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## **STURCTURAL HEALTH AUDIT AND JACKETING**

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### **ABSTRACT**

This information is combined with advanced post-processing tools to infer on the current operational Current state and remaining life. The choice of particular NDT method depends upon property of concrete to be Daignosed such as strength, corrosion, crack monitoring etc.

Jacketing is a Part Of Retro fitting i.e Repair, Renovations, Strengthening.

It Improves Axial And Shear Strengtrh Of Column And Major strengthening of Foundation May Be Avoid .

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### **INTRODUCTION**

Construction activity in India is growing geometrically without a corresponding increase in the availability of in terms of materials and skilled workers. The gap between planned quality and achieved quality is still widening. Factors contributing to damage/defects in buildings thus became inherent already in the phase. They are often hidden under external plasters, and the defect only becomes apparent over time. Constructed buildings usually lose their strength when the building ages, usually after 20 or 35 years. Over time, these buildings have lost due to material deterioration, unexpected overloading, structural deficiency, or physical damage. If such a damaged structure continues to be used, it may cause serious loss of life and property. Before any of the repair procedure, it is necessary to have a planned approach to examine the condition of the concrete reinforcement. While a diagnosis of impairment is appropriate in some cases straightforward thing , it may not be many cases. cannot be readily to be explained or when prognosis in terms of long term performance of restored structure is to be made.

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### **PROBLEM STATEMENT**

1. Building is old And Require To Strengthen and For Maintainance
2. Can Any Measure Be Taken To Safe Guard It ?
3. Expantion Of Room Over Slab

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### **SCOPE OF WORK**

1. To used as an Major part of general structural health monitoring system.
2. To determination of quality and homogeneity of materials, without affecting the performance, serviceability of a structure during their evaluation.
3. It Increases Seismic Capacity Of Coulmn

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### **CONCLUSION FROM LITERATURE SURVEY**

1. Changes in Compressive strength.
2. Knowing the probability of corrosion, the buildings can be restored by using different chemical treatments proposed for steel. The embedded steel can also be protected using cathodic protection of steel method, but the process may not be cost effective.
3. Coating over steel bars is a short time solution for buildings. This results in causing weak bonding between steel and

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## METHODOLOGY AND BASIC TESTS

- Non destructive test of Rebound Hammer
- Jacketing By Steel Section
- REBOUND HAMMER TEST
- Rebound hammer is an instrument or a device, which is used to assess the relative compressive strength of concrete based on the hardness at or near its exposed surface
- Rebound hammer is also known as Schmidt's hammer or Swiss hammer it is invented by Ernst schmidt, a Swiss engineer.



Fig 1.0

### Retrofitting By Steel Section

1. Steel Section Are Among Most Economical And Common way Of Retrofitting
2. It Using Of Steel Section For Under Support For Beams To increases Tensile Strength
3. The Stress In Overlay Portion Are Distributed On this Section

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## CONCLUSIONS FROM TEST

1. As Structure Age Passes Old The Strength of Concrete Get Decreases
2. As For Addition Of Room Over Existing Structure Additional Support Is Given to the Structure
3. Minor Cracks Are should Be filled By High Pressure Chemical Grouting



Fig 2.0



Fig 3.0

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### FINAL VERDICT

1. Strength of Composite Structure / Load Bearing Structure Decreases By the Age
2. If You have to increase The Strength of Part You Should Have to Add Steel section Undeameath

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### TECHNIQUES USED FOR RETROFITTING

1. Floor Beam
2. ISMB 100
3. MAPIE Adhesives
4. Fosroc P211
5. Retro Fitting By Steel Section

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