

DEVELOPMENT OF POWDER DYES IN THE LOCUST INDUSTRY

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ABSTRACT

This article presents opinions and opinions about cookie dyes in the locust industry, as well as their current importance.

Keywords. Powder paint, technology, dissolving, polymer, painting methods, material.

INTRODUCTION

Powder paint is one of the most modern, effective and cost-effective painting methods today. This technology is a method of painting surfaces without the use of solvents, thanks to which the highest quality decorative, protective and decorative polymer coatings are obtained. This dye is based on polymer powder.

Powdered paints began to appear in the 50s of the XX century, but they were distinguished by a very high-quality appearance. But gradually, the technology of producing powder paints is very advanced, so today there are many types of powder dyes that differ in color and surface structure. Such coatings have broad advantages over conventional liquid paint and varnis in terms of physical and chemical properties.

The final material of the powdered dyes reaching the consumer is completely ready for use and does not require any solvents. They do not pose a threat to the fire, as they are cooked at high temperatures and turn into a solid surface. Powdered dyes are very easy to apply to the surface, but if the coating is applied incorrectly, it can be puffed up with compressed air flow before cooking. Such dyes are used with maximum efficiency, which means that the cost of material for 1 sq.m of painted surface is minimized.

The manufacture of powder paints currently includes three types of paint materials: epoxy, polyester and hybrid (epoxy-polyester). By appearance, the paints are classified according to the RAL directory, metal and special colors. Based on the final appearance of the resulting surface, they are divided into smooth, textured (moire) and structured (orange shell).

Epoxy powder paints

The main advantage of epoxy powder paints is the optimal combination of good physical, mechanical and electrical insulation properties. Coatings based on them are characterized by very high viscosity, mechanical strength, and chemical resistance. They can be used without pre-lining the surface in products made from various materials. In turn, they can be used as a lining under liquid and powder paints and varnis. If you need to increase anti-corrosion resistance when using an epoxy powder coating, it is recommended to phosphate black metals and galvanized steel, cover aluminum and its alloys with chromium.

Epoxy polyester powder paints

If the powder coating does not have high anti-corrosion requirements and or resistance to solvents is not required, epoxy powders are replaced by epoxy polyesters called hybrid powders (a combination of epoxy and polyester resins is used).

These are "leather" coatings, coatings with different structures, thin and rough, a number of "antiques", metals of different colors. Highly coated varnishes used to protect the oxidation of colored metals (bronze, copper, etc.) and the thin layer of vacuum laid metal occupy a special place, which makes it possible to usefully shade the surface.

Polyester Powder Paints

Despite the widespread use of polyesters in the production of paints and varnishes, the development of polyester powder paints was significantly hindered due to the lack of industrial production of solid polyesters. They appeared only in the mid-60s and in 1975. Their share of world production was approximately 15-20% of the total production of thermoset dyes.

Polyester coatings are primarily characterized by weather resistance, mechanical strength and wear resistance. In terms of weather resistance of coatings, polyester paints are not inferior to other powder materials, dielectric indicators are close to epoxy coatings; However, the alkali resistance of polyester coatings is low. Polyester coatings are characterized by stable gloss, water and weather resistance, resistance to liquid fuels, mineral oils and solvents.

They are used to protect containers for storing friction-exposed products, certain types of chemicals and liquid and gas-containing chemicals. They are also suitable as a lining when applying other powder paints (epoxy, polyacryl, etc.).

By its characteristics, powder paint is widely used in many industries and manufacturing sectors today:

- In the automotive industry - for painting parts, car accessories and automotive parts;
- For painting armatures and metal doors;
- In the production of household appliances - air conditioners, water heaters, vacuum cleaners, refrigerators, laundry machines, heating devices, etc.;
- in the construction sector - for painting coating building materials, fittings, etc.;
- In heavy engineering - apply to powder paint heating boilers, machinery, transport, agricultural machinery, etc.;
- Electrical industry and equipment - capacitors, electrical appliances and tools, transformers, lighting equipment;
- Powder paint, which costs less to individuals, is widely used in everyday life - it is used to paint metal doors, window structures and aluminum profiles, shelves in supermarkets, motorcycles and bicycles, accessories for bathrooms and toilets, children's sports. Basics and more.

Powder paints have little impact on the environment and on staff. These are the dyes that are more preferable in terms of health. Another reason for the high quality of powdered paints is that they exhibit excellent resistance to any mechanical or chemical effects from the outside. The types of coating with powder do not require thinners. In addition, there are a wide range of color tones and brightness options. Due to their high characteristics, they can achieve a lower quality than other dyes.

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