

JUSTIFY THE REQUIREMENTS FOR THE PARAMETER OF AVALANCHE IMPACT ON PROTECTIVE STRUCTURES OF MOUNTAIN ROADS

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Annotation: *The measures taken to prevent avalanches on the roads passing through the mountainous regions of Uzbekistan, and the functions of retaining walls, high demand for them.*

Key words: *mountain, road, whip, A-373, M-39, pass, temperature, gallery, hydrometeorology.*

It is known that today deep reforms are being carried out in the social and economic life of our country. This serves to further strengthen the development of our country and its place in the world community. The ongoing reforms are proof of our opinion. Organization of a network of international and strategic highways and their further development for the purpose of improvement, President Sh. A number of decrees and decisions of M. Mirziyoyev serve as a program for work in this regard. In particular, the decree of the head of our state No. PF-4954 dated February 14, 2017 "On measures to further improve the traffic management system" and PQ-3309 dated October 4, 2017 "Motorway bridges , on improving the system of organizing the construction and use of overpasses and other artificial structures", PQ 4545 of December 9, 2019 "Measures on the further improvement of the road sector management system on" decision.

From the first years of the independence of our republic, special attention has been paid to the field of capital construction, including road construction. In the field of road construction, industrial methods and modern technologies, new methods and norms are used in the construction, repair and maintenance of highways.

Modern highways are complex engineering structures. It is necessary for them to provide opportunities for high-speed traffic. They should be designed and built in such a way that when the engine is running in normal mode, the cars can show their dynamic properties, and there is no risk of the car being pushed aside or overturning during turns, climbs and descents.

The road surface must be stable throughout the year, able to withstand the dynamic load that occurs when cars move, and must be smooth and non-slippery.

More than 22% of the territory of Uzbekistan is occupied by mountains. The difficult topography of the mountains affects the safe movement and operation of the car. Such

adverse road conditions affect the safe movement and speed of vehicles, small turning radii and large longitudinal slopes. Mountain roads in Uzbekistan account for 3%, which is more than 700 km of public roads. Such mountain roads include section A-373 "Tashkent-Osh" 116-214 km - highway "Kamchik", section M-39 "Almaty-Bishkek-Tashkent-Termez" 1120-1145 km, section "Takhtakaracha" 1302-1320 km Baysun, Dekhkanabad and Okrabort crossings are the main economic arteries of our country. Mountain roads in Uzbekistan account for 3%, making up over 700 km of public roads:

- A-373 "Tashkent-Osh" 116-214 km, section of the pass "Kamchik";
- section M-39 "Almaty-Bishkek-Tashkent-Termez" 1120-1145 km;
- section 1302-1320 km of the Takhtakaracha pass;
- "Baysun", "Dekhkanabad", "Okrabort" crossings and others.

These roads are characterized by winter maintenance, low temperatures and a large amount of light. The average temperature of the hottest July is 18.60C and the absolute minimum is -400C in January, while the cold days last from September to May for 6-7 months. On average, snowfall begins on October 16 and continues until April 30. The average snow cover thickness in regularly measured areas can be 140-222 cm.

To prevent avalanches on mountain roads, various anti-avalanche structures are used. Driving through slippery and snowdrifted roads in winter creates some challenges leading to slower vehicle speeds and more accidents. Winter is the most difficult time of the year compared to other seasons. In winter, road conditions are the most unfavorable. This period is characterized by the fact that the road surface is wet, dirty, snowy, slippery and icy slippery. Such a period of storage requires complex measures.

The task of winter maintenance of roads and road structures is to ensure that roads and road structures are maintained in good condition in accordance with the requirements for conditions for uninterrupted and safe movement in the winter. Winter maintenance of roads and road structures includes: preparation, installation and repair of permanent snow protection structures (walls, panels, lifts and snow barriers), maintenance of snow protection structures; Preparation, installation (reinstallation), temporary installation of temporary snow-retaining devices (screens, barriers and nets), snow-retaining barriers must be built to trap snow on the roadway.

