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## KEY WORDS

*Cosmetics, Alifs, nail polish, Solvents, Aluminum powder, Gold color bronze, Epoxy paint, Resin varnishes, Artificial mineral pigments*

Organic oily, liquid and various substances applied to the surface of the object are often used in cosmetic works. They firmly adhere to the surface of the object and form a thin film. Belonging to the group of decorative materials, such substances and compositions are also called lok-paint or painting materials. When finishing buildings and structures, protecting them from harmful environments, when they are covered with hard materials, they provide the properties of the products and structures in the initial period, and increase their durability and construction efficiency. Cosmetics are of great importance in decorating, creating sanitary conditions, protecting from dust, pollution, moisture, and external noise. Paints are mainly composed of binders, solvents, pigments and powder fillers.

## MODERN TECHNOLOGIES OF VARNISH PRODUCTION

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## ABSTRACT

*Organic oily, liquid and various substances applied to the surface of the object are often used in cosmetic works. They firmly adhere to the surface of the object and form a thin film. Such substances and compositions are also called lok-paint or painting materials, which belong to the group of decorative materials. When finishing buildings and structures, protecting them from harmful environments, covering them with hard materials, they provide the properties of the products and structures in the initial period, and increase their durability and construction efficiency. Water is used as a solvent for adhesive water-emulsion paint. Turpentine, solvent oil, white spirit, etc. are mostly used for dissolving lacquer paints.*

**Alifs.** Natural and mixed (artificial) alifs are mainly used in the preparation of loco paints. Natural oils are specially produced from vegetable oil and after application, they dry quickly in the air, forming a thin and elastic film. Solidification of natural oils is a colloidal chemical process, which is the result of oxidation by oxygen in the air. Natural alif is made from linseed, hemp, sunflower and other vegetable oils. For this, a special mixture (siccatives) is added to the vegetable oil and it is heated up to 200°C. Alif obtained from flax and hemp is considered a high-quality material in construction. The disadvantage of natural alif is its slow drying. Instead of natural alif, it is possible to use artificial and semi-artificial alifs, which are close to it in viscosity and film-forming properties. Semi-natural aliph are widely used in



construction to dilute oil paints to the required consistency. The obtained coloring compositions are used for external and internal painting of metals, wood and plaster.

**Solvents.** Solvents are of great importance in bringing all slurry paint formulations to a workable level. They are of 3 types according to their use: for oil varnishes and paints; for glyphtal and bituminous varnishes; solvents used for epoxy, nitrocellulose, and perchlorvinyl lacquers. Water is used as a solvent for adhesive water-emulsion paint. Turpentine, solvent oil, white spirit, etc. are mostly used for dissolving lacquer paints.

**Pigments.** Pigments are substances colored by chemical compounds, insoluble in water and binders, as well as in organic solutions, and easily mixed with liquid binders in powder form to form paint. Pigments are organic and mineral. Mineral pigments, in turn, are divided into natural and artificial types.

**Aluminum powder** very elegant crushed, leafy of particles consists of Fastening feature, grinding level and chemical to the composition looking aluminum 4 different brands of powder by doing is issued. External appearance in terms of when aluminum powder easy rubable silvery it is colorful. Basically iron surfaces to paint for used oily, enamel and emulsion paint mixtures preparation for is used. Density is equal to  $40 \text{ g/m}^2$ .

**The golden color is the same as bronze** aluminum powder like brass, bronze or copper grind the way with is taken. Particles to the same structure have. Golden color bronze oily and enamel to the paint adding, basically, different interior decorate works for is used. Density is equal to  $40 \text{ g/m}^2$ . Paintable powder fillers -

white colorful paint to contents used pigments savings in order to applied in solvents an insoluble mineral substance. Powder fillers when added paint of contents properties somewhat changes, that is their strength, acids, alkali, high to the temperature endurance quite a bit increases. Paint contents and item surface in alignment talc, sand, dusty quartz, andesite, diabase, asbestos are used.

**Epoxy Painter** basis prepared enamel pigments epoxide tars in solution mixing is taken. Epoxy enamels chemical elements to the effect very resistant. That's why for it is iron and wood items from rust and from decay keep in order to is used.

**Nitro dye** external and internal paint in their work sketchy painted iron, wood and board plaster surfaces to paint for is used.

**Nitroemal** - nitrocellulose and of tar in volatile organic solvents from solutions consists of To him pigments and plasticizers added will be Nitro enamels external environment under the influence of didn't happen wood - board and sketchy painted iron surfaces to paint for is used.

