#### МЕСТО БЕТОНА И ЖЕЛЕЗОБЕТОНА В АРХИТЕКТУРЕ

## Абдуганиев Нумонжон Набижонвич

## Ферганский политехнический институт

**Аннотация**: Значение конструктивно-декоративных свойств бетона и железобетона можно увидеть на примере нескольких сотен лет строительных работ.

Ключевые слова: цветной бетон, декоративные изделия

# THE PLACE OF CONCRETE AND REINFORCED CONCRETE IN ARCHITECTURE

Abduganiev Nu'monjon Nabijonovich head teacher of Fergana Polytechnic
Institute

Annotation: The importance of the structural and decorative properties of concrete and reinforced concrete can be seen in the example of several hundred years of construction operations.

**Key words:** colored concrete, decorative products

The development of today's architecture and design art depends on the production and skillful use of construction equipment, colored concrete and reinforced concrete.

Concrete and reinforced concrete have their own history and development. Concrete is an artificial conglomerate that has existed for seventeen centuries. Binders - different in each era. In the Egyptians, it consisted of quicklime and additives. The Greeks and Romans used lime in front of them, and later Puzzolanli (the name of a city in Italy, the first place to be found) cement. It is made of a mixture of volcanic ash and lime.

Traditional construction methods for modern concrete and reinforced concrete originated in the first "alumina" (a mixture of clay and straw) structures. This style was widespread in Spain, England and France from the 17th century to the 19th century. Its main importance is its availability from cheap and local raw materials.

In 1852-1853 the French F. Quanye used his knowledge and skills in the construction of clay concrete structures to build concrete structures. In particular, he built a chemical plant in the town of Saint-Denis, on the outskirts of Paris. F. Quantier used inexpensive aggregates to achieve maximum strength of concrete, which was the first to use clinker, clay and sand. On the finished concrete surface, in order to obtain an aesthetic effect, F. Quanye built a decorative wall using colored sand instead of handicrafts. [1].

The next stage in the development of construction equipment was the joint use of concrete and steel. When the concrete was just starting to be used, it was intended to resemble the building materials used before it. Concrete was first used as concrete (embodying its decorative and textured properties) in 1889 during the construction of the Stanford Museum. There, the top layer of the concrete surface was removed to show the texture of the crushed colored filler. The combined use of concrete surface finishing and structural properties of reinforced concrete in architecture dates back to the 1920s. The news was used by Auguste Perre in the wake of the Havre reconstruction in Paris. During the construction process, Perre used a combination of reinforced concrete and concrete. Most of the building blocks are made of standard concrete formwork (the future building block is made of wood), and the construction of the building itself is made of glass. O. At the time of the introduction of concrete, Perre took advantage of the plasticity of the flour and gave it a variety of shapes. On the concrete surface, the traces of the yellow handwriting have been deliberately used. These traces formed a unique image of themselves. In other cases, the top layer of the concrete surface is used to show the color coating of the coarser coating.

The artistic properties of the materials used in the construction depend on their texture and color. Concrete texture is a part of the structure or structure. In addition, the surface is subject to invoice processing. Invoicing is essentially a way of dealing with Muslims. Better a poor horse than no horse at all. Its structure consists of coarse-grained (gravel), fine-grained (sand) and coarse-grained (all types of cement, gypsum, etc.). There are many types of fertilizer sand, which can be used to grind wood, clay, sandstone or rock. Each type of fertilizer has its own color and properties. The color of the sand, in turn, affects the color of the concrete. The appearance of the concrete can be divided not only by hand color, but also by other colors, that is, from brown to almost yellow.

Another important property of concrete is its plasticity. We can pour the concrete into a ready-made mold and give it the desired shape, color or relief.

The hardening of concrete depends on the type of binder and the additives.

These compounds can speed up or slow down the solidification process.

The use of plastics, glass and non-ferrous metals, wood, asbestos-cement, etc., in addition to the various directions of texture processing, allows to achieve a high level of architectural composition.

Each concrete surface has its own roughness. Each uneven surface absorbs moisture from the air. Concrete retains its color for a long time, regardless of color, rain and other factors.

The light is returned evenly from the concrete surface. For this reason, if we look at the concrete surface from any angle, it looks the same color. Usually when we look at glass and smooth surfaces, we see that they shine. The simplicity of the technology of production of concrete products and structures, and their above-mentioned properties, connects concrete and reinforced concrete with architecture.

Decorating is one of the most complex construction processes to date. The cost of decorating buildings is about 30-35% of the total construction cost. If the exterior walls are covered with ready-made decorative items, these figures can be reduced by 15-17%.

The importance of the structural and decorative properties of concrete and reinforced concrete can be seen in the example of several hundred years of construction operations. At each stage of the application process, new styles have emerged. To date, not all the capabilities of colored concrete are used.

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