

## CONSTRUCTIVE ANALYSIS OF MALEK ASHTAR COMPLEX IN SHAHRISABZ CITY

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### Abstract:

The growing interest in architectural monuments shows that the place and importance of architectural monuments in the world is incomparable. The intended purpose of the work is to evaluate the engineering analysis and technical condition of mausoleum and mosque-type buildings in Shakhrisabz.

**Keywords:** *mausoleum, engineering analysis, foundation, damage, deformation, strength, evaluation.*

### Introduction

**Brief description.** Uzbekistan has a unique architectural heritage that can turn the country into a tourist mecca and contribute significantly to the economy. Realizing the special importance of the architectural heritage in spiritual and economic development, as well as recognizing the country's international historical and cultural position, pays a great deal of attention to storage and restoration. Large sums of money will be allocated for the reconstruction of historic sites and cities [3].

"The Malik Ashtar" complex is located in the eponymous quarter of Shahrisabz and is a center of worship and memorial. "Malik Ashtar" was built in the end of the 19th century and the beginning of the 20th century. This "Malik Ashtar" mosque is a typical representative of the Central Asian architecture of the beginning of the 20th century. The "Malik Ashtar" Mosque is said to be related to the tomb legend of the "legendary Malik Ashtar-an imaginary chief of the Arab horsemen" and it is also said that the mosque was "built of burnt bricks" in the Russian style during the time of the last Amir [4]. The mosque and "khujra" buildings, combined with a very large courtyard, are of square bricks of the Russian style. built. The mosque building and the "khojahra" combined with a very large courtyard are built of square bricks in the Russian style. The eastern facade is distinguished by a small but thin portal: only the southern wing survives with three carved wooden columns with stalactite

capitals. The difference between the mosque building and the surrounding buildings is a very high shell-shaped when the dome is installed.

The interior has typical lancet niches, slightly deeper than the others, in the west gable shafts, which house a pair of doorways and the altar. The dome has an octagonal arch, the total height of the center is 14m.

The decorative decoration of the facade and interior of the mosque is modest. The V-shaped frames of the entrance portal's arched sill used terracotta blocks and tiles with geometric shapes stamped on them.



The current appearance of the "Malek Ashtar" mosque.

CONSTRUCTIVE ANALYSIS OF “MALEK ASHTAR” COMPLEX. “The Malik-Ashtar” complex first attracted the attention of researchers in the late 1940s. In 1940, the specialists of the Institute of Art History, who worked in Shakhrisabz, were mainly engaged in the study of folk architecture of the city. Malik-Ashtar accounts for only one line, where it is said to be "new" and "made of bricks."

In 1949, Shakhrisabz monuments architect A. It was inspected by Zaynuddinov for the purpose of admission to state protection. His report stated that at the time of inspection of the mosque, the North Porch was missing, the South Porch was intact, and traces of painting were still visible on the wooden structures on its ceiling. In addition, a ruined minaret was mentioned near the mosque, but it was not possible to know its exact location from the text of the report.



View of additional buildings near the "Malek Ashtar" mosque.

In 1954, the "Malik-Ashtar" mosque was founded by Frenkel N. N. was studied by, he gave the most competent and comparatively detailed description of the whole complex in his "field diary". Among other information, the author reads the date of construction of the complex (1903) on one of the decorative pillars of the bouquet that decorated the rooms of the complex at that time.

In 1978, memory Y. R. Asanov developed the restoration project of the "Gumbaz" mosque in "the Malik-Ashtar" complex. Before the revolution, "the Malik-Ashtar" complex was used for a specific purpose. The mosque served as a neighborhood mosque and a mosque school (school) for boys. The mosque may have served as a shrine for pilgrims visiting the cemetery. The history of the complex from the first years of the former Soviet Union is still unknown. In the years after the war, according to old people, the mosque and the hujras (inside room areas) were in the possession of the local military registration office, then they were handed over to the city committee, and the agricultural college was located here. There was a part of the "Hujra" dormitory for guests and a dining room in the Masjid building. In the following years, the Mosque building was used as a warehouse for foodstuffs (until 1971) and furniture (until 1979). The rooms were given to housing. Currently, the condition of the structures of "the Malik-Ashtar" mosque is satisfactory. But there are small cracks in the outer walls. These cracks widened after the Afghan earthquake of March 3, 2002. That is why

it is proposed to immediately carry out repair and restoration works in “the Malik Ashtar” complex.



