The 2024 World Congress on
Advances in Civil, Environmental, & Materials Research (ACEM24)
19-22, August, 2024, The K hotel, Seoul, Korea

Analysis on lateral resistance of precast bored piles based on experimental and numerical approach

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ABSTRACT

Experimental and numerical approaches in estimating the lateral resistance of a precast bored piles are presented. Experiments were conducted on a model scale test pile installed following the procedures identical to a precast bored pile – with additional cement layer along the pile shaft. The loading test was carried out by applying the lateral load on the cap which was placed on the head of the test pile. The effectiveness of the precast bored piles against lateral loading was emphasized with comparison to the conventional driven pile conditions, which is installed without the cement layer along the pile shaft. Moreover, an additional analysis based on numerical computation was also executed to validate the test results, as well as providing intensive parametric studies on major influence factors – such as cement layer thickness along the pile shaft and the water-cement ratio of the cement layer – which can be applied in actual field practice.

REFERENCES

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