At present, studies of landslides are mainly carried out by hydrometeorological services. The most important role of avalanche monitoring stations is the collection of statistics for different periods in areas prone to avalanches. Their duties include meteorological observations, regular measurements and determination of avalanche power, density and physico-chemical properties, as well as registration of landslides. At such stations, snow is studied in the laboratory, a description of landslides in selected areas, a conclusion about the occurrence of landslides based on local relationships with local features and meteorological indicators, and assumptions.

It should be noted that today there are a lot of accidents and accidents on the roads as a result of avalanches. An avalanche is a process in which drifts of snow descend from

mountains, hills, and other heights at an ever-increasing rate. The main causes of avalanches are the accumulation of a large amount of snow on the slopes, the weakening of bonds in the snow cover, or the effects of cumulative movement. Avalanches can occur in all mountainous areas with permanent snow cover. An avalanche is a large mass of snow moving at a speed of 20-30 m/s. It can be a small avalanche 25-30 m in size and 20 cm thick. The weight of an avalanche of 150 cubic meters ranges from 20 to 30 cubic meters. To prevent this from happening, various retaining walls, hedges, and galleries are widely used today.

LITERATURE:

1. Вафакулов В.Б., Мамадалиев, А. Т. ТРЕБОВАНИЯ К СНЕГОЗАЩИТНЫМ БАРЬЕРАМ НА ГОРНЫХ ДОРОГАХ.//Universum: технические науки. – 2023. – №. 2 (107).

2. Tukhtamirzaevich, M. A. (2022, December). RESULTS OF LABORATORY-FIELD TESTING OF HAIRY SEEDS COATED WITH MINERAL FERTILIZERS. In *Proceedings of International Educators Conference* (Vol. 1, No. 3, pp. 528-536).

3. Nematjonovich, M. Z., & Tukhtamirzaevich, M. A. (2023). PRODUCTION OF LIQUID FERTILIZERS AND THEIR SIGNIFICANCE IN THE ECONOMY. *PRINCIPAL ISSUES OF SCIENTIFIC RESEARCH AND MODERN EDUCATION*, 2(1).

4. Tukhtamirzaevich, M. A., & Gulomjonovna, Y. Y. (2022, December). USE OF NEW PEDAGOGICAL TECHNOLOGIES IN TEACHING THE SUBJECTS OF INDUSTRIAL SANITATION AND LABOR HYGIENE. In *Proceedings of International Conference on Modern Science and Scientific Studies* (Vol. 1, No. 3, pp. 378-386).

5. Sadriddinovich, B. N., & Tukhtamirzaevich, M. A. (2022). DEVELOPMENT OF PRODUCTION OF BUILDING MATERIALS IN THE REPUBLIC OF UZBEKISTAN THROUGH INNOVATIVE ACTIVITIES. *Scientific Impulse*, 1(4), 213-219.

6. Tukhtamirzaevich, M. A. (2022, December). DIMENSIONS AND JUSTIFICATION OF OPERATING MODES FOR PANING DEVICE OF HAIRY COTTON SEEDS WITH MACRO AND MICRO FERTILIZERS. In *International scientific-practical conference on "Modern education: problems and solutions"* (Vol. 1, No. 5).

7. Мамадалиев, А. Т., & Мамаджанов, З. Н. Фавқулудда вазиятлар ва аҳоли муҳофазаси. *Дарслик. Тошкент*.

8. РИЗАЕВ, Б., МАМАДАЛИЕВ, А., МУХИТДИНОВ, М., & ОДИЛЖАНОВ, А. ЭКОНОМИКА И СОЦИУМ. *ЭКОНОМИКА*, 461-467.

