

CALCULATION OF REINFORCED CONCRETE STRUCTURES OF BUILDINGS BASED ON THE THEORY OF RELIABILITY

Kholmirezayev Sattor

Professor of Namangan Engineering-Construction Institute

Akhmedov Islombek

Dasent of Namangan Engineering-Construction Institute

Khamidov Adhamjon

Professor of Namangan Engineering-Construction Institute

Akhmedov Akmaljon

Teacher of Namangan Engineering-Construction Institute

Dedakhanov Farrukh

Teacher of Namangan Engineering-Construction Institute

Muydinova Nilufar

Teacher of Namangan Engineering-Construction Institute

<https://doi.org/10.5281/zenodo.7447650>

Abstract. According to the President of the Republic of Tajikistan Emomali Rahmon, during the meeting, the parties expressed satisfaction with the development of cooperation between Tajikistan and China, as well as the development of cooperation between Tajikistan and China. Effect on the reliability of the premises is an analysis of the factors of weight loss.

Keywords: reinforced concrete, reliability, strength, boundary condition, operation, technical condition, design, buildings, structures

РАСЧЕТ ЖЕЛЕЗОБЕТОННЫХ КОНСТРУКЦИЙ ЗДАНИЙ НА ОСНОВЕ ТЕОРИИ НАДЕЖНОСТИ

Аннотация. По словам Президента Республики Таджикистан Эмомали Рахмона, в ходе встречи стороны выразили удовлетворение развитием сотрудничества между Таджикистаном и Китаем, а также развитием сотрудничества между Таджикистаном и Китаем. Влияние на надежность помещения заключается в анализе факторов снижения веса.

Ключевые слова: железобетон, надежность, прочность, граничное состояние, эксплуатация, техническое состояние, проектирование, здания, сооружения.

INTRODUCTION

The problem of reliability is a complex problem, the solution of which depends not only on how deeply the engineering methods of the theory of reliability are developed, but also on how much the created theory of reliability is applied in practice, that is, the degree to which reliability is ensured in Construction Practice [1].

RESEARCH MATERIALS AND METHODOLOGY

In order for the construction object to be reliable, it is necessary to carry out complex measures at all stages of construction and operation of its design. The essence of the complex measures that are drawn up to carry out such work depends on the type of this object, the process of its exploitation and other factors.

Measures for the implementation of reliability can be conditionally divided into two groups: measures aimed at increasing the level of continuous operation (increasing the average service life of structures) and measures aimed at increasing the suitability for repair (reducing the

period of repair, its laboriousness, and the estimated cost of repair). Both of them can be carried out in the process of design, construction and operation. Let's consider the factors affecting the reliability of the operation of buildings (Table 1).

RESEARCH RESULTS

Famous, temir concrete constructionalar ikkita group chegaraviy holatlar bravidiy account. This account is currently kungacha amalga oshirilayotganligiga and yacht as a result of beraetganligiga karamai currently Kun talablariga bera bera oladi deb aith riyin. Because chegaraviy holatlar methodically zhuda lake omilyarni accountga oladigan coefficient, tizim yaratilgan bulsada, irim tasodifiy hollar, kulyad tutilmagan static and airim hollard dynamic yuklamalar can be reduced [2].

One of the characteristic features of the reliability of structural elements is the duration of its operation. The service life of buildings is measured in several decades. But during this period, the physical and mechanical properties of materials will change. Modern calculation methods that take into account reliability make it possible to predict the degree of reliability of a building, taking into account changes in the properties of materials and structures.

To increase reliability, it is necessary to find such volumetric-planned and constructive solutions as early as the design process, so that the possibility of their long-term exploitation is created: the choice of durable materials standard structures; it consists in keeping them from the atmospheric, heat-humidity regime, various technological influences, ensuring its load-bearing capacity when exposed to various unfavorable loads.

It consists in optimizing the structural scheme of the premises in increasing the degree of reliability, approximation of the elements to be assembled, and reducing the number of interconnected nodes. In turn, increasing the reliability of nodes and details of structures, the use of standard elements in design, serve as an important factor in increasing the durability of buildings for the long term. In the overhaul or reconstruction of buildings, materials that meet the standard requirement, are unified, tested many times, the technology of their production is also well established, the quality of such materials is much higher than that of other similar materials. That is why the standard products of the construction industry meet the economic and reliability requirements of the building under repair. Buildings are exploited in certain climatic, temperature-humidity and production conditions.

