

ISOLEP®-mastic

Primer-enamel

(ST TOO 180340015806-003-2021)



Description

ISOLEP-mastic is a two-component polyamine cured modified epoxy primer.

It is surface tolerant, high solids, high build coating, produced in two colors: grey, red-brown and silver-grey (with aluminum pigments).

ISOLEP-mastic is recommended for painting new metal structures or in case of renovation surfaces with tightly adhered rust of thickness or old coatings GF(ГФ)-021, FL(ФЛ)-03K, VL(ВЛ)-023.

Recommended use

Anticorrosion protection of metal and concrete structures operating under atmospheric conditions of all macroclimatic regions, atmosphere types and location categories as per GOST 15150 and in all categories of environmental corrosion activity C1 – C5, CX according to GOST 34667, when immersed in the river, sea water and ground (category Im1 - Im3 according to ISO 12944).

It is authorized for use in the agricultural buildings and constructions including those with humid disinfection. Suitable for galvanized steel, products made of cast iron, aluminum and its alloys.

ISOLEP-mastic of silver-grey color may be recommended for anticorrosive protection of the outer surface of insulated heating piping with canal laying.

The coating is resistant to spillage of oil, other petroleum products and chemical reagents.

ISOLEP-mastic is used as:

- primer with POLYTON-UR (UV), POLYTON-UR, VINICOR-62 topcoats and other epoxy, vinyl-epoxy and polyurethane coatings;

- single coat system.

It can be applied as mid coat with ISOLEP-pro primer for concrete surface.

Certification, testing

Certificate of state registration No. KG.11.01.09.008.E.002431.05.22 dated 31.05.2022.

Certificate of compliance No. KZ.7100628.01.01.00325 dated 20.05.2022.

Technical specifications

Coating		
Appearance	homogeneous	
Color	Grey	Silver-grey
Thickness of one layer, μm	100*-250	150-300
Theoretical consumption for a single layer coating, g/m^2	190-475	315-630
Adhesion of coating by cross cut method (GOST 31149, thickness not exceeding 250 μm) Adhesion of coating by X-cut test method (thickness exceeding 250 μm) ASTM D-3359 ISO 16276	1 adhesion grade, max 4A, min. 1 adhesion grade, max	
Heat resistance	120 °C (short-term)	150 °C
Coating class (GOST 9.032)	VI	
Density, g/cm^3	1.34	1.36
Viscosity	thixotropic	
Non-volatile fraction by volume, % (vol.)	72	65
Viability after mixing of base and hardener at temperature (20 \pm 0.5)°C, h	2, not less than	
Coverage, g/m^2 , not less than	240	120

Drying time as per GOST 19007 at temperature (20±2) °C, h, max	
- until "tack-free"	4
- to degree 1 (GOST 19007)	4
- to degree 3 (GOST 19007)	6

* for applying primer-enamel with a thinner layer (up to 60 µm) additional dilution with SOLV-EP up to 10 % by mass may be required

Surface preparation

Steel:

- degrease metal surface till degree 1 according to GOST 9.402;
- abrasive blasting to remove scale, rust and old coatings to degree 2 (GOST 9.402) or to Sa 2 1/2 or Sa 2 (ISO 8501),

Hand and power tool cleaning of rust up to grade 3 or 4 GOST 9.402 (St 3 or St 2 ISO 8501-1) is allowed in case of repair painting; the thickness of the remnants of tightly adhered rust layers should not exceed 50 µm; from old coatings – to degrees P St 3 or P St 2 (ISO 8501-2). After cleaning thickness of the remaining coating shall not exceed 200 µm and adhesion shall be at least 2 MPa as per ISO 4624 or not more than grade 2 (GOST R 31149);

- remove dust.

Galvanized surface:

- degrease the metal surface to degree 1 according to GOST 9.402;
- roughening (if required);
- remove dust.

Concrete surface:

The surface should be primed with ISOLEP-pro epoxy penetrating primer. The primed surface should not be glossy, if necessary the surface should be blasted before application. The primer coat must be dry, clean and free of oil and dust.

Application

Prior to use mix the base until smooth;

- While mixing constantly add a curing agent (then it is ready for use).

Base and curing agent mixing ratio of ISOLEP-mastic:

- for grey and red-brown color by mass 100:16.3, by volume 4.3:1;
- for silver-grey color by mass 100:14.3, by volume 5.2:1

It is recommended to apply ISOLEP-mastic in the field and workshop environment at ambient air temperature from minus 10 to plus 40 °C and relative humidity not more than 85 %.

The primer-enamel prepared for application must have a temperature of at least plus 15 ° C.

Application methods:

Airless spray

Recommended thinner	SOLV-EP (ST TOO 180340015806-028-2021)
Quantity	up to 10 % by mass
Pressure	min. 22 MPa (220 bar)
Nozzle diameter	0.015"-0.021" (0.38-0.53mm)

Air spraying

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

When painting at ambient air temperature below minus 10 °C it is recommended to increase spray pressure for ISOLEP-mastic silver-grey.

The process provides for natural drying; parameters are shown in the table:

Dying stage	Time, h (hours) at ambient air temperature, °C									
	-10	-5	0	+5	+10	+15	+20	+25	+30	+40
To degree 1 (GOST 19007), h	46	36	28	20	14	10	4	3,4	2,5	1
To degree 3 (GOST 19007), h	78	57	40	27	18	11	6	4,5	4	3
Min overcoating interval, h	88	67	45	35	23	13	6	6	5	4
Up to ceilings maximum	6 months									
Complete curing, days	68	45	30	14	12	9	7	6	5	3

Notes:

1. The specified hardening time is recommended to be taken as indicative of practical coloring. The hardening time depends on the surface temperature and ambient air, the degree of dilution of the material, the thickness of the coating, the efficiency of ventilation and the relative humidity of the air.
2. During the curing of the coating, especially at the initial stage, it is necessary to avoid sudden drops in air and substrate temperatures, and also to maintain the necessary air exchange. When painting and drying at low temperatures and high humidity, as well as with a large film thickness and insufficient ventilation, segregations in the form of an oily (greasy) layer may appear on the coating - "amine sweating", a characteristic phenomenon for amine-cured epoxies. Such a surface film must be removed by wiping with a clean cloth moistened with a P-4, 646 solvents or other alcohol solvents. Applying subsequent layers over an oily film is not allowed, because this can lead to a decrease in interlayer adhesion.

If the maximum overcoating interval is exceeded, additional measures may be required to ensure adhesion of subsequent layers: treating the coating surface with a solvent R-4 or manual roughening using sandpaper or light abrasive blowing (sweeping).

The coating must be dry, clean and free from oil and dust before applying the top coat.

Storage and handling

ISOLEP-mastic is supplied as the base and the hardener in metal containers.

Storage conditions of the base and 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 ISOLEP-mastic 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 the ISOLEP-mastic 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-mastic is classified as fire-hazardous material.

The information provided 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 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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