

THE HISTORY OF CERAMIC DECORATIONS APPLIED TO CULTURAL HERITAGE OBJECTS

Urokov Olimjon Khayitboevich

Doctor of Philosophy in Architecture

Samarkand State University of Architecture and Construction named after Mirzo Ulugbek

e-mail: urakovolimjon83@gmail.com

Umarova Gulnoza magistr SamGaSU

Abstract

Architectural ceramic-tiling refers to the art of ceramics, or pottery, which is a world unto itself. In particular, it starts with the basic processing and decoration of clay in ancient times, and in the centuries that followed, it is baked in a fire oven. This clay is then used to make raw bricks, which are used to make tiles, which are used to decorate our magnificent architectural monuments. The evolution of bricklaying as an art form has been the subject of several studies. A vast vocabulary of words and concepts has organically grown in the talks and hands-on experiences of folk artisans due to extensive research and years of work in ceramics and tiling.

Keywords: Glazed ceramic brick, clay ceramics, faience, cross-glazed ceramic, riveted majolica, tile, muqarnas, mosaic, grid, terracotta.

Introduction

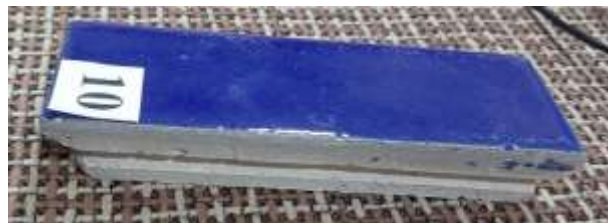
Terminology for Architectural Ceramic-Tiling There is currently very little agreed terminology in the architectural monument literature for ceramic-ceramic coatings. Everyone labels the different sorts of tiles differently as a result. Because entirely new kinds of tiles are employed in modern construction, and many historical terminology for ceramics have been lost over time. One can only imagine how hard and complex it is to appropriately adapt to the current architectural repair work if one does not have a solid grasp of the substance of the traditional phrases used in the restoration of architectural monuments. As a consequence of our many years of connection with the imaginative monument restorers of the people, we were compelled, based on our historic values, to explain the meaning of several phrases that are frequently used in the restoration and description of monuments.

First of all, it should be said that architectural porcelain tiles - ceramics are divided into two groups depending on the raw material and material used: [4]

1. **Clay ceramics**, that is, tiles made of clay raw materials (soils, earthy sand soil, clay and soil mixture); (1st picture)

2. **Ceramics**. tiles created by combining clay, limestone, and quartz powder with ganch.

Architectural tiles, or ceramic embellishments, are known to have been created as decorations for the exterior and interior surfaces of walls and domes in historical structures.



The varieties of tile coatings vary depending on the materials (clay or tile-based materials) used in their construction as well as the raw materials from which they are created. Thus, clay and faience-based materials are the primary materials used to decorate tiles.[2] Brick ornamentation in architecture

Based on its visual characteristics, clay ceramics used in Central Asian architecture can be categorized into the following types:

1. Ceramic brick with glaze. Its smooth surface and, most of the time, its coloration set it apart from regular brick used in building.



2. Reddish-brown architectural terracotta-fired clay, or ceramics, which are still produced today. A ceramic product having an unglazed surface and a porous bulk is called architectural terracotta. Depending on the product utilized, terracotta molding clay, or mass, is often reddish or occasionally reddish-brown in both natural and synthetic hues. They consist of ceramic tiles, ceramic tiles and other features with a flat surface, as well as ceramic tiles with printed designs on their surface or ceramic tiles cut into relief patterns.[3]



patterns.[3]

