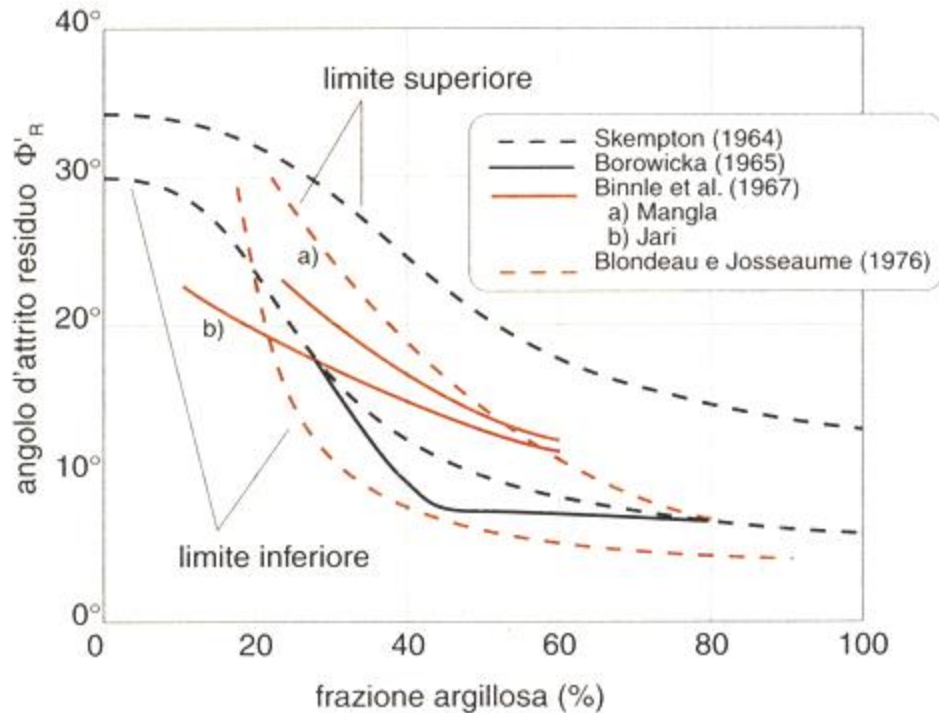
Comportamento delle sabbie addensate nella prova di taglio diretto (Head, 1982)

Sabbie cementate



*Involuppo di rottura nel caso di sabbie cementate
(Head, 1982)*

Resistenza al taglio residua



Immagini tratte:
Colombo P. Colleselli F (1996), Elementi di geotecnica, ed. Zanichelli