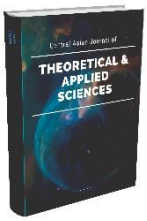

CENTRAL ASIAN JOURNAL OF THEORETICAL AND APPLIED SCIENCES

Volume: 04 Issue: 04 | Apr 2023 ISSN: 2660-5317
https://cajotas.centralasianstudies.org

Inspection and Assessment of the Technical Condition of Residential and Public Buildings

Sattarov Ikramboy Saparboevich
Candidate of Technical Sciences, Associate Professor,
SamSUAC (Samarkand State University of architecture and construction)

Sattarov Temur Ikramboevich
Chief Researcher of the L.L.C. "SAM MBI EKSPERTIZA"

Buriyeva Ruxsora Ulmas qizi
Student of SamSUAC

Received 4th Feb 2023, Accepted 6th Mar 2023, Online 20th Apr 2023

Abstract: *This article discusses the construction of residential and public buildings in our country, the technical requirements for them, as well as the negative, subjective impacts affecting them and the influence of the human factor, and measures to eliminate them. Timely detection and elimination of defects and damages, prevention of short-term wear and tear of buildings, purpose and methods of inspection for assessing the technical condition of buildings are considered.*

Keywords: *technical need, negative factors, wear, technical condition assessment, defect, and damage.*

Introduction. Today, in every region of our country, construction work is carried out at a rapid pace. A clear understanding of the measures implemented in the construction sector in Uzbekistan is associated with the construction of new, modern, and sky-scraper buildings. Newly built and under-construction buildings were privatized. This, in turn, led to real estate appraisals. In the process of assessing real estate, first of all, its technical condition plays an important role, that is, the degree of deterioration of the building, existing defects and damage, and the strength of the building are important.

To determine the value of a building, its technical condition, and the degree of exploitation are first analyzed, and then the price is determined using certain economic methods. Documentation of buildings and structures includes their certification, inventory, and mandatory examination of their technical condition. A technical assessment of the structures of buildings and structures is carried out to obtain accurate information about their strength and damage as well as a general assessment of the exploitation of the structures. When determining the actual bearing capacity of building and building structures, they are guided by the current norms and rules, and the loads and impacts are determined on the basis of the studies. The conclusion on the technical condition of the building serves as the basis for making a decision on the feasibility of a major overhaul or carrying out repair and restoration work in the facility. The examined building structures are divided into categories (according to their appearance,

characteristics, impact on the bearing capacity and performance) by systematizing various defects and damages.

In order to assess the technical condition of the building and draw a conclusion, the customer must provide the research team with the following documents:

- floor plan of the building;
- passports and certificates of materials;
- technical passport of the building,
- certificate of completion;
- working drafts;
- certificate of defects;
- the act of putting the facility into operation.

Method and style. Assessment of the technical condition of buildings and structures is necessary in the following cases:

- before the minor or major repairs of the building;
- when obtaining ownership of the building;
- when the property is presented as collateral;
- determine the level of damage in various insured events;
- when determining the level and category of depreciation of buildings located in the area of the planned reconstruction or construction;
- at the request of the customer, etc.

In the process of economic evaluation of real estate, the technical condition of the object is first of all assessed and its condition is carefully studied. In order to obtain information about the technical condition and constructive solutions of buildings and structures that are part of the assessed object, the appraiser conducts observational and inspection work with the involvement of specialists with a special license issued by the Ministry of Construction of the Republic of Uzbekistan.

There are two ways of assessing the technical condition of buildings and structures: visual inspection and inspection using tools.

The main purpose of assessing the technical condition of buildings and structures is to assess the technical condition of buildings and structures, engineering systems, and special equipment, which consists in studying damage, deterioration, and deformation of structural elements of buildings and structures, their classification, and the causes of their occurrence.

The assessment of the technical condition of buildings and structures is aimed at the qualitative and quantitative indicators characterizing the state and properties of the object, through the assessment, the processes occurring in the structures are studied, furthermore, determine the state of materials and structures during exploitation and their compliance with technical requirements [2].

Research and examination of structures and engineering equipment in buildings and structures, i.e., their technical examination, includes methods for controlling the quality of assembly of building elements and equipment. Through the control carried out according to these methods, it is determined that the building

structures and installation of equipment at the facility corresponding to the design parameters and can ensure their level of performance during operation.