3. Ceramics with cross-glaze. Though a dark tinted glaze covers the surface, it seems to be embossed terracotta. The latter is sometimes referred to as "poured (polivnaya) terracotta" because of the resemblance in outward size and pattern between the two forms of pottery. This is not true; terracotta is the term for an unglazed ceramic surface that has been "baked clay". As a result, any design may be created on its surface. It seems that a misinterpretation of terracotta gave rise to the term "cast terracotta". Calling it a glazed layer that is solely cross-sectional is accurate. On the surface of such a coating, enamel—a specialty paint—is applied to glaze it. Because of the iron and limestone inclusions in the clay ceramic foundation, which can have a variety of hues depending on the firing temperature, black glazes, or enamel, are used to cover the surface of cut ceramic pottery. The lead-infused transparent glaze highlights and brings the distinct material patches in the terracotta foundation to life. Furthermore, the production process is made more difficult by the use of colored and white angob as a covering beneath the glaze. Moreover, the black glaze-enamel hides any spots on the ceramic base's surface, frees up the artisans to paint the clay base's surface, and permits the addition of fresh coating paints. [6]



paints. [6]

4. Majolica, or rivets, are ceramic products with a delicate, porous foundation and glazes, both translucent and opaque. Depending on the type of clay used, the product's base might be white, reddish, gray, brown, or a similar hue. The product that was colored and kept a secret was initially known as rivet. Parchin often refers to a patterned ceramic board that has been painted with various colored glazes. However, additional particularly produced covering elements like as tiles, sharafas, muqarnas, and cylindrical shapes for covering ceramic columns are also included in the varieties of riveted decorating in addition to ceramic boards.



Archaeologists have been aware of a ceramic product known as "Koshin" for about 2,000 years. This unusual substance melts between 1000 and 1200 degrees Celsius and is made of quartz sand, clay, lime, and other additions.[6]

Following the first successful demonstration of ceramic material manufacture by Iranian and Syrian masters in the 12th century, tile ceramics started to become widely available. The name "tile" comes from the Iranian city of Koshan, which was a major hub for the manufacture of these ceramics at the time [7]. Mosques, mausoleums, and royal structures were decorated both inside and outside in the 12th century with tiles coated in glaze. In the 13th century, the secrets of tile production from Iran and Syria became known to Central Asia, in the 14th century to the Golden Horde, and in the 15th century to Turkey.

Clay-based tiles vary according to their application, mainly including:[7]

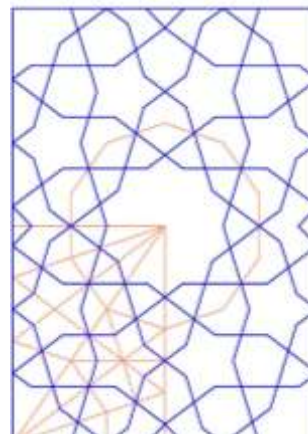
1. Level surface tiles, both glazed and unglazed. For the facing ornamentation of structures constructed before to the fifteenth century, brick tiles with polished, unglazed, and glazed surfaces were utilized.

The seam that remains between the wall surface is caused by the cutting of these brick tiles. The masters began working on Tahbin-style ornamentation around the fifteenth century. because at the building site, specially manufactured takhbins were used to lay the wall's tiling design on the ground first. These tiles are then put on the wall after being taken off of it. [4]

2. Embossed dome and tower tiles. Butterfly-shaped tiles known as "bandik" are used to cover the vertical connections between pairs of bricks or terra cotta that are piled on the tower's surface and the straight walls."

3. In "Pax" style tiles. One of the architectural embellishments seen on monuments is pax. It is mostly utilized in tile and brickwork. Pax is 25 cm long, 10–12 cm broad, and 5–5.5 cm thick. It is constructed of regular brick or terracotta. After being sliced lengthwise, pax can be categorized into a variety of forms, such as angular, straight, tulip, and nova pax. In order to unite decorations of various planes on walls and ceilings, pax tiles served as a border. [8]

4. Toothed flooring and tile flooring. Architectural decorations called dadona are mostly employed in tiling on brick surfaces. A row of glazed or unglazed bricks is frequently used as a border around tiling or



brick ornamentation on the walls of ancient sites. These sort of bricks or tiles are known as dandona.

