

VINICOR® EP-5285

enamel

(TU 20.30.12-017-67503963-2019)



Description

Two-component polyamine cured epoxy enamel.

Recommended use

Special anti-corrosion protection of nuclear power plants structures and radiochemical production: various surfaces of premises (walls, ceilings, floors), pipelines and equipment operated in the controlled areas of NPP and exposed to decontamination solutions. Protection of metal structures in the aquatic environment and atmosphere, including nuclear waste storage containers.

The coating is resistant to liquid aggressive environments (technological solutions of acids and alkalis), water and weather resistant.

Designed for application on steel, concrete and reinforced concrete surfaces, as well as on metallized by aluminum and galvanized surfaces.

It is used as:

- a single coat system of metal, concrete and reinforced concrete surfaces;
- repair painting on previously applied coatings based on enamel EP-5285 and EP-1155D;
- a finishing layer in complex systems with VINICOR-ecoprime (TU 20.30.12-002-67503963-2019), ZINEP (TU 20.30.12-022-12288779-2018), ISOLEP-mastic (TU 20.30.12-065-12288779-2017) primers, EP-0010 (GOST 28379-89) putty, and other epoxy based coatings.

Certificates, Approvals

State registration certificate No. RU.77.01.34.008.E.003091.11.19 dated 29.11.2019r.

Nuclear industry: conform to GOST P 51102 requirements "Decontaminable protective polymeric coatings", decisions of the Federal State Unitary Enterprise "A.P.Alexandrov Research Technological Institute", AO "Research and Construction Institute of Erection Technology-Atomstroy".

Technical data

Color	white, gray, and others
Appearance	homogenous, gloss
Density, g/cm ³ , not less than	1,1
Viscosity	thixotropic
Pot life at temperature (20±2) °C, not less than	8
Solids	
by volume, %	52±2
by mass, %	63,5±1,5
Drying time to 3 degree (GOST 19007) at temperature (20±2) °C, h, not more than	16
Dry film thickness, µm	50-100
Wet film thickness, µm	75-150
Theoretical spreading rate of one-layer coating, g/m ²	140-280

Surface preparation

As an independent coating on steel surfaces:

- degrease the metal surface to 1 grade according to GOST 9.402;
- perform abrasive-blast cleaning from scale, corrosion products and old coatings to at least Sa 2 1/2 grade according to ISO 8501-1 or mechanical and manual tool to St 3 grade according to ISO 8501-1;
- remove dust.

As an independent coating on concrete surfaces:

The exposure of the concrete base after laying concrete before applying the VINICOR EP-5285 enamel should be at least 28 days; after application of leveling mixtures - according to the regulatory documentation of the mixture manufacturer. Surface humidity (in the surface layer 20 mm thick) not more than 4 %.

Surface prepared for application of coating shall be evenly rough, without protruding fittings, cracks, pot-holes, popouts, overlaps, arris spalling, oil stains, dirt and dust.

- The operating procedures:
- remove dirt, oil and grease;
 - remove lime milk (cement slurry), destroyed or flaking concrete layers and old coatings by abrasive cleaning, grinding machine or brushes;
 - remove dust;
 - repair crack bridging and spalls.

Repair painting:

- degrease the metal surface to 1 grade according to GOST 9.402;
- mechanically or manually remove locally all the way to the metal to 2 grade according to GOST 9.402 (paragraph 5.18) or to P Sa 2½ grade, to P St 3 grade according to ISO 8501-2 (thorough local cleaning), trying to make a smooth transition from coating to refined metal;
- remove dust.

Primed surface:

The coating of the underlying layer should be cleaned of dirt, if necessary, degreased, and free from dust and moisture.

Before applying the second coat, the coating must be dry, clean and free from oil and dust.

Application

- mix the base thoroughly to homogenous condition before application;
- with constant stirring, add the curing agent to the base and mix thoroughly (the ratio of the base and curing agent stated on the label of the package and in the material quality certificate);
- if necessary, the composition should be diluted to the working viscosity.

When working, one shall consider decrease in pot life at air temperature increase! The prepared material shall be applied within the stated period of time.

The material is recommended to be applied in the plant and field conditions at temperature from plus 5 to plus 35 °C and relative air humidity not more than 85 %. The temperature of the painted surface shall be above the dew point by at least 3 °C.

Prepared enamel shall be of temperature at least 15 °C.

The VL-023 (БЛ-023) or AK-070 primer is first applied to the galvanized surface, then the required number of enamel layers.

The enamel is recommended to be applied:

- by airless and pneumatic spraying methods in 1-2 layers to achieve the project coating thickness;
- by electrostatic spraying method in 1-2 layers upon dilution with thinner RE-11V (РЭ-11В);
- by brush or roller in 2-3 layers.

Application procedures:

Airless spray

Recommended thinners	SOLVIN-12 (TU 20.30.22-014-67503963-2018); 646, toluene, xylene thinners
Quantity of thinner	up to 5 % by mass
Pressure	15-22 MPa (150-220 bar)
Nozzle diameter	0.015"-0.021" (0.38-0.53 mm)

Conventional (air) spray

Recommended thinners	SOLVIN-12, 646, toluene, xylene thinners
Quantity of thinner	up to 5 % by mass
Pressure	0,2-0,4 MPa (2-4 bar)
Nozzle diameter	1,8-2,2 mm

Brush/roller

Recommended thinners	SOLVIN-12, 646, toluene, xylene thinners
Quantity of thinner	up to 5 % by mass

Equipment cleaning

SOLVIN-12, 646, toluene, xylene thinners

Intermediate drying between the layers is not less than 24 h, at temperature (20±2)°C.

Curing time depends on the surface temperature and ambient air, the degree of dilution of the material, the thickness of the coating, ventilation efficiency and relative humidity.

Storage and handling

The material is delivered in packages: the base and the curing agent packed in metal containers respectively depending on the set weight.

Storage conditions – the base according to GOST 9980.5 (at air temperature from minus 40 to plus 50 °C); the hardener according to GOST 9980.5 (at air temperature from plus 5 to plus 50 °C). The container with the material components shall be stored away from heating sources, protected from atmospheric condensation and direct sunlight.

The shelf life of the base and hardener is 12 months from the manufacture date.

Precautions

When working with the enamel-primer one shall observe the existing sectoral standard norms and requirements and safety measures as specified on the package label.

One shall use personal protective equipment (goggles, face masks and respirators) and avoid inhalation of solvents and contact of the composition substances with skin, eye mucosa, respiratory channels; use inside the premises is allowed only in case sufficient ventilation is provided.

The enamel is classified as fire-hazardous material.

The information is of general character, without consideration to the object specific nature and it is recommended to be read with the Operating Procedure. Use of materials for other purposes not specified here or in case other influencing factors are present shall be approved by the VMP Holding CJSC in writing. In case of absence of such approval the manufacturer is not held liable for the improper use of the material and the buyer falls from the right to present claims connected with the coating quality.



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