**Emulsified paints.** Polymeric with water (polymer emulsion). pigments mixing prepared emulsion paints in construction very a lot is being used. Of these one from PVA resin prepared emulsion pigments with mixing received are paints. Paint curtain fragile not to be for emulsion plasticizer dibutyl phthalate is added. This kind of Painter from the factory to construction dark porridge-like in case is brought and water with diluted used. Tar, bitumen and so on curtain harvest doer substances volatile in solutions diluted locs is taken. Item to the surface smeared loc of the solvent flying leaving at the expense of fast drying, hard, thin and shiny curtain



harvest does Under construction a lot used  
locs the following to groups to be can

**Oil tar varnishes** - natural or quick drying synthetic resins in oils melt and dry them diluents adding received loc . With oil tars mixed up received locs from drying after item on the surface hard and shiny curtain harvest does But that 's it locs alcohol to the locks than slower it dries . From 3 to 12 hours only recently dust does not stick , 1-3 days and he is perfect it dries .Such locs oil content to tar 2-4 times more . Oil tar locks smeared item shiny solid , water and atmospheric effects durable will be , to use ready without is issued . them more dilution must if , a little turpentine or add solvent gasoline enough They are building internal and external surfaces painting , as well as resistant putty and grunts preparation for is used .

**Resin varnishes** . Synthetic resins in organic solutions melting the way with oil-free synthetic locks is taken . In Kurshshsh the most a lot used such from locs one from urea-formaldehyde and glyphthalic resins detachable Mch-26 or Mch -52 are loks . They are very solid , colorless , clear , high to the temperature and to water resistant to friction as well strong has been curtain harvest by doing it hardens . Brand Mch-26 and Mch-52 locs floors face to cover and another to friction a lot working items location for is used .Lacquer-paint materials are the compositions that are applied to the surface of building materials or constructions in a liquid, thin layer and form a solid film that covers it after drying. These curtains should fit well with the surfaces to be painted, protect the main material of the construction from the aggressive environment, give an external decorative appearance to the surfaces to be painted, and also improve sanitary and

hygienic conditions in the rooms. Varnish-paint, materials are divided into paints, varnishes and auxiliary materials. Their main components are pigments, fillers and binders. Pigments and fillers are designed to give certain color, opacity, improve mechanical properties, and increase durability in use. Pigments are divided into mineral and organic pigments; mineral pigment, in turn, is divided into natural and artificial pigments.

Artificial mineral pigments are obtained by chemical processing of mineral raw materials. Among the white pigments, zinc, lithopone and titanium belila are common. Yellow pigments include zinc and lead crown (lead crown has a subtle variety of colors from lemon-yellow to orange), red pigments include lead yellow, blue pigments include ultramarine and dyer's azure, and green pigments include chromium oxide and lead blue. The gas body is a black pigment. It is characterized by high sealing and resistance to acids and alkalis.

Artificial mineral pigments have a sufficiently full color gamut, they are used to prepare various coloring compositions used for exterior and interior decoration of buildings. Metal powders in the form of aluminum (silvery) and bronze (golden) powders are used for painting metal structures and for decorative painting.

Artificial organic pigments consist of a colored powder obtained by precipitating aniline organic dyes in some white filler (kaolin, spar or talc). They have high painting properties, but due to their low light resistance, they are mainly used for painting the interior of rooms.

The effectiveness of the work carried out in finishing the buildings and structures with varnish materials is different. Plaster,



marble, granite, ceramics, decorative brick, decorative paintings, glass, etc. are used to finish the surface of the building. Along with materials used on the outside, paper, linoleum, tiles, parquet, and carpentry materials are also used for interior decoration. In recent times, various synthetic materials (plastics) in the form of separate plates, sheets, canvas are widely used for finishing walls and floors. For example, instead of wooden and parquet

floors, linoleum and plastic tiles are widely used. All these things increase labor productivity and reduce construction costs. Fillers are mostly white and paint to save pigments and give them special properties (such as high strength, acid resistance and fire resistance, etc.). An insoluble mineral substance added to ingredients. Kaolin, crushed talc, powdered quartz, asbestos dust, mica and other crushed materials are used as fillers for coloring compositions.



**Binders.** Binders are substances that form coloring compositions with pigments and after drying form a thin film on the painted surface with decorative or anti-corrosion properties. Binders used for the preparation of paint compositions can be conditionally divided into the following main groups: for oily compositions, for aqueous compositions and emulsions. The main properties of paint compositions (applicability, strength and durability)

depend to a certain extent on the type of binder and its relative amount. Dry vegetable and mineral oils, synthetic tars, and oil varnishes serve as thickeners for oily compositions. Depending on the type of binder, the film of coloring compositions dries due to oxidation of vegetable oils, evaporation of volatile solvents or polymerization of synthetic resins. The full construction time of this binder curtain should not exceed 24 hours.



Alif consists of an oily liquid, which dries and forms a strong elastic film after being applied to the surface. The industry produces natural, semi-natural and artificial alifides.

