

## Development of a Bacterial Resistant Concrete for Use in Low Cost Kitchen Floors

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**Abstract :** The degrading effect due to bacterial growth on the structural integrity of concrete floor surfaces is predictable; this consequently cause development of surface micro cracks in which organisms penetrate through resulting in surface spalling. Hence, the need to develop mix design meeting the requirement of floor surfaces exposed to aggressive agent to improve certain material properties with good workability, extended lifespan and low cost is essential. In this work, tests were performed to examine the microbial activity on kitchen floor surfaces and the effect of adding admixtures. The biochemical test shows the existence of microorganisms (*E.coli*, *Streptococcus*) on newly casted structure. Of up to 6% porosity was reduced and improvement on structural integrity was observed upon adding mineral admixtures from the concrete mortar. The SEM result after 84 days of curing specimens, shows that chemical admixtures have significant role to enable retard bacterial penetration and good quality structure is achieved.

**Keywords :** admixture, organisms, porosity, strength

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