

13. REPAIR

1. Glossary of hyponyms related to repair

Repair

This is the action taken up on a building by patching up superficial defects and building finishes in order to bring back the architectural shape of the building so that all services start working and the functioning of building is resumed quickly. Repair does not pretend to improve the structural strength of the building

Reconstruction

If the original building or some elements of the building missing or critically damaged to carry out any repair, then they are re-created in all new, appropriate material. This is called reconstruction.

Rehabilitation

It is the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values. Here, although emphasis is provided to retain and repair the historic materials but more liberty is provided to replacement because it is assumed the structure severely damaged is severely damaged prior to work.

Retrofit

Retrofitting is the process of upgrading the building which is still in good condition; so that it becomes safe against future damage which may likely occur in near future. Thus retrofit involves making changes to the buildings at some point after its initial construction and occupation.

2. Building joints

A joint is a simple groove cut positioned on the surface of the concrete. These are provided to allow some cracking to occur there

Control/Contraction Joints

The purpose of a control joint is to divide a large area (brick, concrete, etc.) into smaller areas to make cracking less likely or to encourage any cracking to occur in the selected location. Control joints are usually non-working joints, except in the case of a brick wall where they act to accommodate expansion and contraction due to heating and cooling.

Isolation/ expansion joints

An isolation joint prevents movement in one part of a building from affecting other parts of the building. The most common isolation joint is the "expansion joint." Every building has major expansion joints that divide the building into segments; these joints go through the structure such as a wall or a roof and are continuous through the entire building.

Construction joints

A construction joint is a joint in concrete where one placement of concrete ends and the next placement was begun after the setting up of previous work. They are typically placed at the end of a day's work but may be required when concrete placement is stopped for longer than the initial setting time of concrete.

3. Building cracks

A crack is a complete or incomplete separation of concrete or masonry into two or more parts produced by its breaking or fracturing. Cracks in buildings could be broadly classified as structural or non-structural type.

Structural crack: These occur due to *incorrect design, faulty construction or overloading* and these may endanger the safety of a building. E.g., extensive cracking of an RCC beam.

Non-structural crack: These cracks mostly developed due to internally induced stresses in buildings materials due to *moisture variations, temperature variation, elastic deformations, creep, chemical reaction, foundation movement, vegetation growth* etc. Non-structural cracks do not endanger safety of a building but may look unsightly and create a feeling of instability and impression of faulty construction. Sometimes, these cracks may allow penetration of moisture through them thus resulting in damages to internal finishes or corrosion of reinforcement thus affecting stability of structure in long run.

4. Types of building repairs

Day-to-day Repair

These repairs include service repairs which need to be attended on day to day basis during the services of the building. Examples for such repairs are removing chokage of drainage pipes, man holes, restoration of water supply, replacement of blown fuses, repairs to faulty switches, watering of plants, lawn mowing, hedge cutting, sweeping of leaf falls etc. The purpose of this maintenance service is to ensure satisfactory continuous functioning of various services in the buildings.

Annual or Periodic Repairs

These are the regular repair works which are carried out at a longer time intervals, say one year, to maintain the aesthetics of buildings and services as well as to preserve its life.

Special Repair

Special repairs of building are undertaken to replace the existing parts of buildings and services which get deteriorated on ageing of buildings. It is necessary to prevent the structure and services from deterioration and restore it back to its original conditions to the extent possible. Extensive floor improvement, replacement of roof tiles, major joinery replacement normally falls under this category.

5. Maintenance of Buildings

Building maintenance is work undertaken to keep, restore or improve every part of a building, its services to a currently acceptable standard and to sustain the utility and value of the facility. Building maintenance works can be classified into three categories: *preventive maintenance*, *routine maintenance* and *corrective maintenance*.

Preventive Maintenance (/Breakdown maintenance)

Preventive maintenance is carried out to avoid breakdown of machinery and occurrence of maintenance problems in buildings and services.

Routine Maintenance

This is the most frequently done activity of all and is done by performing routine and scheduled maintenance of the property. Changing equipment filters, cleaning gutters, removing debris from roof drains, caulking, office cleaning, window cleaning and repairs, and parking lot care are just a few of the many items that require scheduled maintenance.

Corrective Maintenance

These are actual repairs that keep the property functioning normally and usually need to be done as soon as possible. The repairs are usually done in response to something breaking or not working properly anymore. This type of maintenance includes replacing a broken air conditioning unit, fixing a dripping faucet, unclogging drains, replacing light bulbs, or repairing a non-functioning toilet.