



Structural Audit of building

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ABSTRACT

Structural audit is actually the overall performance of old building whether it is lively or not. Some of buildings are have reduced its durability due to climatic changes and weakness so that it is very important to check out the buildings performance and aware the people about it otherwise it may be very dangerous to the residents and their lives. Structural audit plays very important role in safety audit so that it may enhance the life of building hence it is more necessary with the help of NDT and destructive testing it makes very easy to conclude the health performance of building. The basic objectives of NDT are to understand, identify, protect and study stress and formulations and also gives remedies for repairs. Rebound hammers and UPV test are conducted on old building to know its present condition and after that it is found to be critical and doubtful after testing the average compressive strength of concrete based on rebound hammer test is observed 21.38 N/mm² in structure which may be carried by $\pm 25\%$ the UPV qualitative estimation of strength of concrete. The given building is defective in visual inspection and comes under unsafe criteria and needs more attention to improve the structure and make it more durable many of cracks in column, beams and slabs disintegration of concrete and expose still reinforcement, deterioration of concrete, corrosion in the reinforcement et cetera defects are found in structure this may lead to failure of structure has given building needs more attention to repair and as per visual inspection the structure falls under V3 category as immediate action is required towards the structure.

Keywords: Structural audit; Non-destructive testing, Visual inspection, Evaluation.

INTRODUCTION

Has stated structural audit is an important tool for knowing the real status of the old buildings. The audit should highlight and investigate all the risk areas, critical areas and whether the building needs immediate attention. If the building has changed the user, from residential to commercial or industrial, this should bring out the impact of such a change. This Publication gives step by step guidelines for carrying out structural audit of old buildings[1]. This paper deals to create awareness amongst the civil engineers and for the users of public bridges towards the health examination of existing bridges in India. Therefore now days it is important and need of present generation to do the regular check-up of old bridges for that purpose this paper gives some knowledge about the strength test and factors affecting the health of bridge. It is process of analyses of bridges. And this process suggest a appropriate repairs and remedial measures required for the bridges to perform better in its service life structural audit is an important tool for knowing the real health status of the old bridges[2]. Have estimated the soundness of existing structures whose life has crossed the age of thirty years. Concrete constructions are generally expected to give trouble free service throughout its intended design life. The deterioration of buildings can be a result of various factors including fire damage, frost action, chemical attack. during the life span of the structure. The investigation of soundness is thus essential for finding the present serviceability of the structure and its scope for future developments or for the change in its utilization[3]. Have stated the management and maintenance of the built heritage is one of the main concerns of the owners of concrete structures. Combining NDT methods is currently considered as one of the most appropriate ways to improve the quality of the diagnosis of concrete structures. This paper describes a French project named[4]. Studied that before going in detail about the structural audit is necessary to know about the structure. A structure is a system of inter connected elements to carry loads safely to underground earth. The health examination of concrete building called as structural audit. The author shows different methods in paper: E.g. Visual inspection, non-destructive test[5]. The above paper gives the information regarding the importance of structural audit and steps involved in conducting it that should be strictly carried out for an old structure. The structures whose life span has been more than 25 years an overall health and performance check-up of structure should be conducted.

It emphasizes on different repairs and retro fitting measure to be used for buildings after structural audit. It also mentions that as humans are mainly accommodated in such structures so it is of prime importance to conduct the audit so that it can

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