

ISOLEP[®]-hydro

primer/finish

TS 20.30.12-108-12288779-2017



Description

ISOLEP-hydro is a two component polyamine cured epoxy coating with high solids. It provides excellent anticorrosive protection in river and sea water. The coating is with high durability, abrasion and impact resistance, resistant to salt solutions, oil and oil product spills, acids and alkalis. It can cure at low temperatures. In some cases, it is possible to apply to a clean, slightly damp surfaces. Compatible with cathodic protection system. It is produced in two types: ISOLEP-hydro and ISOLEP-hydro GF. ISOLEP-hydro GF contains glass flakes and has increased abrasive and corrosion resistance.

Recommended use

Anticorrosive protection of vessels, marine and river hydraulic metal or concrete structures of general and special purpose, including port facilities, underground fire water tanks, water pipelines, as well as structures for pulp and paper plants, chemical plants, in the production process of which water and aqueous solutions of chemical reagents are used.

It is used as a single coat system:

- in the zones of full immersion (underwater zone) and in soil;
- to protect surfaces subject to heavy wear (flight decks, walkways, etc.) when adding an anti-slip additive;

- in atmospheric conditions in the absence of high decorative requirements for coating.

Can be used in complex protection systems with POLYTON-UR (UV) top coat, epoxy primer and top coat VINICOR-marine, anti-fouling top coat VINICOR-marine AF and similar coatings from other manufacturers (in agreement with VMP).

Can be used on carbon, galvanized and stainless steels, non-ferrous metals and alloys.

Suitable for concrete substrates with ISOLEP-pro penetrating primer.

Certificates, Approvals

Certificate of state registration No. RU.66.01.40.015.E.000123.07.18 dated 05.07.2018.

The environmental report of Scientific Technical Centre ACI № 1180-220-4 dated 25.10.2018.

Fire safety test report SZRC.

Certificate of conformity of the Russian River Register No POCC RU.PO00.H00422

Industrial and civil construction: guidance document Trest Gidromontazh (РД ГМ-02-18)

Oil and gas complex: complies with the requirements of regulatory documents of companies Gasprom, Rosneft, Lukoil (for underground steel structures, pipelines and tanks).

Approved by testing centers: LLC SPA Coating industry, Khotkovo (category Im1-Im3 according to ISO 12944-2), Scientific Research Institute Transneft, the Gubkin Russian State University of Oil and Gas, LLC LUKOIL-Perm.

Technical data

| | |
|---|---|
| Color | Gray, red-brown, white, black, yellow, orange, RAL 1004, RAL 2004 or others as agreed with the customer |
| Dry film thickness, μm | 200*-600 |
| Wet film thickness, μm | 240-710 |
| Density, g/cm^3 | 1.50 |
| Viscosity | Thixotropic |
| Pot life at $(20\pm 2)^\circ\text{C}$, h | 1.5, not less than |
| Solids | |
| - by volume, % | 86 |
| - by mass, % | 88 \pm 2 |
| Theoretical spreading rate of one-layer coating, g/m^2 | 350-1050 |
| Drying time to 3 degree (GOST 19007) at $(23\pm 0.5)^\circ\text{C}$, h | 6, not less than |

* for the application of primer enamel with a thickness of one layer up to 200 μm , additional dilution with solvent SOLV-EP up to 12% may be required

Surface preparation

Steel

- to degrease metal surface to 1 grade according to GOST 9.402;
- to do abrasive blast cleaning of scale, rust and traces of old paint to 2 grade according to GOST 9.402 (Sa 2 1/2 ISO 8501-1) with a sharp-edged surface profile, roughness of 50-115 µm (segment 2 and 3 of comparator G ISO 8503-1);

- to remove dust.

When applying a coating to a previously painted surface:

- degrease (if necessary) to the first degree according to GOST 9.402;
- give roughness to the coating (if necessary);
- dedust.

It is allowed hand and power tool cleaning up to grade P St 3 according to ISO 8501-2 in case of repair painting.

Before applying top coat or a second layer of ISOLEP-hydro, coating must be decontaminated, degreased and dustless.

Galvanized surfaces:

- in the presence of zinc corrosion on the surface, wash with water under high pressure (at least 34 MPa) or at lower water pressure clean the surface with a rigid synthetic brush;
- degrease the surface to the first degree according to GOST 9.402;
- make manual, mechanized cleaning or light abrasive blasting with a fine non-metallic abrasive, such as quartz sand, to create roughness;
- dedust.

Non-ferrous metals and stainless steel:

- degrease the surface to the first degree according to GOST 9.402;
- perform manual, mechanized cleaning or light abrasive blasting with a fine non-metallic abrasive, such as quartz sand, to create roughness;
- dedust.