Natural alifs are obtained by boiling vegetable oils (linseed, hemp plant, etc.) at a temperature of about 200 °C with the addition of siccatives (oxidizers that help to accelerate the drying of alif). Natural alifs create strong and long-lasting coatings, which are used to create high-quality paint compositions used for painting metal structures, door panels, window grills, wooden floors, and more. But taking into account the savings of expensive vegetable oils, their use in construction is limited.

Semi-natural oils (concentrates) consist of approximately one-half concentrated (heat-condensed) vegetable oils and one-half volatile organic solvents (white alcohol or solvents) that are less expensive than

vegetable oils. The following types of semi-natural alifs are produced: alip, oxol, oxol-mixture, polymerized alip, etc. Curtains formed after drying of semi-natural alifs differ from natural alif curtains in that they are thinner, have a stronger gloss and are more rigid, but slightly less durable.

Synthetic oils are made from petroleum products without the addition of vegetable oils (shale oil) or with up to 35% addition of them (glyphthalic oil). These alifs are dark in color and have relatively low resistance to rain and moisture. They are used to make interior metal, wood and plaster paint. Oil varnishes are made by dissolving natural or synthetic resins in - drying vegetable oils containing thickeners and solvents. The resin makes the coating film glossy and hard, the siccatives ensure a fast build, and the solvents provide the necessary paintwork.



ensures consistency. Oil varnish is a glaze paint characterized by high resistance to

the effects of rain and rain. used as a binder to prepare Binders for water-based coloring



compositions can be artificial and synthetic, obtained from mineral, animal and plant sources, depending on their origin. In addition to some mineral binders, these binders form a film due to the evaporation of water from the dye composition on the surface painted with them. The following mineral binders are used for the preparation of water-based paint compositions: portland cement, lime and liquid potash, the portland cement

used as a binder should not contain lumps. In most cases, white portland cement is suitable. In water-based paint compositions, building lime is both a white pigment and a binder. But recently slaked lime is added to the composition. Sodium or potassium liquid glass serves as a binder in silicate paint compositions. The facades of buildings and the surfaces of interior rooms are painted with these paints.



The desired color pigment must have certain properties. For example, it should have good sealing and painting properties. The coverage is characterized by the pigment consumption (in grams) in the paint composition, which 1 m<sup>2</sup> should cover the color of the surface. The coloring property is determined by the minimum amount necessary to give its color shade in a mixture of a pigment with a white

pigment. The fineness of the pigment has a significant effect on the sealing and coloring properties: as the fineness of the pigment increases, its sealing and coloring properties increase. Pigments must have a certain oil capacity. It is characterized by the amount of binder that must be added to the pigment to obtain a coloring paste of the required consistency. The lower the oil content of the pigment, the more



economical and durable the painting will be. Light and atmospheric stability and chemical resistance are important properties of the pigment. These properties determine that pigments can be used in various conditions. In addition, most pigments require a certain degree of corrosion resistance, that is, the property of protecting metal from corrosion in combination with bonding properties. Natural mineral pigments are obtained by crushing colored rocks. The most common natural white pigment is chalk. Yellow, pigments include ocher (clay with a small amount of iron oxide). Among the red pigments, it is worth mentioning the names of ferruginous suric (ore containing more than 75% iron oxide) and mumioni, whose color is from light red to brown (depending on the amount of iron oxide in the ore). Umbra is a clay colored with iron oxide and manganese, a brown pigment. Graphite and manganese ore are natural black pigments. Natural mineral pigments have a limited range of colors, but due to their resistance to light, alkali and atmosphere, ease of finding and cheapness, they are widely used in the composition of various paints used for finishing both the exterior and interior of

buildings . Glues . The group of binders used for the preparation of aqueous coloring compositions includes artificial and synthetic glues obtained from animals and plants. Animal glue is divided into bone and ptire glue. Plate and crushed glue, as well as glue - ilvira is removed. The glue should not have a layer of mold or mildew and should spread when immersed in heated water. Glue is stored in a dry place. Casein glue is a powder consisting of a mixture of casein, slaked lime and mineral salts. When glue is mixed with water in a ratio of 1:2 by mass, a homogeneous solution is obtained. It is recommended to store the glue in a dry room. It is used as a binder in paint compositions with alkali-resistant pigments, as well as for priming and plastering with glue. Plant glue is obtained by mixing starch, flour or dextrin in boiling water. It is intended for adhesive paint compositions, priming and puttying, as well as wallpaper gluing. Synthetic glue sodium carboxymethylcellulose (KMTs) and methylcellulose is a mixture of artificial resins in water. These glues do not rot, swell and dissolve in water. They are used in adhesive and mineral paints and for gluing wallpaper on walls.

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