

Soil Mass Loss Reduction during Rainfalls by Reinforcing the Slopes with the Surficial Confinement

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Abstract : Soil confinement systems serve as effective solutions to any erosion control project. Various confinements systems, namely triangular, circular and rectangular with the size of 50, 100, and 150 mm, and with a depth of 10 mm, were embedded in soil samples at slope angle of 60°deg;. The observed soil mass losses for the confined soil systems were much smaller than those from unconfined system. As a result, the size of confinement and rainfall intensity have a direct effect on the soil mass loss. The triangular and rectangular confinement systems showed the lowest and highest soil loss masses, respectively. The slopes also failed much faster in the unconfined system than in the confined slope.

Keywords : erosion control, soil confinement, soil erosion, slope stability

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