

# ISOLEP<sup>®</sup>-235

primer/finish

(TS 20.30.12-120-12288779-2018)



Quality management system certified  
according to ISO 9001

## Description

ISOLEP-235 is a two component polyamine cured modified epoxy coating with high solids. It is a surface tolerant, allows application on surfaces after water jet cleaning. It can be cured even at freezing temperatures.

## Recommended use

Protection of the inner surface ballast tanks and compartments filled with seawater, decks, erections, freeboard and ship's bottom. It can be used to protect metal structures of improvement works in sea and fresh water, in areas of full immersion and at a running level, in atmospheric conditions. Provides long-term protection in environments with high corrosivity, resistant to spills of mineral oils, crude oil and petroleum products, propylene glycol, coolants, freon (in the form of gas), household waste withstands abrasion wear and impact loads.

Can be used for pressure vessels.

It is used (for carbon, galvanized, stainless steels, non-ferrous metals and alloys) as a single coat system, as well as in coat systems with VMP materials: shop-primers ZFES-sp, ISOLEP-eps, ISOLEP-SP-03 and with top coats POLYTON-UR (UV), VINICOR-marine, VINICOR-acryl, ISOLEP-epoline, as well as with other coatings as agreed with VMP.

## Certificates, Approvals

State registration certificate No. RU.66.01.40.015.E.000009.02.19 dated February 19, 2019.

Declaration of Conformity POCC RU Д-РУ СЛ47.В.00013/19.

Type approval certificate of Russian River Register of Shipping № 21.096067.120 date 01.02.2021.

## Technical data

Color	gray, red brown, white, yellow, black
Finish	matt
Heat resistance in dry atmosphere	120 °C 150 °C (short-term)
Dry film thickness, µm	100*-200
Wet film thickness, µm	150-290
Density, g/cm <sup>3</sup>	1,3
Mixing ratio (base: hardener)	
- by mass	5,8:1
- by volume	4.0:1
Pot life at (20±2)°C, h	2, not less than
Solids	
- by volume, % (volume)	70
- by mass, % (mass)	81±2
Theoretical spreading rate of one-layer coating, g/m <sup>2</sup>	190-380
Drying time at a temperature of 20 °C, h, no more	
- to degree 1 (GOST 19007)	4
- to degree 3 (GOST 19007)	6
- before applying subsequent layers	6

\* if necessary - from 70 µm, the material must be further diluted

## Surface preparation

### **New steel surfaces:**

- degrease the metal surface to the first degree according to GOST 9.402;
- abrasive blasting from scale, rust to 2 according to GOST 9.402 (to Sa 2 ½ ISO 8501-1) with a sharp-edged surface profile with roughness 30-75 µm (ISO 8503-2); on hard-to-reach surface areas, cleaning to Sa 2 or St 3 (ISO 8501-1).

For temporary protection of metal structures, if necessary, use a shop-primer.

Before applying the main coating, the shop-primer coating must be cleaned of grease and other contaminants, the dust must be removed, damaged areas must be cleaned and repaired by ISOLEP-235.

**Repair and maintenance:**

- degrease the metal surface to the first degree according to GOST 9.402;
- remove salts by high pressure fresh water cleaning;
- clean damaged areas by power tool cleaning from rust to St 2 (ISO 8501-1) or by abrasive blasting to Sa 2 - Sa 2 ½ (ISO 8501-1) for improvement performance characteristics of the coating.
- remove dust.

It is allowed to clean by high pressure water jetting (pressurized to above 70 MPa) to Wa 2 and flash rust grade not lower than M (ISO 8501-4).

**Painted surfaces:**

Remove from the surface in an appropriate manner salts, oils and other contaminants that impair the interlayer adhesion of coatings. Allow to dry and remove dust. Eliminate coating defects. Pay attention to the interlayer exposure of the coating.

**Galvanized steel:**

- in the presence of zinc corrosion products on the surface to remove them by water jetting (pressurized to above 34 MPa) or to clean surface with a hard synthetic brush by low pressure water jetting (if necessary);
- degrease to the first degree according to GOST 9.402;
- clean by power tool cleaning or by light abrasive blasting with fine non-metallic abrasive (quartz sand);
- remove dust.

**Aluminum and stainless steel**

- degrease to the first degree according to GOST 9.402;
- clean by power tool cleaning or by light abrasive blasting with fine non-metallic abrasive (quartz sand);
- remove dust.

**Application**

- before use, mix the base of ISOLEP-235 until smooth;
- with constant stirring, add curing agent to the base, mix thoroughly; if necessary dilute to working viscosity.

The pot life of ISOLEP-235 (after mixing the components) at an ambient temperature of (20±2)°C is at least 2 hours (when organizing painting work, a decrease in viability with increasing temperature should be taken into account)

ISOLEP-235 is recommended to be applied at an ambient temperature of minus 10 to plus 40 °C and relative air humidity up to 85 %. The temperature of the surface to be painted should be at least 3 °C above the dew point.

When painting at low temperatures, the temperature of ISOLEP-235 itself should not be lower plus 15 °C.

Application methods:

**Airless spray**

Recommended thinner	SOLV-EP (TS 20.30.22-106-12288779-2018)
Quantity	up to 10 % by mass
Pressure	no low than 22 MPa (220 bar)
Nozzle diameter	0,017 " - 0,021" (0,43 - 0,53 mm)

**Conventional (air) spray**

Recommended thinner	SOLV-EP
Quantity	Up to 10 % by mass
Pressure	0,3 - 0,4 MPa (3 - 4 bar)
Nozzle diameter	1,8 - 2,2 mm

**Brush/roller**

Recommended thinner	SOLV-EP
Quantity	from 3 up to 5 % by mass

**Equipment cleaning**

SOLV-EP,  
thinners 646, P-4, 647, 649

Adding too much thinner will cause sagging and increase the curing time.

The dependence of the curing time of ISOLEP-235 on temperature:

Degree of drying	-10°C	-5°C	0°C	+5°C	+10°C	+15°C	+20°C	+25°C	+30°C	+40°C
To tack free, h	48	36	28	20	14	8	4	3,4	2,5	1
Minimum overlapping interval by itself, h	78	57	40	27	18	11	6	4,5	4	3
Minimum overlapping interval by a top coat, h	288	144	72	35	23	13	6	6	5	4
Fully cured, days	68	36	24	14	11	9	7	6	5,5	5

The curing time is recommended to be taken as an indicative (it depends on the surface temperature and ambient air, the degree of dilution of the material, coating thickness, ventilation efficiency and relative humidity), the actual time should be determined empirically when painting under specific conditions.

The maximum overlapping interval depends on the operating conditions:

- when immersed in water (or high humidity) to the next layer of ISOLEP-235 – 21 days, to the top coat – 7 days;

- in an open atmosphere – 6 months.

If it is exceeded, the surface should be roughened using light abrasive blasting (sweeping), mechanized or hand tools.

## Storage and handling

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ISOLEP-235 is supplied as the base and curing agent in 5 litre metal containers respectively, depending on the weight of the complete set.

Storage conditions – according to GOST 9980.5 (at air temperature from minus 40 to plus 40 °C). The components shall be stored away from heat sources, the container shall be protected from direct sunlight (short-term exposure, not more than 3 hours, is allowed) and atmospheric condensation.

The shelf life of the base is 24 months, the curing agent - 12 months starting with the manufacture date.

## Precautions

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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.

ISOLEP-235 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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