MAIN PROPERTIES OF COSMETIC BUILDING MIXTURES

Islomova Nufuza Ismatjon qizi
Assistant of the Department of "Building Materials and Structures"
Jizzakh Polytechnic Institute
(+998888695880, islomovanufuza@gmail.com)
https://doi.org/10.5281/zenodo.16901479

ARTICLE INFO

Qabul qilindi: 10-Avgust 2025 yil
Ma’qullandi: 15- Avgust 2025 yil
Nashr qilindi: 19- Avgust 2025 yil

KEY WORDS

Plaster, mixture, polymer, paint, mosaic, stucco, putties, property, strength, density, texture, corrosion, thermal insulation.

ABSTRACT

This article explores the composition, properties, and application areas of decorative construction mixtures. It analyzes the physical and mechanical characteristics, durability, and resistance of decorative mixtures used in construction to moisture, temperature, and other external factors. In addition, important aspects such as the environmental safety and energy efficiency of modern decorative materials are also examined. The research results serve to assess the quality of these mixtures and to develop recommendations for their effective practical application

In modern construction, finishing works account for 40% of the total building cost. Finishing primarily serves to enhance aesthetic appeal, improve architectural expression, increase durability of structures, and protect them from atmospheric effects. Additionally, it ensures compliance with sanitary, hygienic, and operational requirements. The main types of finishing works are divided into the following categories:

1. Plastering – the application and smoothing of a mixture onto wall surfaces.
2. Cladding – covering surfaces with natural or artificial stones such as marble, granite, gabbro, syenite, ceramic tiles, polymer tiles, polymer roll materials, etc.
3. Painting – decorating surfaces with paints, including oil-based paints, water-emulsion paints, polymer emulsion paints, and others.
4. Floor covering – applying linoleum, parquet, and synthetic carpets.
5. Other finishing works – include installation of windows and doors, and cladding of walls with chipboard (DSP) or wood.

Among all finishing works, plastering and painting are the most labor-intensive, accounting for 70% of the total finishing workload. When facade finishing works are prefabricated at the factory, they are classified according to the following criteria: Application stage – finishing mixtures can be applied to the wall surface before or after formwork removal, and before or after hardening. Type of finishing materials – includes ceramic tile cladding, glass mosaic cladding, mirror tiles, coatings with mastics, enamels, etc.Surface texture – may include smooth surfaces, textured surfaces, or surfaces decorated using relief painting techniques. Color – finishes may be in uniform color or multicolored. Manufacturing method – surfaces may be finished with the decorative side facing upward or downward

during production.

Finishing works are carried out using the following methods:

1. Painting – applied to ceilings, walls, and partition walls.
2. Wallpapering – applying decorative (synthetic) wallpaper and other roll materials, mainly to partition walls and, more recently, ceilings.
3. Cladding with ceramic or polymer tiles – typically used in sanitary-hygienic rooms and kitchens.

Requirements for Preparing a Building for Finishing Works: Before starting finishing works, the following conditions must be met:

- The roof must be completed,
- Doors and window frames installed,
- Fire escape ladders in place,
- Partition walls reinforced,
- Enclosed areas plastered,
- Indoor temperature must be above 8°C,
- Sanitary and plumbing works completed,
- Electrical installations completed.

When finishing elements are prefabricated in factories, construction is completed faster and at lower cost. Moreover, the finishes are more durable and the service life of the building is extended. Decorative Construction Mixtures . Decorative construction mixtures are used not only to enhance the aesthetic appeal of exterior and interior surfaces of buildings but also to protect them from various types of damage. These mixtures are produced from a variety of raw materials and are classified into different types depending on their application.

Main Types of Decorative Construction Mixtures:

1. Decorative Plaster (Stucco) – These mixtures are used to provide walls with an attractive appearance and to increase surface durability. The most common types include: Mineral Plaster – based on cement or lime; known for its strength and long service life. Acrylic Plaster – elastic, resistant to moisture and temperature fluctuations. Silicate Plaster – water-resistant and environmentally friendly. Silicone Plaster – easy to clean and retains its appearance for an extended period.