5. One-time tile slabs with Arabic text etched on them after the clay is pounded into a curved mold and taken out of it. One instance of this may be found in the Arabic inscriptions in the tomb of Khoja Ahmed and other structures within the Shahi-zinda complex, which are fashioned like incised pottery.

6. Ceramic pillars in the shape of flowers that adorn the building's outside corners. Their parts are referred to as the shell (bottom portion), the body (middle part), and the head (capital) (top part).

7. Muqarnas: ornamentation with volumetric patterns. embellishment made composed of girdle-shaped arching niches that are used to adorn domes, mihrabs, arches, and the tops of columns and structures. Muqarnas found widespread usage in building ornamentation, particularly in the Timurid era and beyond.

Originally, muqarnas were composed of bricks or stones stacked on top of one another. Their contribution to the building was positive. Muqarnas are known by several names and have distinct looks. [7,8]

For instance, Kalla-muqarnas is used to embellish the capital (top portion) of the tower columns. A rhythmic ornamentation known as sharafa muqarnas is created by joining the divisions in a straight line.

8. Florence-inspired ceramics. The name of the Italian city of Faience, where the tradition of creating very ornate glaze vessels began, is where the term "Faience" originates. Only goods based on the secret faience are known to include architectural faience, or porcelain faience. We provide a quick overview of the attributes and significance of Fayance below.

Particles of clay and dirt seldom have an average size larger than 0.1 mm. Particles of finely powdered quartz powder used in tiles are typically between 0.3 and 0.2 mm, however they can occasionally exceed 0.5 mm. The surface of the faience by itself is unable to create a smooth result because the quartz powder particles are bigger than the clay particles. Thus, clay is added to the tiled foundation to improve its flexibility. [8]

9. The bulk of plastic clay is easily molded, malleable, and maintains its shape in the oven. is made of natural materials.

Large tiled sections are not often produced. Sharafa and muqarnas are often created using the terma process on a foundation of fiber. It was feasible to put transparent glazes with patterns beneath the white, light-open foundation of the faience. Dark glazes can occasionally be utilized for faience together with a glaze design.

10. One significant kind of architectural detail is **mosaic**. In contrast to the prevalent mosaic type now in use, this design is made up of pieces that have been cut in accordance with a unique pattern and color rather than cubes that are all the same size and can be identified by the colors of their themes. This gave rise to the term "sectional mosaic," or "koshinburrish" in the masters' language, which is also sometimes referred to as Fayance mosaic.[8]

According to clay ceramic mosaic, there were several forms of "tile mosaic" and "riveted cross-section mosaic" in the history of Eastern architecture. These embellishments are referred to as "cut ceramic mosaic" or, more accurately, "faience ceramics" depending on where they come from and what material is utilized.

Apart from mosaics, there are also low-textured faience (particle size 1.5-2.0 mm) rivet boards used as borders for epigraphic, vegetal, and relief pattern, hexagonal and square rivet boards for filling large spaces, and various sized colored tile strips made of rivet pieces cut from terracotta and stone (marble).

11. A grille is an architectural element that is utilized in shelves, openings, and other areas of structures as a decorative element and barrier. Lattices are geometrical and vegetal in composition. Copper, marble, wood, ceramics, and other materials are used to make them.

Historical monuments often have ceramic fences made of terracotta, glazed tiles, brickwork, and riveted (majolica) fencing.[7,8]

Because **terracotta** is an unglazed face brick, the grids built of it are utilized in structures that have been repaired using regular baked bricks instead of glazed tiles.

The emergence of covert coatings in architectural ceramics may be attributed to both the need for adornment and defense against environmental and meteorological elements that degrade priceless ceramic coating components used in construction. As a result, ceramic tiles were used to cover the whole domes, which receive precipitation straight from the atmosphere. The structures' walls were coated with unglazed ceramics that were either entirely or partially decorated with glaze.

In the development of architectural ceramics of Uzbekistan in general, it can be observed that the production of architectural decorations has become more complicated from simple earthen ceramic parts to complex faience mosaic, which is the culmination point in the development of ceramic decoration, i.e. the art of tile bending.

