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Technology of Obtaining Facade Liquid Wall Papers Based on Fiber Waste of Carpet and Carpet Production Enterprises

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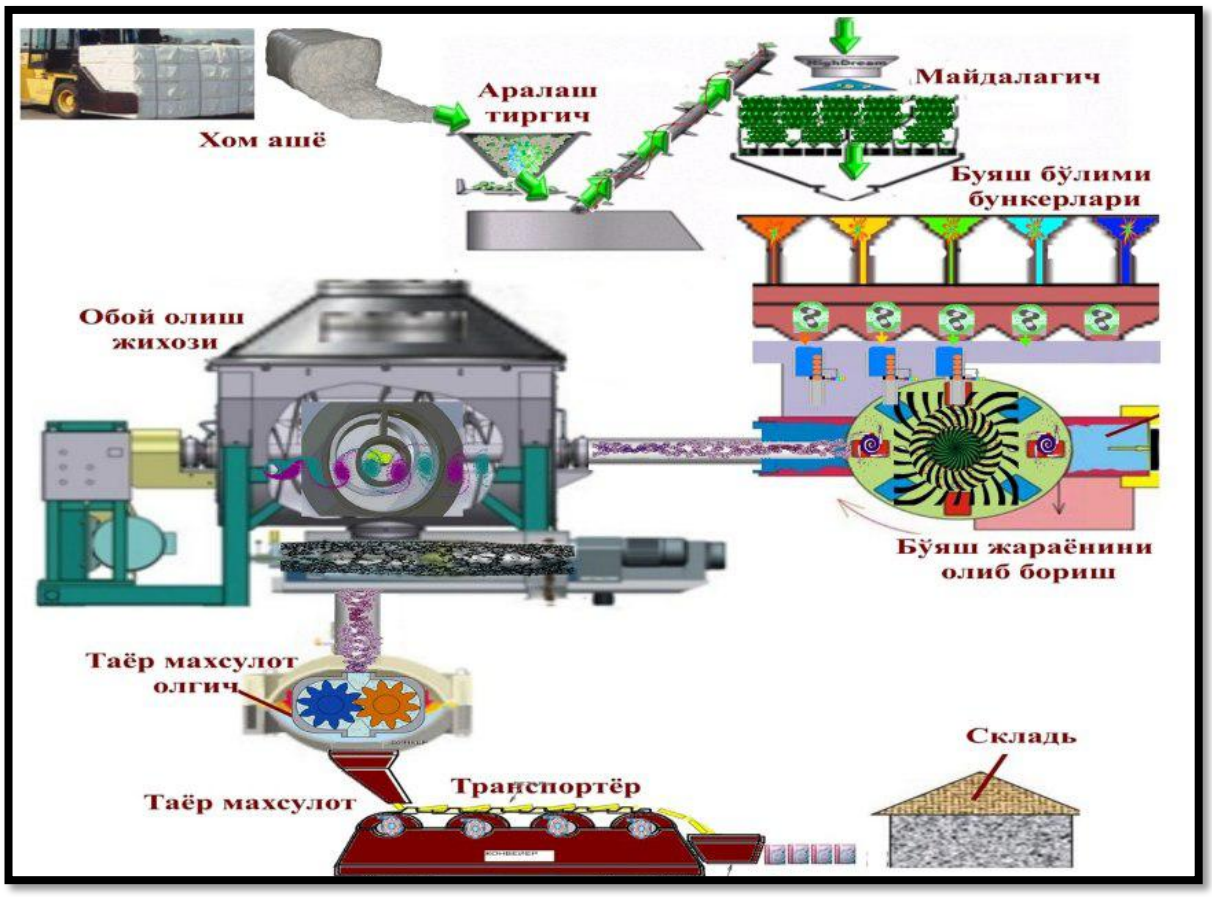
The advantage of the production process of the production of liquid wall paper and the cellulose obtained from the fibrous waste included in it and the reagents synthesized on its basis is superior to the existing technologies, in the fact that it has high quality indicators due to the reduction of several processes during its synthesis, as well as the physico-chemical and mechanical properties of the product obtained by the existing technology. it is distinguished by its absence.

