

## The Republic of Karakalpakstan to Develop New Constructive Solutions to Improve the Operational Haulage of Highway Reinforced Concrete Bridges

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**Annotation:** This article is about highways, changes and improvements of these roads.

**Keywords:** Motorway, bridge, national structures, transport, railways.

The reliability, long service life of railway and highway bridges depends on the strength and long-term suitability of individual elements of bridge structures, including the cross-section of the bridge polotno. In addition to receiving temporary loads and transmitting them to the main load-bearing parts of the bridge, the bridge polotnos also acts as a "roof" that protects the undercarriage from water and other influences, which is a negative factor in the suitability of the bridge.

The possibilities for the effective use of self-tensile concrete in construction are huge, and the research carried out in the field of self-tensile reinforced concrete opens up a wide range of promising ways to apply this new material.

One of the main directions ( high-voltage, high-strength modified self-tensile concrete production is considered. Having such concrete allows, in some cases, to rethink approaches to the design of pre-stressed structures, abandoning the energy-intensive process of the mechanical tension of the reinforcement. An important place is given to the development of a new generation of spatial structures made of tensile concrete, and its formation is carried out by controlling the expansion process of the material. The use of self-tensile concrete in reinforced concrete and combined tensile structures used in bridge construction is considered promising.

The main function of the traditional structure of the bridge polotno is leveling, waterproofing and a protective layer. They are considered the most necessary protective element of the intermediate device. At the same time, the own weight of these layers will be the mandatory constant load that falls on the main load-bearing parts of the bridge, and this will require the application of additional fittings to receive the loads.

In the design of the rational structure of the bridge polotno, it is possible to achieve by applying a ten-centimeter layer of self-tensile concrete as a leveler, waterproofing and a protective layer as the executor.

Recently, in transport construction and in particular in the design and construction of Railways, modern effective materials began to be used – solid concretions, fittings, materials obtained by combining various polymers with ordinary concrete, as well as composite materials.

The reliability, strength of rail and highway bridges largely depends on the reliability and durability of the individual structural elements of the structure, including the part of the bridge polotnos.

The main function of the traditional structure of the bridge polotno is formed by a leveling, waterproofing and protective layer, and the protection of the main load-bearing elements of the intermediate device is considered. At the same time, this construction does not work together, since there is no connection between the main load-bearing elements. Therefore, the own weight of this "pie" is an additional load, and the consumption of additional fittings is required to accept the stresses that arise in the main barrier sections.

The rationality of the bridge polotnos structure can be achieved by applying a ten-centimeter reinforced self-tensile concrete layer, which works together with the main beams of the intermediate device and at the same time acts as a leveling, waterproofing and protective layer.

It is well known that the technical economic indicators of the structure, as well as the reliability and durability of the bridge, are the main determining factors for concrete bridge structures. Therefore, the application of characteristic materials expected in the construction of transport structures has a positive effect on the cost and conditions of bridge operation during their operation.

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