In the development of architectural ceramics of Uzbekistan in general, it can be observed that the production of architectural decorations has become more complicated from simple earthen ceramic parts to complex faience mosaic, which is the culmination point in the development of ceramic decoration, i.e. the art of tile bending. [8,9,7]

Ancient ceramic tile decorations made on a clay base

With their long history of mastering ceramics, the Uzbek people have decorated their buildings with ceramic elements. The primary construction material here was inexpensive, viscous, robust, healthy dirt. In its many forms, it was utilized as raw bricks, pakhsa, guvala, or as a clay for plastering and bricklaying. Eventually, it was baked into bricks, and yet later, it was glazed. A practical and easily moldable material, clay was first used for ceramic architectural ornamentation in the first century BC, when its processing techniques were well developed. Since the Neolithic era (6th millennium BC), people have been aware that loam may be used to make a variety of dishes and decorations because it turns stone when burned in a fire.[10]

One of the major accomplishments of the Neolithic, or new stone age, is the invention of pottery, or ceramics. This era is sometimes referred to as the age of ceramics. Because around this time humans started attempting to make and produce more of things themselves rather than just consuming what nature had to provide. Weapons were manufactured of stone up until this point, but now stone is being processed, finished, and delicate objects are being produced. There's no denying that relationships have grown as constructive forces in social life have been more prevalent. People's awareness of the rules of nature has led to the development of concepts like symmetry, rhythm, and color harmony. His contribution to the subject was a distinct kind of pattern art based on the flat repetition or blending of the same elements—rhythm. In the Neolithic era, patterning was common. In [2]

There are designs used to embellish pottery and other materials. Concentric circles, parallel, spiral, and wavy lines serve as the foundation for many of this era's designs. Over time, the substance of geometric patterns was broadened and enhanced with shapes from the schematic worlds of humans, animals, and plants. The components of it mirrored the cosmic forces' symbolic signals. As an illustration, a circle represents the sun, a wavy line represents movement, a symbol of water, etc. Small plastic components are also widely used at this time. Traditional schematic figures consist of bones, wood, clay, and partially stone for people and animals. [6,8]

The development of pottery wheels in some regions during the Bronze Age (two to three millennia before Christ) guaranteed that the forms of ceramic goods were distinct and smooth. Sculptures are being created not just in clay but also in metal and wood.

Conclusion, this article can help all students studying architectural monument repair and restoration as well as the protection of cultural heritage artifacts by strengthening their theoretical and practical knowledge abilities.

References

1. Зоҳидов П.Ш. Меъмор олами. –Тошкент, 1996.
2. Пулатов Х., Уралов А Архитектура ёдгорликларини таъмирлаш ва қайта тиклаш.-Т., 2007.
3. Пулатов Х ва бошқалар. Архитектура ёдгорликларини таъмирлаш.-Т., 2009.
4. Рахмонов А.Р. Проблемы реставрации и приспособления объектов культурного наследия под современные нужды. //Архитектура и строи-тельство Узбекистана, 1995, №1.
5. Uralov A.S., Mamatmusaev T.Sh. Arxitekturaviy shakllarni uyg'un-lashtirish va bezash.-Toshkent. 2017.
6. Uralov A.S., Haqqulov A.G'., Abduraimov Sh.M. Arxitektura yodgor-liklarini ta'mirlash va qayta tiklash tamoyillari.-Samarqand. 2020.
7. Haqqulov A. Tarixiy yodgorliklarni ta'mirlash. Т. 1983
8. Haqqulov A. Ta'mir san'ati. Т., 1991
9. Haqqulov A.G'. Me'moriy ta'mir va koshinburrish san'ati fidoyisi.-Samarqand.2016.
10. Axmedov M.Q. "O'rta Osiyo me'morchiligi tarixi", 34-bet. Toshkent. "O'zbekiston" nashriyoti, 1995y