



M. M. CONSTRUCTION/CONSULTS

An ISO 9001 :2015 Certified Company

To,

Managing Committee

Sir / Madam ,

We are a group of *Engineers , Architect , Auditors* and *Structural Engineers* for carrying out the Residential Building / Industrial Buildings *structural Audits* And provide *Repair Maintenance services*. Like , *The Civil repair, Structural strengthening , plumbing rectifications / up gradation, restoration, waterproofing , painting And many more work for residential commercial buildings and wish to serve you same for your esteemed society.*

These are the vital detailing we cover in our report

Structural Audit:

M. M.CONSTRUCTION / CONSULTS provides overall health and performance checkup of a building, like a doctor examining a patient. It ensures that the building and its premises are safe and contain no risks. It analyses and suggests appropriate repairs and retrofitting measures required for the buildings to perform better in its service life. Structural audit is done by experienced structural consultants.

STRUCTURAL REPORT STEPS

STEP-1

- a. Structural Inspection with visuals and tapping for External areas - Terrace area, Columns / Beams, Water Tanks, Parapet and Chajja's conditions, Plumbing condition, Common areas water logging, Common Passages, Dead wall water seepage, Drainage lines, Basement seepage and dampness, Plaster condition, Seepages at Wet and dry areas, Paint conditions, Plinth areas, RCC sunshades and others.
- b. Inspection for Common Internal areas (including staircase, Basements, Commercial shops, Lobby and Passage) for identification of deficiencies / damages.
- c. Inspection of property, structural and non-structural part of every flat and commercial establishment from inside. Noting damages for source analysis purpose.
- d. Submit the report for the extent of damages, precautionary measures and repair measures towards restoration purpose.
- e. Our specialization: Evaluate optimum repair work including BOQ, Budget possibilities with various feasible alternative solutions available in the market. Suggesting best alternates after discussion with the owners.
- f. Attaching photographic evidence for the condition of specific damages along with appropriate remarks.



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Non-Destructive TESTS RCC Members (NDT test):

(We recommend these tests, only if our Structural Engineer desires to carry them for a building aged plus 20 years.)

NDT tests with brief details as follows

1. Ultrasonic Pulse velocity test: As per IS 13311 (Part 1) : 1992
2. Rebound Hammer test: IS 13311 (Part 2) : 1992
3. Half cell potential test: As per ASTM-C-876.
4. Carbonation Test: As per EN 14630 : 2007.
5. Concrete core test: As per IS 516:1959 (RA : 2008)
Lab testing method
6. Distress Mapping

Test with brief details as follows

For Load bearing structure. (Non RCC Member)

1. Wood and wood product test (moisture content) As per IS 1708 (Part 1) : 1986
2. Brick moisture content . . (% estimation)
3. Brick water absorption. . . (% estimation)
4. Thickness gauge for ISMB steel section .
5. plaster strength .
6. Corrosion . (% estimation)
7. Chemical analysis Sulphate nitrate

STEP-2

1. Prepare final detailed BOQ.
2. Prepare comparative technical statement.

Building Health Report, Observation Brief Estimate with (Building testing) NDT testing .

STEP -3

1. To look forward for QA/QC during repair if any.

Benefits of Structural Audits:

Structural Audit enables the Society / organizations to address the issues by identifying the following:

1. To recognize the types of structural defects.
2. To identify any signs of material deterioration.
3. To identify any signs of structural distress and deformation.
4. To identify any alteration and addition in the structure, misuse which may result in overloading.

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5. Structural Audit is an important tool for knowing the real status of the old buildings.
6. The Audit highlights & investigates all the risk areas, critical areas and whether the building needs
7. Immediate attention. It should also cover the structural analysis of the existing frame and
8. Pinpoints the weak structural areas for static, wind & earthquake loads.

SOCIETY BYE LAWS FOR STRUCTURAL AUDIT

As per clause No.77 of revised Bye-Laws of Cooperative Housing Societies: "The Society shall cause the 'Structural Audit' of the building as follows:

1. For building aging between 15 to 30 years once in 5 years .
2. For building aging above 30 years once in 3 years .

FOR INDUSTRIAL PLANT – As due to **Continuous running** And **High Vibration** produce by different machinery on structural members we recommend to carry out structural audit in every 12 months .

In case of any clarification, please feel free to call / write to the undersigned. Thanking you and look forward for our association.

With Best Regards,

For M.M.CONSTRUCTION/CONSULTS



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REBOUND HAMMER TEST



CORE CUTTING TEST

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CARBONATION DEPTH TEST



ULTRA PULSE VELOCITY TEST



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HALF CELL POTENTIAL TEST



CORE SAMPLING

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