

Numerical study on the performance of shell footing

ABSTRACT

This paper describes a study on the performance of shell footings using a non-linear finite element analysis with a finite element code, PLAXIS. The shell footing is found to have a better load carrying capacity compared with the conventional slab (flat) footing of similar cross sectional area. The FE analysis also showed a reasonably good agreement with the laboratory experimental results. The effect of increasing the embedment ratio is also studied and found to increase the load carrying capacity of the shell footings.

Keyword: Finite element analysis; Flat footing; Foundation; Shell footing