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TECHNOLOGY OF ROAD CONSTRUCTION USING LOCAL RAW MATERIALS

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Annotation: This article explores the technology used in the construction of modern road pavements, particularly on highways. It addresses the issue of waste management, highlights the importance of improving recycling processes, and emphasizes the efficient use of recycled materials in road construction.

Keywords: bitumen, waste, plastic, ocean, UN, degree, percentage, local, asphalt concrete, cement concrete.

Today, the amount of waste worldwide is increasing year by year. Plastic waste, thrown into rivers every year, pollutes and kills not only the riverbeds, but also flows through the rivers into the oceans, polluting the world's oceans. Plastic waste entering the oceans enters the stomachs of various rare animals, causing them to die. Therefore, one of the solutions to the problem is to reduce plastic waste. Three billion tires are produced annually in the world. When processed, these tires produce approximately three billion kilograms of cotton fiber. We promoted another industry as a recycled material to another industry. We took used products of one industry. As a result, we not only solved the problem of tire removal, but also achieved a reduction in the carbon footprint of the concrete industry [1]. It should be noted that 80 percent of these wastes are in the organs.

The installation of colored plastic barriers on both sides of the road is another innovation in the field. The product was manufactured at the joint venture "Koreys trans" based on South Korean technology. This construction material, which has already been tested and widely used abroad, is not inferior to metal barriers in terms of strength and durability. Although it is much cheaper than metal barriers, it does not require excessive care, such as frequent washing and painting at specific times. When a car hits, the barrier deflects it to the other side and deflects it with its strength. The main advantage of such barriers is that after wear and tear, they can be crushed to produce new similar products or other materials. Currently, such barriers are installed as a test, and if they yield the expected results, they are planned to be widely used in the construction of other roads in the future. Considering the presence of a large volume of plastic waste in our country, this.

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According to UN reports, 300 million tons of plastic waste are generated annually in the world. Of this, 8 million tons fall into the world's oceans and pose a great threat to the life of creatures in the ocean. 11,250,000 tons of waste are generated on Earth every day. This means a garbage "mountain" 3 kilometers high. 99 percent of the products we buy are in the trash cans before the expiration date of 6 months[2]. The world's population increases by 1.5-2 percent annually, and the amount of waste produced increases by 6 percent. This means that in the coming days the globe may turn into a large garbage dump. Based on this, some companies are looking for ways to recycle waste[3].

Due to the increase in plastic waste, plastic roads are being created for their recycling. Plastic road surfaces do not differ from asphalt concrete surfaces on the outside. Their production process is similar to the production of asphalt concrete. Interestingly, plastic roads not only benefit the environment but are also beneficial in other ways. In terms of use, it is significantly superior to our asphalt concrete roads. Plastic is resistant to corrosion and atmospheric pressure and is effective in conditions from -40 to +80 degrees [4].

Figure 1. Plastic pathways

Plastic roads serve 3 times longer than other paved roads, the laying process is 70% faster, 4 times lighter than asphalt concrete, and repair work is easier. The use of local raw materials for the manufacture of the coating leads to its low cost, reducing the costs of disposing of plastic waste.

Studies have shown that cracks can also heal themselves. Due to the formation of cracks in the coating, the nano-coated fibers prevented their expansion and produced additional materials in an environment of high humidity, which allowed the cracks to close. This self-repairing mechanism requires significantly less equipment compared to the conventional material used for road construction.

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Today, I witness every person traveling on a modern road across the Chirchik River speaking with excitement about how close the distance is and how quickly and easily they reach their destination.

RESULT

Currently, there are shortcomings and inconveniences in the field of road construction and operation in the republic due to the shortage of bitumen, outdated technologies, and the complexity of cement-concrete technology. When cracks appear in waste coatings, the fibers try to show significantly higher resistance to crack propagation and cracking. Therefore, the cracks become narrow, and the coating lasts for a long time. There are shortcomings and inconveniences in the field of road construction and operation: due to a lack of bitumen, outdated technologies, and the complexity of cement-concrete technology. When using plastic products:

- • reduction of plastic waste,
- • reduction of pavement laying time,
- • lightness of the coating,
- • reduction of road barriers,
- • increase the durability of road barriers,
- • reduction of the level of danger of road barriers,
- • facilitate the transportation of road barriers,
- • advantages and benefits, such as the ease of upholstery repair

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