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Investigating the Potential of Using an Alternative Finishing Material for CounterTop Construction as a Cost-Effective Solution

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Current economic situation, material price hike and shortage of materials have directly and indirectly caused an unprecedented price increment in finishing materials and total cost of construction, specially in finishing stages. Therefore, finding alternative materials that are cost effective without sacrificing quality and appearance has become a vital need. With the popularisation of an open kitchen and open pantry concepts, countertop construction has gained more attention in terms of the aesthetics and appearance as well as function. Thus, a research series was initiated with the aim of investigating the feasibility of the ferrocement as an alternative material for countertop construction while maintaining the intended appearance and functional requirements. The paper presents the findings of the initial stage of the research conducted to assess the cost effectiveness of the proposed alternative material prior to further experimentation on material development. An onsite experiment was carried out to construct a prototype countertop and check the feasibility of construction. Ferrocement panel with a dimensions of 1200mm X 600mm X 20 mm was cast for the study. Epoxy coating was applied on ferrocement body to achieve desired water absorption rate and aesthetic appearance of the final product. Since the prototype construction was successful, a cost comparison was conducted. The total production cost was calculated and compared with same size conventional granite countertop construction. Accordingly, sq.ft rate of ferrocement countertop was calculated to be Rs. 1536.08. Results showed that 41.7% cost saving could be achieved while keeping the desired aesthetical qualities and water absorption limits. This could be a feasible alternative for countertop construction in Sri Lanka.

Keywords: *countertops, ferrocement, cost effective materials*