View of the minaret of the "Malek Ashtar" mosque.

Basic, Foundation soils and their physical and mechanical properties. The engineering-geological conditions of Shahrisabz are as follows: the thickness of the bulk soil varies between 2.5 - 4.0 m, sometimes up to 5.0 m. The uncoated capacity of the cast layer in the study area is 1.0 - 2.5 m.

Subsidence soils, soil conditions for subsidence type-I.

During the study period, the groundwater level was not exposed by working to a depth of 2.5 m. According to the archive, the groundwater level rises to the surface in the summer. The depth of soil

freezing is 0.6 m. the seismicity of the area is 7 points. Soil class III according to seismic properties. The seismicity of the area is 8 points (QMQ 2.01.03-19, table.1.1).

The construction of architectural monuments has a complex shape, and the analysis of their dynamic parameters leads to mathematical difficulties.

The following experimental-theoretical method is proposed to determine the seismic tolerance of architectural monuments. Traditional methods are used in the calculation of the construction of monuments, and dynamic characteristics obtained by natural measurements are used in these forms.

Engineering studies show that architectural monuments are sensitive to any weak effects.

Currently, the "Malik Ashtar" mosque consists of a complex of buildings consisting of mosques and rooms located around the courtyard. The most important of them is the house, the dome of which is higher than the roofs of the nearby houses. The architectural solution is typical of neighborhood mosques. The mosque building was fully formed by the end of the 19th century.

Some historical sources mention that "Malik Ashtar" was a caravanserai along with a mosque. This can be seen from the small rooms adjacent to the mosque. There are more than twenty of them. In addition, there are ancient platforms in the courtyard of the mosque.

## REFERENCES:

1. Tsyryfa, I., Serbina, N., Meteliev, I., Goussous, J., & Chung, J.-K. (2023). Issues of preservation and restoration of historical monuments in the occupied territories. *International Journal of Environmental Studies*, 1–14. <https://doi.org/10.1080/00207233.2023.2270311>
2. Nazarova, M. K., Akhundjanov, D. G., & Zokirjonova, K. T. (2023). OTSENKA TECHNICHESKOGO SOSTOYANIYA PAMYATNIKOV ARCHITECTURE. *SCHOLAR*, 1(1), 74–81.
3. Shadmanova, Z. S., Maksudova, G. A., & Xoltayeva, A. K. (2022). LEGAL AND CONSTRUCTIVE ANALYSIS OF MONUMENTS OF ARCHITECTURE IN UZBEKISTAN. *Galaxy International Interdisciplinary Research Journal*, 10(2), 477-481.
4. Shadmanova, Z. S., Maksudova, G. A., & Xoltayeva, A. K. (2021). Analysis Of Construction of Architectural Monuments in Shahrisabz. *Zien Journal of Social Sciences and Humanities*, 1(1), 126-129.
5. K.S. Abdurashidov F.R. Kabulov B.K. Rakhimov Engineering problems of architectural memory. T., Izd. "Science", 2011, 350 p.
6. Abdurashidov K.S., Shadmanova Z.S. The analysis is structural arkhitekturnyx pamyatnikov Uzbekistana. \\Problemy mechanic-  
No. 3 of 1998. s. 42-45.
7. B.S. Rahmonov. Fundamentals of structure dynamics and earthquake resistance Tashkent - 2015

8. Wouters, I., Schoonjans, Y., & Adriaenssens, M. de B. & S. (2008). Integration of structural analysis of monuments and historical constructions in engineering and architecture studies. In *Structural Analysis of Historic Construction: Preserving Safety and Significance*, Two Volume Set. CRC Press.
9. Andrés, M. A. N., & Pozuelo, F . B. (2009). Evolution of the architectural and heritage representation. *Landscape and Urban Planning*, 91(2), 105–112.
10. Jurayeva, E., Dilshod, L., & Olimova, O. (2024). Reviving Ancient Splendor: Graphic Restoration of the Mosque of Odina in Uzbekistan. *Indonesian Journal of Cultural and Community Development*, 15(1), 10-21070.

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<https://www.centralasia.com>,

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