THE IMPORTANCE OF APPLYING REINFORCEMENT TO CONCRETE

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Annotation: *The article describes the types of reinforcement of reinforced concrete structures. The advantages and disadvantages of simple reinforcement of structures and dispersed reinforcement are described*.

Keywords: *Concrete, disperse reinforcement, building material, crack, rebar*

It is known that most of the construction work is carried out using con crete.

Concrete is a brittle material with a number of undeniable advantages. Non reinforced concrete has low bending strength and tear resistance, during the

hardening process it collapses and the long-term durability of the product decreases

as a result of cracks. In order for the concrete to absorb tensile stresses, it will be

necessary to reinforce it with steel rods to form reinforced concrete.

In reinforced concrete, reinforcement is placed to receive tensile stresses,

while compressive stresses are to be accepted in concrete. The joint performance of

reinforcement and concrete is explained by the presence of a good bond between

them and the temperature coefficients of the linear expansion being approximately

the same. Reinforcement accounts for about 20% of the cost of reinforced concrete

products manufactured at the factory, so the organization of reinforcement work in

the reinforced concrete factories is considered to be technically and economically

important. According to the type of reinforcement, reinforced concrete products are divided into simple reinforcement and dispersion reinforcement types.

Reinforcement of reinforced concrete structures is an important element of production, which determines the long-term durability of buildings and structures.

The location of the fixture will be strictly defined inside the structure. The placement of the reinforcement inside the structure is ensured by fastening it into the formwork before concreting. In the mold, the fittings are fastened using

inventory devices. In the mold, the welding parts are welded to the reinforcement frame or fastened with

screws. In simple, non-prestressed reinforced concrete structures, cracks may appear in the elongation zones during operation.

Pre-stressing of reinforcement in order to generate compressive stresses in the elongation zones of concrete has significantly increased the cracking of the product, reduced deformation, the use of high-strength steel and saved metal.

However, dispersed reinforcement of reinforced concrete is also possible. In this case, the liquid concrete mixture is mixed with metal chips or special fibrotole.

The finished product is more resistant to abrasive effects and is more durable than

the increased option. It is known that the operation of reinforced concrete structures in an environment that is aggressive to the metal, which accelerates the deterioration of the structure as a result of corrosion of the metal in it, is a major problem. In such cases, in order to prolong the life of reinforced concrete structures, it is advisable to replace metal fittings with mirror material. Since fiberglass rods do not corrode, replacing the tension-receiving inner carcass with a composite reinforcement of equal strength gives the expected result.

If it is necessary to strengthen concrete structures in an environment that is particularly aggressive to concrete, then it is possible to use the possibility of reinforcement from the outside using flat-shaped fiberglass. The fiberglass material

forms a unique protective shell that is impermeable to air and water across the surface of the structure. The process of construction and operation of concrete structures is accompanied by the appearance of cracks, which can be explained by many reasons. Cracks, deformations or distortions can occur due to impact, vibration-related and other dynamic loads; errors in calculations and reinforcement; use of poor quality materials; non-compliance with the mode of heat treatment and installation technology; variety of strength, elasticity and stiffness of the materials used; may occur as a result of reduced ground strength.

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