9. Гафуров, К., Мамадалиев, А. Т., Мамаджанов, З. Н., & Арисланов, А. С. Комплекс минерал озукаларни хўжаликлар шароитида тайёрлаш ва қишлоқ хўжалиги уруғларини макро ва микро ўғитлар билан қобиқлаш. Copyright 2022 Монография. Dodo Bools Indian Ocean Ltd. and Omniscrbtum S.

10. Axmadjanovich, M. A. T. T. A. (2022). KO 'CHKINING YUZAGA KELISH SABABLARI VA UNING OLDINI OLIH CHORA-TADBIRLARI. *PRINCIPAL ISSUES OF SCIENTIFIC RESEARCH AND MODERN EDUCATION*, 1(10).

11. Руз, П. IAP 03493. Способ покрытия поверхности семян сельскохозяйственных культур защитно-питательной оболочкой и устройства для его осуществления/К. Гафуров, А. Хожиев, АТ Росабоев, АТ Мамадалиев. *БИ–2007*, 11.

12. Бахриддинов, Н. С., & Мамадалиев, А. Т. (2022). Преимущество отделения осадков, образующихся при концентрировании экстрагируемых фосфорных кислот. *Scientific Impulse*, 1(5), 1083-1092.

13. Мамадалиев, А. Т. (2022, December). ИНЖЕНЕРЛИК ГЕОЛОГИЯСИ ФАНИ МАВЗУСИНИ ЯНГИ ПЕДАГОГИК ТЕХНОЛОГИЯ АСОСИДА ЎҚИТИШ. In *Proceedings of International Educators Conference* (Vol. 1, No. 3, pp. 494-504).

14. Bakhriddinov, N. S., & Mamadaliyev, A. T. (2022). DEVELOPMENT OF PRODUCTION OF BUILDING MATERIALS IN THE REPUBLIC OF UZBEKISTAN THROUGH INNOVATIVE ACTIVITIES. *Новости образования: исследование в XXI веке*, 1(4).

15. Mamadaliyev, A. T., & Bakhriddinov, N. S. (2022). Teaching the subject of engineering geology on the basis of new pedagogical technology. *Scientific Impulse*, 1(5).

16. Mamadaliyev, A. T. (2022). The movement of the population when a flood happens. *Scientific Impulse*, 1(5).

17. Mamadaliyev, A. T. (2022). Naturally occurring carbonate minerals and their uses. *Scientific Impulse*, 1(5).

18. Tukhtamirzaevich, M. A., Karimov, I., & Sadriddinovich, B. N. (2022). TEACHING THE SUBJECT OF ENGINEERING GEOLOGY ON THE BASIS OF NEW PEDAGOGICAL TECHNOLOGY. *Scientific Impulse*, 1(5), 1064-1072.

19. Tukhtamirzaevich, M. A. (2022). NATURALLY OCCURRING CARBONATE MINERALS AND THEIR USES. *Scientific Impulse*, 1(5), 1851-1858.

20. Мамадалиев, А. Т. (2022). Карбонатли минераллар ва уларнинг халқ хўжалигидаги аҳамияти. *PRINCIPAL ISSUES OF SCIENTIFIC RESEARCH AND MODERN EDUCATION*, 1(10).

21. К Гафуров, ИТ Шамшидинов, А. Арисланов, АТ Мамадалиев. Способ получения экстракционной фосфорной кислоты. SU Patent 5213 U Z. 1998

22. Tuxtamirzaevich, M. A., & Axmadjanovich, T. A. (2023). SUV TOSHQINI SODIR BOLGANDA AHOLINING HARAKATI. *PRINCIPAL ISSUES OF SCIENTIFIC RESEARCH AND MODERN EDUCATION*, 2(1).

23. Tuxtamirzayevich, M. A. (2020). Study of pubescent seeds moving in a stream of water and mineral fertilizers. *International Journal on Integrated Education*, 3(12), 489-493.

