EXPERIMENTAL ANALYSIS OF WATERPROOFING SOLUTIONS FOR PEPPER JOINTS: A CASE STUDY AT ITC PROJECT COLOMBO

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Abstract: The research is mainly aimed at long lasting waterproofing solution for the slab joint in the ITC project by comparing following three materials; Polyurethane, Cementitious, and Polyethylene by focusing mainly on cost and durability. Dummy slabs are casted and subjected to a ponding test to evaluate the effectiveness of each waterproofing material. The ponding test was conducted for 24 hours, and height of water level measured after 24 hrs and cost per each waterproofing method was documented. Multi criteria analysis was performed using normalization to compare materials using common scale. Weights for cost and durability assigned based on expert interview with durability given higher priority. This study provides a comprehensive methodology for evaluating waterproofing materials, combining practical testing with robust analytical techniques.

Keywords: Multi-Criteria Analysis, Waterproofing, Normalization, Cost Effectiveness, Durability, Ponding Test.