In addition to the inclusion of fractionated carpet fiber waste as an ingredient in liquid wallpaper, the creation of innovative technology to increase the productivity of cotton and textile and carpet industry enterprises and improve, that is, reduce their impact on the environment, is one of the problems that need to be solved today. is counted. In the proposed innovative project, it is envisaged that the technology of obtaining high-quality liquid wallpaper based on fiber waste will be developed in a simplified way, unlike the existing technologies, and of course, high-quality and cheap, affordable, export-oriented synthesis methods. The innovative technology intended to be created is characterized by its simplicity and the ability to control the regimes in it with high precision according to the required quality indicators, that is, by changing the concentration, time, temperature, the desired product, the degree of polymerization, the degree of high substitution and the amount of the main substance, in high percentages (98.8-99.8 %) is distinguished by the possibility of synthesizing indicators such as the solubility of reagents. Below is the principle scheme of the innovative technology of obtaining SDGQ (liquid wall papers), in which the synthesis of composite decorative products with more than 10 brands and about 5000 types of color glosses are carried out with the participation of cellulose-containing plants, fibrous wastes of various industrial enterprises and cellulose ethers obtained on their basis.

Fibrous raw materials (1) enter the hopper (2) and are thoroughly mixed and directed to the crusher (3). Here it is chopped into required sizes. The grinding process is carried out in a strict order, because the part of the fiber smaller than 1.2 mm has a high probability of having a negative effect as an intermediate product without giving a structure to the wall. After a special grinder, the fiber composition is directed to the dyeing section, where the member and active dyes are dyed. A composite of strips painted in different required colors enters the SDGQ (liquid wall papers) receiving device.

PRINCIPAL SCHEME OF THE TECHNOLOGY OF OBTAINING FACADE LIQUID WALL PAPER BASED ON FIBER WASTE OF CARPET AND CARPET PRODUCTION ENTERPRISES



Picture: 1-Raw material, 2-mixer, 3-grinder, 4-painting department, 5- wallpaper receiving device, 6-finished product receiver (bender), 7-finished product, 8-transporter, 9-warehouse

Here, various ingredients, i.e., adhesive fillers, substances giving elasticity to fiber, adhesives (PATs, MTs, KMTs, KKTs...) are sequentially added to the semi-finished product. This device consists of special non-standard parts, which are useful in delivering various fillers to the fibers of the fiber. This device has been copyrighted.

The finished product of the same composition (7-8) is sent from the packaging department to the finished product warehouses (9).

We have started scientific research activities for almost 20 years, that is, since 2000, on the innovative project created from these local raw materials and put into production.

What did wall interiors look like in past centuries and what did liquid wallpapers look like in those times? In the centuries before Christ, when people did not even have a house to live in, people lived in various caves, and used the skins of various animals to decorate those caves. Later, around 100 BC, they began to use various fiber fabrics to decorate the walls. In the beginning, it consisted only of black and white colors, later they began to decorate it in color. Babylonians and Assyrians invented this method.

In 100 BC, wall decorations made of paper and fiber cloth appeared in China. Tsai Lun invented the method of polishing a fishing net by pulling a fiber cloth. After that, a new invention replaced the thin fiber fabric, which had the advantage of being strong and rigid.

After pasting the paper to the wall, they drew birds and religious images using hieroglyphs.

Currently, the demand for liquid wallpaper is growing rapidly in the developed countries of the world.

In particular, in countries such as Russia (Silk Plaster), Ukraine (BioPlast), Japan (Orental Coat), China (Beata Vujcik), France (Senideko), Uzbekistan (Tapeten Decor - our innovative product), the production of liquid wallpaper under different names is large. is being widely implemented.

The demand for liquid floral wallpaper is increasing due to several positive features of it compared to wallpaper in the form of rolls. When wallpaper in the form of a roll is glued to the wall, over time, when light appears on the wall, since it does not acquire the property of stretching, it quickly tears or changes its color due to negative consequences, and there is no possibility to replace the damaged parts with new ones.

Such situations are easily solved with liquid flower wallpapers. That is, the product has the characteristic of stretching from 0.5 cm to 1.5 cm, if cracks appear on the wall under the coating over time when it is applied to the wall. It does not change color for a long time. If any part of it is damaged due to the influence of external environment, it is necessary to remove the same damaged surface slowly by spraying water and apply it again to the same place.