24. Мамадалиев, А. Т. (2023, January). ЎЗБЕКИСТОН РЕСПУБЛИКАСИ ХУДУДЛАРЛАРИДА СЕЛ КЕЛИШИ ВА УНДА АҲОЛИНИНГ ҲАРАКАТИ. In *Proceedings of*

International Conference on Scientific Research in Natural and Social Sciences (Vol. 2, No. 1, pp. 211-220).

25. Mamadaliev, A. T., & Turgunov, A. A. (2022). Causes of the occurrence of landslides and measures for its prevention. *Scientific Impulse*, 5, 100.

26. Mamadaliev AT, T. A. (2022). Suv toshqini sodir bolganda aholining harakati. *PRINCIPAL ISSUES OF SCIENTIFIC RESEARCH AND MODERN EDUCATION*, 1(10).

27. Tukhtamirzaevich, M. A. (2022). FLOODING IN THE TERRITORY OF THE REPUBLIC OF UZBEKISTAN AND THE MOVEMENT OF THE POPULATION THEREIN. *Scientific Impulse*, 1(5), 2285-2291.

28. Tuxtamirzaevich, M. A. (2021). Presowing Treatment of Pubescent Cotton Seeds with a Protective and Nutritious Shell, Consisting of Mineral Fertilizers in an Aqueous Solution and a Composition of Microelements. *Design Engineering*, 7046-7052.

29. Мамадалиев, А. Т. (2021). Теоретическое обоснование параметров чашеобразного дражирующего барабана. *Universum: технические науки*, (6-1 (87)), 75-78.

30. Росабоев, А., & Мамадалиев, А. (2013). Предпосевная обработка опушенных семян хлопчатника защитно-питательной оболочкой, состоящей из композиции макро и микроудобрений. *Теоритические и практические вопросы развития научной мысли в современной мире: Сборник статей. Уфа Риц БашГУ*, 174-176.

31. Гафуров, К., Росабоев, А., & Мамадалиев, А. (2007). Дражирование опушенных семян хлопчатника с минеральным удобрением. *ФарПИ илмий-техник журнали.–Фарғона*, (3), 55-59

32. Росабоев, А. Т., & Мамадалиев, А. Т. (2017). Теоретическое обоснование движения опушенных семян хлопчатника после поступления из распределителя в процессе капсулирования. *Science Time*, (5), 239-245.

33. Mamadaliyev, A. T. (2021). son Bakhtiyor Maqsud, Umarov Isroil. *Study of the movement of pubescent seed s in the flow of an aqueous solution of mineral fertilizers. A Peer Reviewed Open Access International Journal*, 10(06), 247-252.

34. Росабоев, А. Т., Мамадалиев, А. Т., & Тухтамирзаев, А. А. У. (2017). Теоретическое обоснование параметров капсулирующего барабана опушенных семян. *Science Time*, (5 (41)), 246-249.

35. Мамадалиев, А. Т., & Мамаджанов, З. Н. (2022). Минерал ўғитлар ва микроэлементли композицияларни сувдаги эритмаси билан қобиқланган тукли чигитларни лаборатория-дала шароитида синаш натижалари. *Экономика и социум*, (2), 93.

36. Мамадалиев, А. Т. (2022). Уруғлик чигитларни макро ва микроўғитлар билан қобиқловчи қурилманинг ўлчамлари ва иш режимларини асослаш. In *МИРОВАЯ НАУКА 2022. ПРОБЛЕМЫ И ПЕРСПЕКТИВЫ РАЗВИТИЯ. МЕЖДУНАРОДНЫЕ КОММУНИКАЦИИ* (pp. 54-57).