2. Plasters and Putties: Gypsum-based putties – suitable for interior finishing; have a smooth and soft texture. Cement-based putties – moisture-resistant; a good option for bathrooms and kitchens. Polymer-based putties – offer high elasticity and durability.

3. Paint-Based Mixtures:

- Water-based paints – environmentally friendly and used for interior decoration.
- Enamel paints – moisture-resistant, used to create non-slip surfaces.
- Facade paints – specially developed for exterior walls; resistant to weather conditions.

4. Decorative Finishing Mixtures:

- Venetian plaster – used to create a marble-like effect.
- Mosaic plaster – made from colored stone or marble chips.
- Textured and relief plaster – used to create patterns and various surface textures.

Decorative Construction Mixtures. Decorative construction mixtures are special blends used for the interior and exterior coatings of buildings and structures. They provide not only an aesthetic appearance but also protective functions and structural durability.

Main Properties of Decorative Construction Mixtures:

1. Mechanical Properties:

• Strength – the ability to bear loads and resist mechanical impacts after hardening.

• Flexibility and crack resistance – the ability to withstand deformation, especially important for structures exposed to temperature fluctuations or movement.

• Surface hardness – resistance to scratching and abrasion.

2. Physical Properties:

• Density and lightness – should have optimal density to avoid adding unnecessary load to building elements.

• Thermal insulation – some mixtures are specifically designed to retain or conduct heat depending on requirements.

• Moisture resistance – essential for use in bathrooms, kitchens, and exterior facades.

3. Chemical Properties:

• Corrosion resistance – should not degrade when exposed to chemical substances.

• Biological resistance – ability to resist mold, fungi, and microorganism growth.

• Chemical inertness – should not react with other construction materials.

4. Aesthetic Properties:

• Texture and smoothness – can be prepared with a variety of finishes (smooth, grainy, patterned) for decorative purposes.

• Color variety – available in different shades using natural or synthetic pigments.

• Resistance to light and moisture – should retain color and appearance over time, even under exposure to sunlight or humidity.

5. Application and Workability Properties:

• Ease of application and leveling – should be user-friendly during the application process.

• Fast drying and curing – optimal setting time to speed up construction workflow.

Strong adhesion – must bond well to surfaces such as walls, concrete, bricks, and others

References:

1. Berdiyev, O. B., Kurbanov, Z. H., Tilavov, E., Rasulova, N., Boboqulova, S., Jumanov, I., ... & Botirov, B. (2024). The calculation of reinforced concrete conical dome shells considering concrete creep. In E3S Web of Conferences (Vol. 587, p. 03001). EDP Sciences.

2. Hamidduloyevich, K. Z., Ezoza, S., & Jamshid, R. (2024). DEVELOPMENT OF COMPOSITE MIXTURES USING WATER-SOLUBLE POLYMERS FOR CERAMIC TILES. Бюллетень педагогов нового Узбекистана, 2(11), 127-130.

3. Mustafaqulov, J., & Kurbanov, Z. (2024). COMPOSITE GYPSUM MATERIALS FOR THE PRODUCTION OF THERMAL INSULATION PRODUCTS: DEVELOPMENT, PROPERTIES, AND APPLICATIONS. Журнал академических исследований нового Узбекистана, 1(10), 124-127.

4. Javohir, M., Zavkiddinjon, K., & Mirzokhid, O. (2024). COMPOSITION AND PHYSICAL AND TECHNICAL PROPERTIES OF CERAMIC CONCRETE WITH INDUSTRIAL WASTE AND CHEMICAL ADDITIVES. Central Asian Journal of Education and Innovation, 4(1), 38-41.