Table 1

Factors affecting the reliability of buildings

Factors affecting operational reliability	Factors that reduce reliability	Climatic conditions
		Internal production environment
		Wear and tear, becoming unusable
		Disadvantages in the constructive scheme
		Low quality of constructions
		Poor quality of compounds in seams
		Violation of the technology of repair work
		Violation of the rules of exploitation

Factors that increase reliability	Improving constructive schemes
	Reducing the number of constructive elements and their approximation
	Use of long-resistant materials and items
	Quality control of repair work
	Progressive repair methods
	Using standard methods in repair
	Increased repair suitability
	Reducing the influence of production factors
	Protection of structures from the effects of production
	Conduct prevention
	Repair personnel training
	Clear implementation of the planned repair system

This article discusses the questions and answers to the questions. Conducting audit studies takes 15-25 minutes. Shuning as ushbu binolarning exploitation isonchli rischi darajada actual or accountanadi.

CONCLUSION

Due to the fact that it currently takes a lot of time to carry out maintenance and repair of equipment. Emphasizing the possibilities by studying the basic elements, pointing to pastliging, Kit kulizga, south of the kamentlar gabararitaritarismaristiliga or kujbur kuziladiladi. Bu ESA Capital repair and reconstruction of kharajatlarni 15-20% ha oshirib yubaradi. Shuning as a reconstruction of kilinayetgan ishlash binosining iskhanishliligini is fined as a diamond builder and needs to be repaired and repaired by taergarlik. Kyrgyzstan, the main SC, is usually best suited for software development. The operation of the jaraenida constructionlarning escirishi and the state of the extended data are important indicators. Guidelines for the design and high-quality design of promising projects, repair and prevention, engaged in the optimization of tisimine and the development of reference elements.

REFERENCES

1. Fathulloev A.M., Eshev S.S., Samiev L.N., Ahmedov I.G', Jumaboyev X., Arifjanov S. Boglanmagan gruntlardan tashkil topgan uzanlarda yuvilmaslik tezliklarini aniklash [To the determination of non-effective speed in the beds containing from unconnected soils] //Journal "Irrigatsiya va melioratsiya". Tashkent. – 2019. – C. 27-32.
2. Arifjanov A., Akmalov Sh., Akhmedov I., Atakulov D. Evaluation of deformation procedure in waterbed of rivers //IOP Conference Series: Earth and Environmental Science. – IOP Publishing, 2019. – T. 403. – №. 1. – C. 012155.
3. Arifjanov A., Samiyev L., Akhmedov I., Atakulov D. Innovative Technologies In The Assessment Of Accumulation And Erosion Processes In The Channels //Turkish Journal of

