

VINICOR® EP-1155 D

enamel
(TU 2312-009-67503963-2015)



Description

Double-packed enamel based on epoxy resin and polyamide hardener.

Recommended use

Anticorrosive protection of metal structures and bridge trusses in aquatic environment and atmosphere, also different surfaces inside premises (walls, ceilings, floors) and additional equipment, pipelines, nuclear-waste storage containers, used in controlled areas of NPP and radiochemical production and/or exposed to decontaminate solutions.

Enamel-based coat has highly anticorrosive characteristics, deactivability, water resistance, it is water-, atmosphere-proof, resists to radiation (not less than 1 MGy) and technical environments. Can be applied to concrete and reinforced concrete structures.

It is used as:

- an independent coating of metal and concrete surfaces;
- a finishing layer in complex coating systems with VINICOR-ecoprime (TU 2312-002-67503963-2011), ZINEP (TU 20.30.12-022-12288779-2018) primers, ISOLEP-mastic (TU 20.30.12-065-12288779-2017) primer-enamel, as well as with other epoxy-based primers and primer-enamels.

Certificates, Approvals

State registration certificate No. RU.77.01.34.015.E.002626.12.15 dated 07.12.2015

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", National Research Centre "KURCHATOV INSTITUTE" – Central Scientific Research Institute Of Structural Materials "Prometey".

Technical data

Color of coating	white, gray and other
Appearance of coating	homogenous, gloss
Density, g/cm ³	1.65±0.10
Viscosity	thixotropic
Pot life at temperature (20±2)°C, h, not less than	3
Non-volatile matter content	
by volume, % (volume)	82±2
by mass, % (mass)	not less than 91
Drying time to 3 degree (GOST 19007), at temperature (20±2)°C, h, not more than	24
Dry film thickness, µm	50-150
Wet film thickness, µm	60-185
Theoretical spreading rate of one-layer coating, g/m ²	105-315

Surface preparation

Primed surface:

The coating of the layer beneath shall be cleaned from contaminations, degreased, if necessary, and dust and moisture shall be removed.

Before applying the second layer, the coating shall be dry, clean, oil and dust shall be removed.

Metal surface:

- to degrease the metal surface to 1 grade according to GOST 9.402;
- to do abrasive-blast cleaning from scale, corrosion products and old coatings to at least Sa 2 ½ grade according to ISO 8501-1 or mechanical and manual tool to St 3 grade according to ISO 8501-1;

- to remove dust.

Before applying the second layer, the coating shall be dry, clean, oil and dust shall be removed.

Concrete surface:

the 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:

- to remove dirt, oil and grease;
- to remove lime milk (cement slurry), destroyed or flaking concrete layers and old coatings by abrasive cleaning, grinding machine or brushes;

- to remove dust;
- to repair crack bridging and spalls.

Holding time of the concrete base after concrete placement before applying the impregnating primer based on the VINICOR EP-1155 D enamel shall be at least 28 days; after the application of leveling compounds – according to the reference documentation of the compound manufacturer. Surface moisture (in the surface layer of 20 mm thick) is not more than 4%.

Application

- mix the base thoroughly to homogenous condition before application;
- with constant stirring, add the hardener to the base and mix thoroughly (the ratio of the base and hardener stated on the label of the package and in the material quality certificate). Holding time of the prepared material is 10-15 minutes before application;
- if necessary, the composition should be diluted to the working viscosity.

When working, one shall consider decrease in working 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 first layer of the enamel shall be applied to the metal surface using brush (thickness is not more than 50 µm). Intermediate drying between the layers is not more than 24 h, at temperature from 15 to 22 °C (if no forced drying is carried out).

Before applying the basic enamel layers to a concrete surface, it is necessary to apply the impregnating primer based on the VINICOR EP-1155 D enamel: dilute the enamel with the SOLVIN-14 thinner, not more than 7% (mass). Holding time of the impregnating primer before the enamel overlapping is not less than 8 hours at (20±2)°C, it depends on air temperature and concrete surface condition.

The enamel is recommended to be applied in 1-4 layers using airless spray by brush/roller.

Recommended application methods:

Airless spray

Recommended thinners	SOLVIN-12, SOLVIN-14, SOLVIN-15 (TU 20.30.22-014-67503963-2018)
Quantity of thinner	up to 7 % by mass
Pressure	15-22 MPa (150-220 bar)
Nozzle diameter	0.015"-0.019" (0.38-0.48 mm)

Brush/roller

Recommended thinners	SOLVIN-12, SOLVIN-14, SOLVIN-15
Quantity of thinner	up to 7% by mass

Equipment cleaning

SOLVIN-12, SOLVIN-14, SOLVIN-15, P4, toluene, xylene thinners

Hardening time of the coating before applying the next enamel layer is not less than 24 hours at temperature (20±2)°C.

Holding time of the coating is not less than 7 days, at temperature from 15 to 22 °C, before operating in aggressive environments.

Storage and handling

The material is delivered in packages: the base and hardener packed in metal buckets and metal cans respectively depending on the set weight.

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

The shelf life is determined by warranty storage of the base (24 months) and hardener (12 months) starting with the manufacture date.

Precautions

When working, 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), avoid inhalation of thinners and contact of the material or its components with skin, eye mucosa, respiratory channels; use inside the premises is allowed only in case sufficient ventilation is provided.

The material and its components (the base and hardener) are fire-hazardous!

The information is of general character, without consideration to the object specific nature. Use of materials for other purposes not specified here or in case other influencing factors are present shall be approved by the Close joint stock company "Scientific Industrial Holding «VMP»" 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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