

Comparison of Numerical and Laboratory Results of Pull-Out Test on Soil-Geogrid Interactions

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Abstract : The knowledge of soil-reinforcement interaction parameters is particularly important in the design of reinforced soil structures. The pull-out test is one of the most widely used tests in this regard. The results of tensile tests may be very sensitive to boundary conditions, and more research is needed for a better understanding of the Pull-out response of reinforcement, so numerical analysis using the finite element method can be a useful tool for the understanding of the Pull-out response of soil-geogrid interaction. The main objective of the present study is to compare the numerical and experimental results of Pull-out a test on geogrid-reinforced sandy soils interactions. Plaxis 2D finite element software is used for simulation. In the present study, the pull-out test modeling has been done on sandy soil. The effect of geogrid hardness was also investigated by considering two different types of geogrids. The numerical results curve had a good agreement with the pull-out laboratory results.

Keywords : plaxis, pull-out test, sand, soil- geogrid interaction

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