5. Курбанов, З. Х., Шукруллаева, Д., & Турсунбоева, С. (2024). РАЗРАБОТКА КОМПОЗИЦИОННЫХ КЛЕЕВЫХ СМЕСЕЙ НА ОСНОВЕ ВОДОРАСТВОРИМЫХ ПОЛИМЕРОВ ДЛЯ КРЕПЛЕНИЯ МРАМОРНОЙ И ГРАНИТНОЙ ПЛИТКИ. Central Asian Journal of

Education and Innovation, 3(12), 158-162.
6. Курбанов, З. Х., Мамадуллаев, Д., & Ибрагимова, К. (2024). РАЗРАБОТКА КЛЕЕВЫХ СМЕСЕЙ ДЛЯ УКЛАДКИ КЕРАМИЧЕСКИХ ПЛИТ НА ОСНОВЕ ЦЕМЕНТА С ИСПОЛЬЗОВАНИЕМ ВОДОРАСТВОРИМЫХ ПОЛИМЕРОВ. Бюллетень педагогов нового Узбекистана, 2(11), 80-83.
7. Hamidduloyevich, K. Z., Vohid, X., & Gulchehra, R. (2024). DEVELOPMENT OF COMPOSITE MIXTURES USING WATER-SOLUBLE POLYMERS BASED ON CEMENT. Central Asian Journal of Education and Innovation, 3(12), 97-100.
8. Kurbanov, Z., & Noryigitov, N. (2024). DEVELOPMENT OF COMPOSITE MIXTURES FOR CERAMIC TILE INSTALLATION USING WATER-SOLUBLE POLYMERS BASED ON CEMENT. Central Asian Journal of Academic Research, 2(12), 79-82.
9. Hamidduloyevich, K. Z., & Laziz, S. (2024). DEVELOPMENT OF COMPOSITE ADHESIVE MIXTURES FOR CERAMIC TILE INSTALLATION USING WATER-SOLUBLE POLYMERS. Бюллетень студентов нового Узбекистана, 2(12), 22-25.
10. Hamidduloyevich, K. Z., & Sitora, Y. (2024). DEVELOPMENT OF COMPOSITION AND TECHNOLOGY FOR PRODUCING COMPOSITE WATER-RESISTANT FOAM GYPSUM MATERIALS BASED ON SULFATE-CONTAINING MINERAL BINDERS. Бюллетень педагогов нового Узбекистана, 2(11), 76-79.
11. Hamidduloyevich, K. Z., & Bekzod, Q. (2024). DEVELOPMENT OF COMPOSITE ADHESIVE MIXTURES FOR LAYING CERAMIC TILES USING WATER-SOLUBLE POLYMER. Central Asian Journal of Education and Innovation, 3(12), 92-96.
12. Абдусаматов, К. Б., Турсунов, Б. А., Курбонов, З. Х., Расулова, Н. Б., Убайдуллаев, Ж. А., Бахронов, Ж. Т., ... & Каримов, Л. Ш. (2021). ИСПОЛЬЗОВАНИЕ ОТХОДОВ АСБЕСТОЦЕМЕНТОВ ПРИ ПРОИЗВОДСТВЕ ГАЗОБЕТОННЫХ БЛОКОВ В СТРОИТЕЛЬНОЙ ПРОМЫШЛЕННОСТИ.
13. Khamidulloevich, K. Z., Botirkulovna, R. N., Narzullayeva, K., & Davron, O. (2023). Study of the Mechanical Properties of High Strength Concrete Obtained With the Help of Chemical Additives. AMERICAN JOURNAL OF SCIENCE AND LEARNING FOR DEVELOPMENT, 2(2), 64-68.
14. Талипов, Н., Курбанов, З., & Артыккулов, Д. (2023). ЭФФЕКТИВНЫЕ СУХИЕ СМЕСИ С ПОЛИМЕРНЫМИ ДОБАВКАМИ. Центральноазиатский журнал образования и инноваций, 2(5), 43-48.
15. Kurbanov, Z., & Artiqqulov, D. (2023). DETERMINATION OF THE CONTENT OF DRY CONSTRUCTION MIXED ON THE BASIS OF LOCAL MARBLE WASTE POWDER. Центральноазиатский журнал образования и инноваций, 2(9), 104-106