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## Strength enhancement of existing cement mortar using termite clay

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Cement mortar is a mixture of cement, sand and water with defined ratios. Portland cement manufacturing is very costly and energy-intensive process. Furthermore, it has a significant impact on environmental degradation and pollution, and may cause health hazards. Thus, the study aimed to investigate the performance of Portland cement that was partially replaced by termite mound clay to produced cement mortar in construction purposes. Termite clay is a widely available material in Sri Lanka and has been used in household work and the samples were obtained from Anuradhapura district Nachchaduwa area. Cement, sand, and termite clay were mixed with 10%, 25%, 50%, and 75% of replacement with termite clay and made two samples from each ratio to test for compressive strength. Tests were conducted for 50 mm cubic specimens and the compressive strength was measured at 7, 14, and 21 days of curing age. According to the results, the compressive strength of the mortar cubes remain the same as normal cement mortar up to 10% (by weight) of the termite clay replacement. Other samples showed significant declined in compressive strength. Thus, the study concluded that up to 10% of termite soil is suitable for the replacement of cement in mortar.

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