

## Understanding Structural Audit

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### Need:

The general health and performance of a building depends on its quality of maintenance. As a building grows old, it becomes more vulnerable due to ageing, use (or misuse) and exposure to the environment. This can affect the health of the building significantly. Therefore, as the building becomes older, it is advisable to monitor its health periodically by taking a professional opinion. This is similar to the periodic health checkup recommended for older people.

### What is Structural Audit?

Structural Audit is a preliminary technical survey of a building to assess its general health as a civil engineering structure. It is based on visual survey by a competent consultant who lists his observations and recommendations in form of a Structural Audit Report. It is usually initiated as the first step for repair. A methodology for Structural Audit was first presented by the Indian Society of Structural Engineers.

### Provisions in Bye-Law:

Model bye-law no. 77 specifies Structural Audit as a mandatory (necessary and binding) requirement. It stipulates that if the age of a building is 15 to 30 years, Structural Audit must be carried out once in 5 years and for buildings older than 30 years it should be carried out once in 3 years. You may, however, go for it even earlier if you suspect the condition of your building to be bad.

### Who can carry out Structural Audit?

In major cities like Mumbai, the municipal corporations maintain a panel of civil/ structural engineers who are licensed as consultants to carry out structural design of new buildings. Such engineers can carry out Structural Audit. There is no separate panel prepared for Structural Audit. In less urban areas, engineers who are registered with local authorities may carry out Structural Audit. In other areas where there is no system of registration, engineers who are members of the Institution of Engineers or Indian Society of Structural Engineers may carry out Structural Audit.

### Scope of Structural Audit:

Structural Audit broadly consists of two types of surveys. The External Survey covers building faces, common areas (stilts, staircase, terrace, projections etc), surroundings and ancillary structures (pump room, compound wall, water tanks etc). The Internal Survey covers individually owned units such as apartments, shops etc. All units must be surveyed, except those, which are inaccessible. Members can also brief the Consultant about their specific observations/ experiences. The Managing Committee should provide the Consultant with information about the building's repair history. Common instruments used are a light tapping hammer, damp detector, spirit level, magnifying glass etc. The Consultant must have adequate experience and good engineering judgment to correlate his observations to draft unambiguous and useful recommendations concerning the general health of the building. Further action by the CHS would depend on the recommendations of the Report.

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