- Computer and Mathematics Education (TURCOMAT). – 2021. – Т. 12. – №. 4. – Pp. 110-114.
4. Axmedov I.G'., Muxitdinov M., Umarov I., Ibragimova Z. Assessment of the effect of sedibles from sokhsoy river to kokand hydroelectric power station //InterConf. – 2020.
 5. Arifjanov A.M., Ibragimova Z.I., Axmedov I.G'. Analysis Of Natural Field Research In The Assessment Of Processes In The Foothills The American Journal of Applied sciences. – 2020. – Т. 2. – №. 09. – Pp. 293-298.
 6. Арифжанов А.М., Самиев, Л.Н., Абдураимова, Д.А., Ахмедов, И.Г. Ирригационное значение речных наносов [Irrigation value of river sediments] //Актуальные проблемы гуманитарных и естественных наук. – 2013. – №. 6.
 7. Ахмедов И.Ф., Ортиқов И.А., Умаров И.И. Дарё ўзанидаги деформацион жараёнларни баҳолашда инновацион технологиялар [Innovative technologies in the assessment of deformation processes in the riverbed] // Фарғона политехника институти илмий-техника журнали. – Фарғона. – 2021. – Т.25, №.1. – С. 139-142.
 8. Axmedov I.G'., Ortiqov I.A., Umarov I.I. Effects of water flow on the erosion processes in the channel of GIS technology // <https://doi.org/10.5281/zenodo.5819579>
 9. Tadjiboyev S., Qurbonov X., Akhmedov I., Voxidova U., Babajanov F., Tursunova E., Xodjakulova D. Selection of Electric Motors Power for Lifting a Flat Survey in Hydraulic Structures // AIP Conference Proceedings 2432, 030114 (2022); <https://doi.org/10.1063/5.0089643>
 10. Abduraimova D., Rakhmonov R., Akhmedov I., Xoshimov S., Eshmatova B. Efficiency of use of resource-saving technology in reducing irrigation erosion // AIP Conference Proceedings 2432, 040001 (2022); <https://doi.org/10.1063/5.0089645>
 11. Холмирзаев С. А., Комилова Н. Х. Влияние сухого жаркого климата на ширину раскрытия трещин внецентренно-сжатых железобетонных элементов //Приволжский научный вестник. – 2015. – №. 4-1 (44).
 12. Холмирзаев С. А. Температурные изменения в керамзитобетонных колоннах в условиях сухого жаркого климата //Журнал «Бетон и железобетон. – 2001. – №. 2.
 13. СА Холмирзаев, АР Ахмедов. Базальт толасининг тўлдирувчи сифатида цемент тошининг мустаҳкамлик хоссаларига таъсирини ўрганиш
 14. Ijtimoiy fanlarda innovasiya onlayn ilmiy jurnali 2 (6), 49-55 2022
 15. Хамидов А. И. и др. Использование теплоизоляционного композиционного гипса в энергоэффективном строительстве. – 2021.
 16. Хамидов А. И., Нуманова С. Э., Жураев Д. П. У. Прочность бетона на основе безобжиговых щёлочных вяжущих, твердеющего в условиях сухого и жаркого климата //Символ науки. – 2016. – №. 1-2. – С. 107-109.
 17. Нуманова С. Э. Хамидов Адхамжон Иномжонович //ISSN 2410-700X. – С. 107.
 18. Хамидов А. И., Ахмедов И., Кузибаев Ш. Теплоизоляционные материалы на основе гипса и отходов сельского хозяйства. – 2020.

19. Хамидов А. И. Использование теплоизоляционных материалов для крыш в энергоэффективном строительстве //Научно–технический журнал ФерПИ. Спец. – №. 2018.
20. Хамидов А. И., Мухитдинов М. Б., Юсупов Ш. Р. Физико-механические свойства бетона на основе безобжиговых щелочных вяжущих, твердеющих в условиях сухого и жаркого климата. – 2020.
21. Нуриддинов А. О., Ахмедов И., Хамидов А. И. АВТОМОБИЛ ЙЎЛЛАРИНИ ҚУРИЛИШИДА ИННОВАЦИЯЛАР //Academic research in educational sciences. – 2022. – Т. 3. – №. TSTU Conference 1. – С. 73-77.
22. Нуманова С. Э. Хамидов Адхамжон Иномжонович //ISSN 2410-700X. – С. 107.
23. Ризаев Б. Ш. Прочность, деформативность и трещиностойкость внецентренно-сжатых железобетонных элементов в условиях сухого жаркого климата. – 1993.
24. Абдуназаров, А., Хакимов, С., Умаров, И., Мухторалиева, М., Дедаханов, Ф., & Шаропов, Б. (2022). МЕРОПРИЯТИЯ ПО ПОВЫШЕНИЮ ЭНЕРГОЭФФЕКТИВНОСТИ СОВРЕМЕННЫХ И РЕКОНСТРУИРУЕМЫХ ЗДАНИЙ. *Journal of new century innovations*, 18(1), 130-134.
25. Hakimov, S., Sharopov, B., Umarov, I., Muxtoraliyeva, M., Dadaxanov, F., & Abdunazarov, A. (2022). URILISH MATERIALLARI SANOATIDA INNOVATSION MATERIALLAR ISHLAB CHIQRISHNING ISTIQBOLLI TOMONLARI. *Journal of new century innovations*, 18(1), 149-156.
26. Sharopov, B., Hakimov, S., Umarov, I., Muxtoraliyeva, M., Dadaxanov, F., & Abdunazarov, A. (2022). QUYOSH ENERGIYASIDAN FOYDALANIB TURAR JOY BINOLARI QURISHNING ISTIQBOLI TOMONLARI. *Journal of new century innovations*, 18(1), 135-141.
27. Sodiqjon, K., Begyor, S., Aleksandr, K., Farrukh, D., Mukhtasar, M., & Akbarjon, A. (2022). PROSPECTIVE ASPECTS OF USING SOLAR ENERGY. *Journal of new century innovations*, 18(1), 142-148.
28. Kazadayev, A., Sharopov, B., Hakimov, S., Umarov, I., Muxtoraliyeva, M., Dadaxanov, F., & Abdunazarov, A. (2022). MAMLAKATIMIZDA NEMIS TA'LIM TIZIMINI JORIY QILISHNING SAMARADORLIGI TAHLILI. *Journal of new century innovations*, 18(1), 124-129.
29. Mukhtasar, M., Begyor, S., Aleksandr, K., Farrukh, D., Isroil, U., Sodiqjon, K., & Akbarjon, A. (2022). ANALYSIS OF THE EFFECTIVENESS OF THE DEVELOPMENT OF THE GERMAN EDUCATION SYSTEM IN OUR COUNTRY. *Journal of new century innovations*, 18(1), 168-173.
30. Dadakhanov, F., Sharopov, B., Umarov, I., Mukhtoraliyeva, M., Hakimov, S., Abdunazarov, A., & Kazadayev, A. (2022). PROSPECTS OF INNOVATIVE MATERIALS PRODUCTION IN THE BUILDING MATERIALS INDUSTRY. *Journal of new century innovations*, 18(1), 162-167.
31. Begyor, S., Isroil, U., Aleksandr, K., Farrukh, D., Mukhtasar, M., Sodiqjon, K., & Akbarjon, A. (2022). MEASURES TO IMPROVE THE ENERGY EFFICIENCY OF MODERN AND RECONSTRUCTED BUILDINGS. *Journal of new century innovations*, 18(1), 157-161.

