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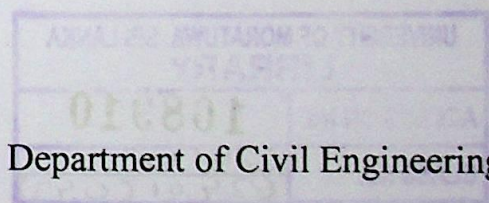
STUDY ON WATERPROOFING METHODS OF ROOF TOP SLABS

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Thesis/Dissertation submitted in partial fulfillment of the requirements for the degree
of MEng in Structural Engineering Design



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ABSTRACT

This research reports a study on waterproofing methods of roof top slabs in Sri Lanka. Waterproofing has become an essential component of a structure to protect its aesthetic appearance, prevent structural damages and for the safety of the occupants. Accordingly the type and the method of waterproofing required may vary with the location & exposure conditions. In the construction industry, many commercially available materials are used for waterproofing roof slabs.

Under this research, field surveys were carried out to identify the types of waterproofing material, different methods of applications & quality controlling measures related to waterproofing. Furthermore, issues related to waterproofing were studied to identify common problems, which can be arrived in a functioning building. Then the rectifying methods and their performance related to such issues were also studied. A laboratory test series was performed on commercially available waterproofing materials to check their suitability. For this both liquid applied waterproofing materials and admixture type waterproofing materials were used. Three specimens were prepared using each waterproofing materials. They were checked for water absorption under laboratory condition for 24 hrs. Two types of water absorption tests were done to study the effectiveness of the selected waterproofing materials. Furthermore specimens with integral admixtures were tested under compressive strength test to identify any increase in their compressive strength due to crystalline formation.

Finally from the experiment it is concluded that liquid applied waterproofing systems perform better than the integral waterproofing systems. Among the used waterproofing materials, K11 flex waterproofing coating showed better performance than the other materials. And also compressive strength has been slightly increased of specimens with admixtures.

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