

EVALUATION OF BONDING STRENGTH AND COST-EFFECTIVENESS OF A SUBSTITUTE INTERNAL PLASTERING MIX

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Abstract: This research aims to identify an optimal plastering mix for internal wall applications that can serve as a substitute for the traditional mix used in the building construction industry. By experimenting with different proportions of cement, sand, wall filler, binder glue, and water, the study focuses on developing a mix with superior bonding strength and cost efficiency. Various combinations of these ingredients are investigated to determine the most effective mix, with bonding strength as the primary measure. A plaster adhesion test is conducted to compare the bonding strength of the new mix with that of a conventional mix used for internal plastering, and the cost variations of the newly developed mixes are also evaluated. The research identifies the optimal mix with the following ratio: 0.75 parts cement, 7.5 parts sand, 1.5 part internal wall filler, 0.1 part binder glue, and 1.5 parts water based on the volume. The findings provide valuable insights into the optimal proportions of ingredients that enhance bonding strength while being cost-effective, contributing to the field by offering an alternative plastering mix that could improve the efficiency and quality of internal wall plastering in the construction industry.

Keywords: Wall Plastering, Bonding Strength, Adhesion, Cost Optimization