32. Kodirova F. M., Negmatov U. Algorithms For Stable Estimation Of The Extended State Vector Of Controlled Objects //Solid State Technology. – 2020. – Т. 63. – №. 6. – С. 14903-14909.
33. Кодиров Д. Т., Кодирова Ф. М. Алгоритмы совместного оценивания вектора состояния и параметров динамических систем //Universum: технические науки. – 2021. – №. 7-1 (88). – С. 66-68.
34. Кодиров Д. Т., Кодирова Ф. М. Перспективные энергоносители будущего //Вестник Науки и Творчества. – 2020. – №. 5 (53). – С. 50-53.
35. Кодирова Ф. М. Получение кондиционных углеводородов переработкой пироконденсата и подземной газификацией угля компаундированием //Вестник Науки и Творчества. – 2017. – №. 7 (19). – С. 15-18.
36. Yuvmitov A., Hakimov S. R. Influence of seismic isolation on the stress-strain state of buildings //Acta of Turin Polytechnic University in Tashkent. – 2021. – Т. 11. – №. 1. – С. 71-79.
37. Ювмитов А., Хакимов С. Исследование влияния сейсмоизоляции на динамические характеристики ЗДАНИЯ //Acta of Turin Polytechnic University in Tashkent. – 2020. – Т. 10. – №. 2. – С. 14.
38. Abdunazarov A., Soliev N. tudy of the performance of frameless construction structures under the influence of vertical stresses of ultra-submerged the lyoss soils //Студенческий вестник. – 2020. – Т. 28. – №. 126 часть 3. – С. 39.
39. Хошимов С. Н. У., Казадаев А. М. УСТАНОВКА ДООЧИСТКИ СТОЧНЫХ ВОД ОТ НЕФТЕПРОДУКТОВ //Вестник Науки и Творчества. – 2017. – №. 3 (15). – С. 147-150.
40. Ювмитов А. С., Казадаев А. М. ИССЛЕДОВАНИЕ РАСПРОСТРАНЕННЫХ ОШИБОК, ДОПУСКАЕМЫХ В ПРОЦЕССЕ СТРОИТЕЛЬСТВА ЗДАНИЙ И СООРУЖЕНИЙ, МЕРЫ ПО ИХ НЕДОПУЩЕНИЮ И УЛУЧШЕНИЮ КАЧЕСТВА СТРОИТЕЛЬСТВА //Central Asian Research Journal for Interdisciplinary Studies (CARJIS). – 2022. – №. Special issue. – С. 140-145.
41. Казадаев А. М., Обидинова Г.Ш., РОЛЬ МАЛОГО БИЗНЕСА И ЧАСТНОГО ПРЕДПРИНИМАТЕЛЬСТВА В РЕСПУБЛИКЕ УЗБЕКИСТАН // Теория и практика современной науки. – 2017. – №. 5 (23). – С. 1005-1008.