The same methods of quality control of their preparation are also used in the study of the state of structures in operation. However, in many cases, it is necessary to study the actual operating conditions of exploited facilities under the influence of external factors. For such situations, for example, it is necessary to evaluate the structural and technical characteristics of the building, taking into account the deviation of its parameters from the calculated values.

Obtained results and observations. Increased requirements are imposed on the methods of technical inspection used in the analysis of the causes of disasters and accidents resulting from damage to structures during operation and endangering people's lives. It is required to identify defects that are typical for assessing the technical condition of buildings and structures and choose a method for calculating structures, increase their reliability, and develop recommendations for improving the technology of construction schemes, preparation of structures, their installation, and operation.

Buildings and structures can be considered as a system consisting of a large number of elements operating in a complex stress-strain state. Building structures and engineering equipment are characterized by a number of factors that predict events that may occur during their exploitation. Such factors include the strength characteristics of materials, loads acting on building elements, the environment, etc. During the preparation of individual elements, during their transportation and assembly, the design parameters may deviate from the values specified in the project. Therefore, in order to assess the technical condition of a building, structure, or engineering system, it is necessary to be able to predict their future work in advance, taking into account the relationship of their elements and the likely nature of the formation of properties. To do this, in addition to technical diagnostics, it is necessary to determine the level of object reliability.

The development of methods and tools for conducting research on building structures was supported by I.L. Korchinsky, K.I. Bezukhov, N. N. Aistov, N. A. Krylova, K. A. Glukhovsky, M. A. Novgorodsky, R. I. Aronov, D. E. Dolidze. A significant contribution was made by V. M. Serdyukova, A. G. Grigorenko, L. I. Krivileva, G. Ya. Pochtovik, A. I. Yakovlev, D. Yu. Zolotukhin, G. L. Khesin and others.

Non-destructive control of production and quality of reinforced concrete works was developed thanks to the work of A.I. Burkas, D.A. Korshunov, Z.M. Breitman, V.P. Glukhovsky, A.M. Polishchuk, L.G. Rode, I.E. Shkolnik, V.V. Sudakov, B.B. Uypolyavich.

Analysis of the consequences of accidents and accidents does not have a strict classification at the present time. In the works of V.Z. Vlasov, F.D. Dmitriev, B.I. Belyaev, V.S. Kornienko, M.N. Lashchenko, K.M. Sakhnovsky, A.M. Titov, A.N. Shkinev, F.S. Yasinsky, B.V. Ostroumov, B.V. Senderov, V.I. Karakozova, V.I Zolotukhin, theoretical studies, modeling and practical recommendations for eliminating accidents were developed, and the analysis of accidents was only generalized.

Reliability theory methods in construction were developed by V.V. Bolotin, A.R. Ryanitsyn S. A. Timashev, B. M. Kolotilkin, A. G. Roitman, V. D. Reiser, and other scientists.

The achievements of the scientists of our republic in the field of construction are worthy of praise. T. R. Rashidov, A. B. Ashrabov, K. S. Abdurashidov, S. R. Razzokov, A. V. Razhevsky, E. I. Tsipenyuk, and other scientists have achieved great results in studying the consequences of earthquakes in buildings, designing and testing of earthquake-resistant structures.

Ishonkhodzhaev A.A. developed the calculation of seismic resistance of engineering structures, Toychiev N.Zh worked on the optimal design of structures and methods for calculating their reliability, Mamazhonov R.K. defined resources. T.Sh.Shiringulov, K.K.Kazakbaev, H.Z.Rasulov, Z.S.Sirojiddinov

contributed to the study of the foundations. A significant contribution to spatial roofing structures was made by S.R. Razzokov, K.I. Rozhiev, I.S. Sattarov, B.I. Matniezov, O.B. Berdiev, N.S. Razzokov.

B. A. Askarov, A. A. Ashrabov, K. A. Akramov, A. A. Khadzhaev, Sh. R. Nizomov, Kh. U. Gambarov and others made a significant contribution to the study of building structures suitable for the conditions of the Central Asian region, especially, reinforced concrete structures [2].

After studying the technical condition of the building and assessing its condition, specialists draw up a conclusion. This summary includes:

- A detailed description of the object;
- results of construction control;
- information about all defects identified during the inspection;
- the results obtained during the testing of the material;
- various calculations, drawings, and diagrams.

