

## Prioritization Ranking for Managing Moisture Problems in a Building

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**Abstract :** Accumulation of moisture is one of the most worrisome aspects of a building. Architects and engineers tend to ignore its vitality during the designing and construction stage. Major fatalities in buildings can be caused by it. People avoid spending a lot of money on waterproofing. If the same mistake is repeated, no deep thinking is done. The quality of workmanship and construction is depleting due to negligence. It is important to do an analysis of the water maintenance issues happening in the current buildings and give a database for all the factors that are causing the defect. In this research, surveys are done with two waterproofing consultants, two client engineers, and two project managers. The survey was based on a matrix that was based on the causes of water maintenance issues. There were around 100 causes that were identified. The causes were categorized into six, namely, manpower, finance, method, management, environment, and material. In the matrices, the causes on the x-direction matched with the causes on the y-direction. 3 Likert scale was used to make a pairwise comparison between causes on each cell. Matrices were evaluated for the main categories and for each category separately. A final ranking was done by the weights achieved, and 'cracks arriving from various construction joints' was the highest with 0.57 relative significance, and 'usage of the material' was the lowest with 0.03 relative significance. Twelve defects due to water leakage were identified, and interviewees were asked to make a pairwise comparison of them, too, to understand the priorities. When the list of causes is achieved, the prioritization as per the stratification analysis is done. This will be beneficial to the consultants and contractors as they will get a primary idea of which causes to focus on.

**Keywords :** water leakage, survey, causes, matrices, prioritization

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