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Prospects For The Use Of Polymer Composite Fittings In Building Structures In The Republic Of Uzbekistan

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ABSTRACT

The article discusses the prospects for the use of polymer composite fittings in building structures and the use of alternative materials to replace steel in the construction industry.

KEYWORDS

Polymer composite reinforcement, steel fittings, concrete, composite material, construction industry.

INTRODUCTION

In the field of construction, research is being conducted on the use of reinforcement made of composite materials, which are an alternative to steel reinforcement, and the implementation of their results in

construction practice. Examples include research and construction in Germany, Russia, China, Japan, the United States, Canada, and other countries.

Polymer composite fittings are mainly used in road and transport infrastructure facilities, high electromagnetic fields, chemical industry, water treatment and treatment, land reclamation facilities, seaports and pre-port facilities, urban engineering infrastructure facilities, construction of mines and tunnels of subways. It is also used effectively in the construction, repair and reconstruction of load-bearing and barrier structures of buildings and structures.

A promising scientific direction in the use of polymer composite reinforcement is the use of corrosive reinforced concrete structures in place of steel reinforcement.

Today, construction is impossible without concrete and reinforced concrete structures and steel reinforcement. In many countries around the world, some of the steel fittings used in construction are being replaced by non-steel composite fittings. The use of non-metallic composite fittings in our country, in the construction industry, will significantly reduce the demand for steel fittings. This can lead to economic austerity in our country.

A number of enterprises for the production of polymer composite fittings have been launched in the Republic of Uzbekistan. In particular, in the village of Egizbulak, Forish district, Jizzakh region, in cooperation with the British company "Liegh Barreir LLP" in the form of "Mega Invest Industrial" LLC produces basalt fiber composite fittings. a few dozen, and that's not enough. Because the demand of the construction industry has not yet been fully met. In addition, the demand for this product is high in neighboring countries, which means that there is a good market. Of

course, it is convenient in every way that they buy this product from us. These conditions require increasing the production of composite fittings, improving their quality and expanding their range.

Through this work, the opportunities for increasing the volume and improving the quality of the use of composite reinforcement in construction in the Republic of Uzbekistan will be further expanded. According to research, the service life of composite reinforcement structures is at least 100 years. Such long-term durability is explained by the high chemical resistance of composite reinforcement in all types of aggressive environments.

One of the main advantages of polymer composite reinforcement is its cost-effectiveness, which makes it even more important as it replaces imported expensive steel reinforcement. The cost of metal fittings has increased by an average of 10% in recent years. The use of composite fittings based on local raw materials ensures that their cost is stable. It shows that the use of high technology has the potential to reduce its cost.

Due to the fact that polymer composite fittings are produced in packages, the cost of transportation due to their small mass is on average 40% cheaper than steel fittings, which also has a significant impact on the cost of the product. It also saves a lot of money due to the lack of welding.

Polymer composite reinforcement is a promising material for the reinforcement of concrete structures, the technical

characteristics of which allow the easy restoration of load-bearing and barrier structures: The maximum operating temperature is 600 C. The tensile strength is 800 MPa and more, and the cross-sectional strength is 150 MPa and more. The compressive strength limit is 300 MPa and more; the density of the material is 1.9 t / m³; The thermal conductivity is 0.35

The use of polymer composite reinforcement in reinforced concrete wall panel constructions has corrosion resistance and superior resistance. They do not require protection from adverse weather conditions. Reinforced concrete equipped with glass composite reinforcement is characterized by high lifting capacity, resistance to static and dynamic loads. Reinforced concrete products are suitable for the construction of buildings and structures of various shapes, which helps to achieve expressive architectural solutions. Thus, the analysis allows us to draw the following conclusions.

CONCLUSIONS

1. The service life of building structures using polymer composite reinforcement in building constructions is at least 100 years. Such long-term durability is explained by the high chemical resistance of composite reinforcement in all types of aggressive environments.
2. One of the main advantages of composite reinforcement is its economy, which is even more important as it replaces imported expensive steel reinforcement. The

cost of metal fittings has increased by an average of 10% in recent years. The use of composite fittings based on local raw materials ensures a stable cost. It shows that the use of high technology has the potential to reduce its cost.

3. Due to the fact that polymer composite fittings are produced in packages, the cost of transportation due to their small mass is on average 40% cheaper than steel fittings, which also has a significant impact on the cost of the product. It also saves a lot of money due to the lack of welding.
4. The conducted research and analysis showed that for the widespread introduction of polymer composite fittings in construction practice, it is expedient to conduct experimental and theoretical research in the context of the Republic of Uzbekistan.

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