



Heat-resistant enamels, varnishes

Defens KO (1K), KO-815, KO-85, KO-813, KO-814 (GOST 11066-74)

Description

KO-815 varnish is one-pack, based on polyvinyl siloxane and glyphtal resins,

KO-85 varnish is based on polyvinyl siloxane and polybutyl methacrylate resins,

KO-813 and KO-814 enamels are a mixture of varnishes (KO-815 and KO-85 respectively) with PAP-2 aluminium powder.

Purpose and designated area

They are designed for painting metal products that operates at temperatures up to 500 °C for a long time. Among the features it is necessary to highlight the following:

- Fast drying time
- High coating hardness
- High decorative properties (tinting by heat-resistant pigments is possible)
- Increased heat-resistance in comparison with a “GOST” prototype for Defens KO enamel
- Ease of use due to a one-pack form
- Varnishes and enamels based on them have excellent heat-, water- and petrol-resistance

Specifications

Name of indicator and unit of measurement	Indicator value
Physical form of the coating, enamel (varnish)	Self half-glossy (glossy) film
Non-volatile matter content by mass, %, not less Defens KO enamel (depending on the necessary temperature of the heat-resistance) KO-813 KO-814 Varnishes: KO-815 KO-85	30-40 28-33 12-19 27-32 12-19
Drying time to degree 3: -at temperature of $(150\pm 2)^0$ C KO-815 varnish KO-813 enamel -at temperature of $(20\pm 5)^0$ C KO-85 varnish KO-814 enamel Defens KO enamel	not more 1 hour not more 2 hours not more 3 hours not more 2 hours not more 1,5 hours
Recommended thickness of one layer, μm Varnishes KO-813 enamel KO-814 enamel Defens KO enamel	during the coating process thickness is not taken into account 15÷20 10÷15 20÷30
Full curing time at $T= 20^{\circ}\text{C}$, days, not more	2
Coverage rate, g/m^2 , not more	100
Hardness by the pendulum device TML type (pendulum A), conventional units, not less	0,40

Requirements to the base

The metal surface should be dry, free of rust, debris, dust, oils, fats and other contaminants that may act as separators. If necessary, handle the base with a sand- and bead-blasting method to degree Sa 2-2,5 (ISO 8501-1:2007). After cleaning, the surface should be removed from dust and degreased. The use of KO enamels and varnishes does not require preliminary priming of the surface.

Previously painted surfaces suitable for repainting. Remove impurities (e.g., grease and salts). Surfaces must be dry and clean. Old surfaces with a painting that has exceeded the maximum application time of the next coat should be ground to roughness. Damaged surface areas should be handled in accordance with accepted procedures on how to prepare the base and maintenance operations. Place and time of pre-finishing of the surface for applying the paint should be chosen so that the neat surface remains dry and clean until the next stage of painting the product.

Application

Before applying, mix thoroughly for at least 5 minutes until an even consistency is obtained. If necessary, Defens KO enamel can be thinned with a solvent to the necessary viscosity. Use xylene or toluene for dilution.

MIXING RATIO: Base / Al powder = 1000 pts. wt. / 50 pts. wt. (for KO-813 and KO-814).

Apply it on the prepared base by air or air-free methods of dispersing, as well as with a roller or brush. To obtain the material of necessary application viscosity, it is possible to add a mixed solvent. The surface to be painted should be dry and have a temperature of a 3 °C above the dew point. Recommended number of layers is 2. After drying of one layer of the enamel (KO-813 - 2 hours at (150+2)0 C, KO-814 – 2 hours at (20+5)0 C), the next one is applied.

Perform the work in accordance with the ISO 12944-7:2017 standard

Package and storing

Varnishes and Defens KO enamel are stored in a tightly closed packaging at a temperature from -20 up to +30°C, away from moisture and direct sunlight, heat sources. Warranted storage life is 12 months from the date of production without violation of storage conditions. Slight delamination is allowed during the long-term storage, but it does not affect the quality of the material.

Tool cleaning

Work tools and facilities are washed with solvent or xylene immediately after their usage.

Protective measures

This product is intended only for professional use in industrial facilities in accordance with recommendations given here, as well as safety directions provided to customers along with paint containers. All work, including the application and usage of the product, must comply with Health, Safety and Environmental requirements, all regional standards and instructions.

When painting use personal protective equipment, avoid of getting in eyes, respiratory tracts and on skin. Keep away from open flame.

Exception

The information given in this list is not designed to be exhaustive and any person applying the product for any other purpose not reflected in this list without receiving our written confirmation on its suitability does so at their own risk. We try to ensure that all recommendations regarding the product (in this or that list) are correct, but we cannot control the quality and condition of the surface to be painted, as well as take into account the influence of many other factors impacting on the way the product is used and applied. Therefore, if we in written form certainly disagree to do so, we are not responsible for whatever and whichever way it happens due to the product usage or for any loss or damage caused by the product usage. The information given in this list in the light of our experience and policy of continuous product development is subject to change from time to time. The responsibility of the user is to verify before applying the product that this list is currently valid.