All raw materials in its composition are considered natural. Because the component that makes up almost 85% of its composition is cellulose obtained from natural fiber. The rest of the components are ethers and dyes and natural binders obtained on its basis. Therefore, during the use of the product based on them, the worker (master) is not required to wear protective gloves or special protective glasses.

They are used, i.e. applied to the wall, in the same way as wallpaper rolls. In this case, the surface of the wall goes through stages such as putty and primer. The only difference between our innovative product and ordinary roll wallpaper is in the form of a dry composite mixture containing cellulose. For this purpose, the same mixture is treated with water for a short time until it forms a homogeneous consistency similar to putty, and then it is applied with a special spatula to finish the previously prepared wall surface. The product dries on the wall surface in 24 to 32 hours, depending on the thickness of its application to the wall. Our innovative product, dried on the wall surface, will have the appearance of expensive wallpaper rolls.

Another possibility of our innovative product is that in the process of applying it to the wall, it is possible to create various glossy, decorative images on the wall surface based on the customer's requests and suggestions.

More than 10 types, more than 5000 colors of polishes have been created based on innovative technology.

Big changes are taking place in the construction sector of the Republic every year. Raw materials and various ingredients synthesized on the basis of innovative technologies are used in the construction of modern buildings and comfortable roads.

The presented innovative product is one of the products used in the decorative finishing of rooms in the post-construction stages of modern buildings.

Liquid wallpaper in the CIS countries is called a finishing decorative coating when decorating walls and ceilings. Liquid wallpaper contains the components of ordinary wrapping paper and decorative plasters and varnish coatings.

Liquid wallpaper is a cellulose-based mixture that contains harmless decorative components.

In some cases, this product is compared to ordinary plaster, although liquid wall paper does not contain sand. Its composition consists of cellulose and harmless natural adhesive briquettes.

Liquid wall flower paper has several positive features, unlike ordinary roll flower paper: - it does not create cracks when applied to the wall, - it has the property of leveling the wall, - it is environmentally friendly, - it saves time in its use, - it does not require accuracy in repair, - it has

the property of antistatic has, - does not absorb dust. It does not lose its value after use, that is, when the design of the room needs to be changed, it can be removed from the wall and applied to another floor. Liquid floral wallpaper does not burn in the sun and does not change its luster and character over decades.

The creation of innovative technology for the production of this product, its use as wall coverings in the finishing stages of modern houses, rural houses, and rooms of all types of buildings, giving the rooms a special look and shine, as well as the fact that it is an environmentally friendly product, and its price is very low, are the reasons why it is so affordable and environmentally friendly indicates that it is an innovative product.

Preparation of the product:

The product inside the package is mixed dry, then the required amount of product is put in a plastic container and mixed with warm water (6-7 liters of water per 1 kg of "TAPETEN DEKOR") for 5-7 minutes. The mixture is allowed to stand for 2 to 6 hours until it reaches a uniform composition.

The prepared mixture is thoroughly mixed once again and applied to the wall using a special spatula.

Construction time, t

The construction time of liquid wall paper is from 12 to 48 hours, depending on the temperature of the room, humidity and wall covering.

Consumption amount of 5kg "TAPETEN DECOR".

№	Coating thickness	Volumetric quantity	Build time,τ
1	2 mm to 3 mm	14 m^2-18 m^2	12-22
2	3 mm to 4 mm	11 m^2-15 m^2	18-26
3	4 mm to 5 mm	8 m^2-12 m^2	24-48
4	5 mm to1 cm	5 m^2-9 m^2	48-72

“TAPETEN DEKOR” Environmentally friendly product; It does not contain toxic and harmful substances.

“TAPETEN DEKOR” ***Heat preservation;*** Unlike other types of wallpaper, liquid wallpaper is characterized by heat-retaining properties.

“TAPETEN DEKOR” ***Easy to repair product;***
The process of using it is without any difficulties.

“TAPETEN DEKOR” ***It does not show any "noises" and various seams when applied to the wall surface;*** The appearance of the wall after repair will have a special charming shine without "noises" and various seams - this is the truth.

“TAPETEN DEKOR”. *After repair of the wall surface, "breathing" is improved;* If the temperature in the room drops sharply, it is inevitable that the water vapor will be free of condensate. This unpleasant process will disappear by itself after repair of "TAPETEN DEKOR" product. This is the "breathing" of the wall.

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