Concrete surface:

The surface must be primed with epoxy penetrating primer ISOLEP-pro. The primed surface should not be glossy, if necessary, an abrasive surface treatment should be carried out before application. The primer coating must be dry, clean and free of oil and dust.

Before applying the coating enamels or the second layer of enamel ISOLEP-hydro coating should be cleaned of contaminants, degreased and free of dust.

Application

- mix the primer-enamel base to a homogeneous condition before application;
- add a curing agent to the primer base with constant stirring, mix thoroughly if necessary, dilute to working viscosity. Mixing ratio of base and curing agent: by volume 5:1, by mass 8:1, respectively.

The pot life (after mixing the components) at ambient temperature (20±0.5) °C is not less than 1.5 hour (for the organization of painting work, the decrease of the pot life with increasing temperature should be taken into account). Dependence of the pot life on the ambient temperature is given in the table:

| Parameter name | Ambient temperature, °C | | | |
|----------------|-------------------------|-------|-------|-------|
| | 15 °C | 20 °C | 30 °C | 40 °C |
| Pot life | 2 h | 1.5 h | 1 h | 0.5 h |

It is recommended to apply ISOLEP-hydro at ambient temperature from minus 5 to plus 30 °C (it is allowed to apply from minus 15 to plus 40 °C) and relative air humidity up to 85 %. When painted in low-temperatures, the dry film thickness should not exceed 300 microns. The temperature of the surface to be painted must be at least 3 °C above the dew point.

When painting in low-temperature conditions, the temperature of ISOLEP-hydro itself must be not lower than plus 15 °C, otherwise it may be necessary to add a thinner to achieve a working viscosity. It is also recommended to add the thinner at an air temperature of plus 30 up to plus 40 °C to reduce the likelihood of a "dry flare" effect and increase the pot life of ISOLEP-hydro.

Application methods:

Airless spray

| | |
|---------------------|---|
| Recommended thinner | SOLV-EP (TS 20.30.22-106-12288779-2018) |
| Quantity | up to 3 % by mass |
| Pressure | 20 MPa, not less |
| Nozzle diameter | 0.019"-0.027" (0.48-0.69 mm) |

Conventional (air) spray

| | |
|---------------------|----------------|
| Recommended thinner | SOLV-EP |
| Quantity | 7-12 % by mass |
| Pressure | 0.3-0.4 MPa |
| Nozzle diameter | 1.8-2.2 mm |

Brush/roller

| | |
|---------------------|---------------|
| Recommended thinner | SOLV-EP |
| Quantity | 3-5 % by mass |

Equipment cleaning

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

The addition of an oversize amount of thinner leads to paint drips and an increase in the hardening time of the coating.

Curing time of ISOLEP-hydro coating and the time before overlapping with top coats depending on air temperature is given in the table:

| Parameter name | Surface temperature | | | | | |
|---|---------------------|------|--------|--------|--------|-------|
| | -5 °C | 0 °C | +10 °C | +20 °C | +30 °C | |
| Hardening time of ISOLEP-hydro at a dry film thickness of up to 300 µm | | | | | | |
| touch dry | 40 h | 30 h | 12 h | 5 h | 3.5 h | |
| dry to handle | 62 h | 48 h | 30 h | 16 h | 10 h | |
| to immersion * | 35 d | 24 d | 10 d | 7 d | 6 d | |
| Time before overlapping ISOLEP-hydro | | | | | | |
| ISOLEP-hydro (the 2 nd layer) | Minimum | 45 h | 32 h | 13 h | 6 h | 4 h |
| | Maximum | 40 d | 26 d | 10 d | 7 d | 3 d |
| POLYTON-UR (UV) | Minimum | 48 h | 35 h | 16 h | 8 h | 6.5 h |
| | Maximum | 40 d | 26 d | 10 d | 7 d | 3 d |
| * In case of repair painting between tides the coating can be immersed in water 2 hours after application at temperature (20±2)°C | | | | | | |

The curing time is recommended as an approximate (it depends on the surface temperature and ambient air, the dilution ratio of the material, the coating thickness, the efficiency of ventilation and the relative air humidity), the actual time should be determined by test during coloring under specific conditions.

In case of exceeding the maximum overlap interval, before coating the subsequent layer, it is necessary to give the coating a roughness with a light blasting or a power tool.

The optimal time before use of coating is 7 days at (20±2)°C.

Storage and handling

ISOLEP-hydro is supplied as the base in 20 litre and the curing agent in 5 litre metal containers.

Storage conditions of the base and the curing agent – in accordance with GOST 9980.5 (at ambient air temperature from minus 40 to plus 40 °C). In storage the package shall be protected from lasting direct sunlight and atmospheric condensation. It is allowed to store the package with enamel -primer components under direct sunlight, however not more than 3 hours.

The shelf life of the components is 24 months starting with the date of manufacture.

Precautions

When working with ISOLEP-hydro 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-hydro 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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