37. Мамадалиев, А. Т. (2013). Институт механизации и электрификации сельского хозяйства, г. Янгийул, Республика Узбекистан. *Редакционная коллегия*, 174.
38. Rosaboev, A., & Mamadaliyev, A. (2019). Theoretical substantiation of parameters of the cup-shaped coating drums. *International Journal of Advanced Research in Science, Engineering and Technology*, 6(11), 11779-11783.
39. Гафуров К., Абдуллаев М., Мамадалиев А., Мамаджанов З., Арисланов А. Уруғлик чигитларни макро ва микроўғитлар билан қобиқлаш. Монография. 2022. Dodo Bools Indian Ocean Ltd.and Omniscrbtum S.R.L Publishing grouр
40. Mamadaliev, A. (2002). УРУҒЛИК ЧИГИТЛАРНИ МАКРО ВА МИКРОЎҒИТЛАР КОМПОЗИЦИЯЛАРИ БИЛАН ҚОБИҚЛАШ ТЕХНОЛОГИЯСИ ВА ҚУРИЛМАЛАРИ. *Scienceweb academic papers collection*.
41. Росабоев, А. Т., & Мамадалиев, А. Т. (2017). Тухтамирзаев ААУ Теоретическое обоснование параметров капсулирующего барабана опушенных семян. *Science Time*, (5), 41.
42. Mamadaliev, A. (2021). Theoretical study of the movement of macro and micro fertilizers in aqueous solution after the seed falls from the spreader. *Scienceweb academic papers collection*.
43. Mamadaliev, A. (2019). THEORETICAL SUBSTANTIATION OF PARAMETERS OF THE CUP-SHAPED COATING DRUMS. *Scienceweb academic papers collection*.
44. Росабаев, А. Т., & Мамадалиев, А. Т. (2013). старший преподаватель кафедры экологии и охраны труда Наманганского инженерно-педагогического института, г. Наманган, Республика Узбекистан. *Редакционная коллегия*, 174.
45. Гафуров К., Мамадалиев А.Т., Мамаджанов З.Н., Арисланов А.С. Комплекс минерал озукларни хўжаликлар шароитида тайёрлаш ва қишлоқ хўжалиги уруғларини макро ва микро ўғитлар билан қобиқлаш. Copyright 2022 Монография. Dodo Bools Indian Ocean Ltd.and Omniscrbtum S.RL Publishing grouр.
46. Mamadaliev, A. ТУКЛИ ЧИГИТЛАРНИ МИНЕРАЛ УЕИТЛАР БИЛАН^ ОБЩЛОВЧИ^ УРИЛМАНИНГ КОНУССИМОН ЁЙГИЧИ ПАРАМЕТРЛАРИНИ АСОСЛАШ. *Scienceweb academic papers collection-2014*.
47. Mamadaliev, A. ТУКЛИ ЧИГИТЛАРНИ^ ОБЩЛАШ БАРАБАНИНИНГ ПАРАМЕТРЛАРИНИ НАЗАРИЙ АСОСЛАШ. *Scienceweb academic papers collection.-2012*.
48. Mamadaliev, A. (2014). ТУКЛИ ЧИГИТЛАРНИ МИНЕРАЛ ЎҒИТЛАР БИЛАН ҚОБИҚЛОВЧИ ҚУРИЛМАНИНГ КОНУССИМОН ЁЙГИЧИ ПАРАМЕТРЛАРИНИ АСОСЛАШ. *Scienceweb academic papers collection*.
49. Mamadaliev, A. (2012). ТУКЛИ ЧИГИТЛАРНИ ҚОБИҚЛАШ БАРАБАНИНИНГ ПАРАМЕТРЛАРИНИ НАЗАРИЙ АСОСЛАШ. *Scienceweb academic papers collection*.
50. Mamadaliev, A. (2003). ҚИШЛОҚ ХЎЖАЛИК ЭКИНЛАРИ УРУҒЛАРИНИНГ ЮЗИНИ ХИМОЯ-ОЗУҚА ҚОБИҒИ БИЛАН ҚОПЛАШ УСУЛИ ВА УНИ АМАЛГА ОШИРИШ УЧУН ҚУРИЛМА. *Scienceweb academic papers collection*.