The summary also includes conclusions and recommendations for making a decision on the need to strengthen load-bearing structures, major repairs, etc.

The results of the practice of operating buildings and structures and assessing their technical condition include:

- conditional acceptance of static calculation schemes and the difference (deviation) of the stresses calculated from the actual stresses arising in building structures;
- conditional acceptance of accounting descriptions of the materials used;
- possible deviation of loads from the calculated values;
- shows the necessity of taking into account the extraordinary impact of the external environment.

Theoretically, it is not always possible to fully assess the complex influence of these factors on the structure. For this reason, experimental studies and studies conducted on the structures of buildings are important.

Thus, all issues related to the development of methods for determining the technical condition of structures will never lose their relevance, and these methods will always be recognized as the most correct way to assess some acceptable states that can be taken by calculation, affecting the reliability of buildings and structures.

Conclusions and offers. The ancient buildings, monuments, mosques, and mausoleums standing in our country continue to amaze tourists from abroad to this day. This is a great legacy left to us by our ancestors. This includes the Registan, known as the "open-air museum" in Samarkand, the Bibi Khanum mausoleum, the tomb of Imam al-Bukhari, and many other famous places. There are such people not only in Samarkand but also in almost all regions of our country. But it will not be an exaggeration to say that such beautiful and original buildings are not being built in our country today. Ordinary buildings are not properly maintained by people, or fake builders build buildings that do not meet standards and regulations. The most appropriate in this regard is to increase the level of thinking of the population, change its worldview, and increase the level of knowledge about legal, architectural, and construction issues. Development of measures for not changing the overall layout of multi-story buildings. Increasing attention to public buildings, gaining control. Only if every citizen considers a public building as his own property, it will be able to extend its service life and serve for many years.

Our esteemed President Shavkat Mirziyoyev, like all other industries, pays great attention to the construction sector in the construction of New Uzbekistan. In particular, this year, on July 20, President Shavkat Mirziyoyev got acquainted with a presentation on the results of reforms in the field of architecture and construction. According to him, the Ministry of Construction has been tasked with updating 60 out of 337 urban planning norms and rules this year. At the beginning of the year, the Center for Technical Regulation in Construction was established at the Ministry, for which 15 qualified specialists were hired. Currently, 33 new urban planning rules and norms have been developed. The President sharply criticized cases of corruption and a "secret economy" in the field and emphasized the need to digitize the processes of conducting construction tenders and selecting contractors [8].

All this will definitely improve the quality of construction. The higher the quality of building construction, the more it affects their reliability and service life.

The list of used literature

1. N.J. To’ychiyev Bino va inshootlar konstruksiyasi. Darslik «Voris nashriyot» MChJ Toshkent - 2010.
2. I.S. Sattarov Binolar tashxisi va ekspertizasi. Darslik. Samarqand SamDCHTI nashriyot, 2022. -276b.
3. Saparboyevich S. I., Ikramboyevich S. T., Sattor o’g’li S. F. Deficiencies and Damages in Used Brick Buildings //European Journal of Life Safety and Stability (2660-9630). – 2022. – С. 126-129.
4. Saparboyevich S. I., Ikramboyevich S. T. LABOR PROTECTION AND SAFETY IN CONSTRUCTION RESEARCH //European Journal of Life Safety and Stability (2660-9630). – 2021. – Т. 2. – С. 9-12.
5. Saparboyevich S. I., Ikramboevich S. T., Sattor o'g'li S. F. Modern Strengthening Methods of Repair of Brick Buildings //European Journal of Life Safety and Stability (2660-9630). – 2021. – С. 120-125.
6. Tulakov E. S., Inoyatov D. T., Kurbonov A. S. Waterproofing and calculation of the thickness of the insulation of the basement wall of a low-rise energy-efficient house in accordance with domestic and foreign standards and norms //International Journal of Scientific and Technology Research. – 2019. – Т. 8. – №. 11. – С. 3311-3314.
7. Тулаков Э. С., Маматкулова З. Ш., Иноятов Д. Т. Учет сейсмического воздействия в расчетах отдельно стоящих сооружений при аварийном замачивании лессовых грунтов //Ta’lim fidoyilari. – 2022. – Т. 13. – С. 90-95.
8. https://uza.uz/oz/posts/qurilish-sohasidagi-islohotlar-natijadorligi-korib-chiqildi-20-07-2020

