

## *Defects in buildings and their identification*

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**Abstract:** *The types of residential buildings in Uzbekistan in terms of their life expectancy, defects resulting from regional, subjective factors that negatively affect their life expectancy, their types and methods of determination are included.*

**Key words:** *building, reliability, longevity, negative factors, exploitation, construction, defect, design, inspection.*

### INTRODUCTION

Ensuring that a person lives in a safe and comfortable environment is counted from the main goals and objectives of the country. Like the developed countries of the world, in recent years, much attention has been paid to the construction sector in our country.[1] The importance of ensuring the safety, durability of buildings and structures in global environmental situations that have arisen in recent years is that today there is a sharp increase in the volume of construction, a constantly growing trend in the need for building materials, requires that the buildings and structures being erected be strong, priority, reliable, earthquake-resistant, resistant to various influences.[2-18] Today, a theoretical and practical knowledge base and a methodological system complex have been formed, which is devoted to the issues of timely detection of problems arising in the process of operation of structures, extending the period of impeccable use of buildings and structures, ensuring the reliability and durability of structures. [3,5] The strength, priority, reliability and durability of buildings and structures depend on the condition of the structures they contain. In turn, the state of structures directly depends on the materials that made them up, the quality of construction and installation work, various influences on the process of using the building.

Longevity - such a period of a building or structure is understood that in combination with breaks that went into repair during this period, the operational qualities of the building are preserved [1]. Longevity - is determined by the service life of elements that cannot be changed in the process of overhaul: walls, frames, foundations. Longevity comes in 2 types: physical and technological (spiritual) longevity. In physical longevity, constructions will depend on physical and technical: robustness, Hermeticism, fire proofness, thermal and sound insulation and several other descriptions. The recommended longevity of buildings and structures is given in the table below.

Table 1.



Name of buildings	Service life
Temporary buildings and structures (raw materials storage warehouses, summer pavilions, temporary dormitories for working builders)	10 year
Facilities operating in a highly aggressive environment (reservoirs, oil, gas and chemical industry pipelines )	25 year
Public building buildings and structures (residential buildings, civil and industrial buildings) in normal working conditions	50 year
Unique buildings and structures (museums, theaters, stadiums, high-span building and structures )	More than 100

Factors that negatively affect buildings and structures are natural and man-made factors, which in turn are divided into external and internal types.

External factors include: climatic influences, dynamic influences, hydrogeological processes, the environment of influence, other types of disasters. [6-28]

We will also consider subjective factors that negatively affect the viability of residential premises. Subjective factors include: errors made at the pre-project stage and during the design process; errors made during the preparation, delivery, storage of structures in factory conditions; errors made during the construction and installation work process; errors made during the operation of buildings.

Defects and accident situations in buildings and structures are caused by a variety of factors—for example, insufficient implementation of engineering and geology exploration work, mistakes made by the designer during the design, improper selection of the site for construction, the use of low-quality and low-durability building materials, poor-quality execution of construction installation work, improper use of the building during. Defects in buildings can be classified according to the following characteristics: by Origin and time, by detail and importance. Defects are divided into two types by origin and time: 1. Accounts and errors that are allowed in search and project work; 2. Allowable accounts and errors in the construction process.

The defects are divided into invisible and visible types that are not directly visible during the detailed examination.

Methods. The formation and development of various defects and damage that arise in the structural elements due to any factors that reduce the strength of the building is a process that occurs in most cases. Timely maintenance of the premises will prevent its condition from reaching the state of emergency until the specified regulatory period of Service. Also, periodically carrying out periodic repairs in buildings creates the possibility of high-quality operation during the service life of this building. For this reason, the technical condition level of the building from the point of view of vital safety is an object to be studied. In the conduct of this work, it is required to prevent, identify, prevent the development, eliminate the occurrence of various defects that occur in them as a result of factors negatively affecting the viability of buildings and structures. [1,3-24]

The inspection of building structures of buildings and structures is carried out by a qualified team of engineering technicians who have undergone special training, have a special permit (license) for conducting inspection work, are provided with the necessary equipment and tools.

In accordance with the basics of operating buildings, load-bearing structures, external walls must be inspected by a technical officer once a year. The purpose of the inspection work, on the other hand, is to determine the actual technical condition of the building structures in relation to the time when the examination is carried out.



Inspection work is carried out in two stages: Preliminary or general examination; thorough examination. Preliminary observation of buildings-direct control in the general case in building structures is carried out, and their external signs are determined in all defects and damage. The inspection determines not only the physical condition of the building structures, but also their spiritual obsolescence, the need to demolish the building, whether it is possible to build a superstructure on the building or not, whether it is advisable to leave certain elements of the building unchanged. [5-32]

Results. According to the result of preliminary inspection, a preliminary assessment of the technical condition of the construction structures is given in terms of the degree of damage and characteristic manifestations of defects. Noted defects and lesions may be sufficient to identify the causes of their origin and assess the condition of the structure, and consequently have sufficient information to provide the necessary conclusions.

Conclusions. In the construction of residential buildings in our republic, there are cases when their exploitation does not comply with the level of demand, current norms, technical requirements. It is being discovered that defections caused by various factors in buildings and structures can cause them to remain intact, restricted, and in an accident state, while the strong influence of a single factor can lead to an increase in the influence of other factors. In order to ensure the viability of buildings, it is necessary to carry out scheduled technical inspections and repairs on time.

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