51. Mamadaliev, A. ИШЛО^ ХУЖАЛИК ЭКИНЛАРИ УРУГЛАРИНИНГ ЮЗИНИ ХИМОЯ-ОЗУ^ А^ ОБИГИ БИЛАН^ ОПЛАШ УСУЛИ ВА УНИ АМАЛГА ОШИРИШ УЧУН^ УРИЛМА. *Scienceweb academic papers collection.*-2003.

52. Тўхтақўзиев, Р. А., Мамадалиев, А. Тукли чигитларни қобиқлаш барабанининг параметрларини назарий асослаш. ФарПИ илмий-техник журнали. *Фарғона, 2012 йм (2)*, 34-36.

53. Tukhtamirzaevich, M. A., & Akhmadjanovich, T. A. (2022). CAUSES OF THE OCCURRENCE OF LANDSLIDES AND MEASURES FOR ITS PREVENTION. *Scientific Impulse*, 1(5), 2149-2156.

54. Мамадалиев, А. Т., & Мухторалиева, М. А. БХ Шарапов Принципы обучения специальностям в области строительства. *Научный электронный журнал «матрица научного познания»*.

55. Mukhtoraliyeva, M. A., Mamadaliyev, A. T., Umarov, I. I., & Sharopov, B. X. Development of technology on the basis of scientific achievements. «. *Матрица научного познания, 28*, 4-12.

56. Tukhtamirzaevich, M. A. (2023). PLANTING SEEDS WITH NITROGEN PHOSPHORUS FERTILIZERS. *PRINCIPAL ISSUES OF SCIENTIFIC RESEARCH AND MODERN EDUCATION*, 2(1).

57. Ризаев, Б. Ш., Мамадалиев, А. Т., & Умаров, И. И. (2022). Деформации усадки бетона в условиях сухого жаркого климата. *Экономика и социум, 1*, 92.

58. Ризаев, Б. Ш., Мамадалиев, А. Т., Фозилов, О. К., & Шаропов, Б. Ў. (2022). ПРОЧНОСТНЫЕ ХАРАКТЕРИСТИКИ ЛЕГКОГО БЕТОНА НА ПОРИСТЫХ ЗАПОЛНИТЕЛЯХ. *Universum: технические науки, (6-3 (99))*, 11-15.

59. Тухтақўзиев, А., Росабоев, А., Мамадалиев, А., & Имомқулов, У. (2014). Тукли чигитларни минерал ўғитлар билан қобиқловчи қурилманинг конуссимон ёйғичи параметрларини асослаш. *ФарПИ илмий-техник журнали. – Фарғона, 2*, 46-49.

60. Тўхтақўзиев, А., Росабоев, А., & Мамадалиев, А. Тукли чигитларни қобиқлаш барабанининг параметрларини назарий асослаш. ФарПИ илмий-техник журнали. *Фарғона, 2012 йм (2)*, 34-36.

61. Tukhtamirzaevich, M. A. (2023). LANDSLIDE OCCURRENCE IN THE TERRITORY OF OUR REPUBLIC AND MEASURES TO PREVENT THEM. *PEDAGOG*, 6(2), 372-381.

62. Tukhtamirzaevich, M. A. (2023). THE FLOOD PHENOMENON OBSERVED IN THE TERRITORIES OF OUR REPUBLIC AND THE FIGHT AGAINST THIS PHENOMENON. *PEDAGOG*, 6(2), 333-342.

63. Tukhtamirzaevich, M. A. (2022). THE MOVEMENT OF THE POPULATION WHEN A FLOOD HAPPENS. *Scientific Impulse*, 1(5), 1859-1866.

64. Tukhtamirzaevich, M. A. (2023). INTERACTIVE EDUCATIONAL METHODS IN TEACHING THE SUBJECT OF PHYSICO-CHEMICAL PROPERTIES OF MINERALS. *Scientific Impulse*, 1(6), 1718-1725.