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Shear strength of soil and the mohr circle pdf

The shear strength of the soil soon slideshare loading... Like this presentation × 5? Why not share! 1. Shear strength of soil CEL 610 - Basic Engineering 2. The strength of other materials is the presence of steel tensile strength concrete compression strength soil shear strength pore water composite operation 3. strip shear shear failed soil soil usually fails in the shear upon failure, and the shear stress along the broken surface (mobilized shear resistance) reaches shear strength. Fault surface mobilization shear resistance 4. Retaining wall shear failure of soil soil usually fails in shear 5. The retaining wall of the soil reaches the shear strength failure, shear stress (mobilized shear resistance) along the faultsurface. Broken surface mobilization shear resistant soil usually fails in shear 6. Shear failure mechanism slid soil particles from each other along the broken surface. No grinding of individual grains. Fault ya surface 7. When the shear failure mechanism fails, the shear stress (y) reaches the shear strength (yf). σ γ q σ ϕ 8. Mohr-Coulomb failure criteria (in terms of total stress) yf is the maximum shear stress that the soil can take without failure, σ.σ φγ tan += cf c φ failure envelope cohesion n friction angle φf σ 9. Mohr-Coulomb failure criteria (in terms of effective stress) yf is the maximum shear stress that the soil can take without failure, and σ under normal and effective stress.'. σ 'tan', φγ += cf c' φ failure envelope effective cohesive effective friction angleif σ' u=γ 'u= u = pore pressure 10. Mohr-Coulomb failure criteria 'tan' φγ ff c+= shear strength consists of two components: cohesion and friction. σ'f φ's σ c'c'c'c' cohesive component σ'f tan φ's friction component 11. A measure of shear strength φ c. The higher the value, the higher the shear strength. 12. Mohr Circle of stress soil element σ' 1 σ' 1 σ 3 σ' 3 σ' 3 φ σ σ' φ 22 2 2 2 '3' 1' 3' 3 1 Cos Sin - + + = = Resolving forces in σ and '2' ' 2' 2' 2' | | |