

# The effect of anchors pre-stressing forces on reinforced excavated wall

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چکیده :

The effect of pre-stressing the anchors in composite soil nailing with pre-stressed anchors, has been investigated on dry sand using particle image velocimetry (PIV) method. A small-scale model of reinforced excavated wall with composite soil nailing using pre-stressed anchors was prepared. After each step of excavating and loading the footing, digital photographs were taken. Using image processing on sequences of digital images, soil deformation and effect of pre-stressing were observed. Diagram of footing settlement against pressure and horizontal displacement of facing versus its height for different pre-stressing of anchors, have been plotted. The results show that increasing the pre-stressing, decrease the horizontal displacement of facing and increase bearing capacity of footing. Also it can be seen that maximum horizontal displacement of facing occurs in lower part of facing; however it occurs .in top of reinforced wall with nailing

کلید واژه : composite soil nailing with pre-stressed anchor, bearing capacity, strip footing, physical model test, PIV

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