

POLYTON[®]-UR (UV)

Type A

topcoat

(TS 20.30.12-033-12288779-2018)



Description

POLYTON-UR (UV) is a two-component acrylic polyurethane topcoat, cured with aliphatic isocyanate. It has high decorative properties, resistance to atmospheric factors, including UV radiation.

It is produced in three types: gloss, semi-gloss and matt. For protection of metal structures, one shall use gloss and semi-gloss enamel, for concrete structures- semi-gloss and matt types.

Color – according to RAL.

Recommended use

Anticorrosive protection of metal, concrete and reinforced concrete structures used in atmospheric conditions of all macroclimate areas, types of atmosphere and placement categories according to GOST 15150 and in all corrosivity categories C1 - C5, CX according to ISO 12944. It is allowed for use in the premises providing for humid disinfection. Enamel can be used in complex coatings recommended by VMP for coloring composite materials.

It is used as finishing protective-decorative layer in the complete protection systems:

- with compositions ISOLEP-mastic, ISOLEP-primer, ISOLEP-mio, VINICOR-ecoprime-01, FERROTAN, POLYTON-UR and other epoxy and polyurethane materials;
- with fire-retarding compositions of the PLAMCOR-series.

Certificates, approvals

State registration certificate No. RU.66.01.40.015.E.000128.07.18 dd. 06.07.2018 with permission to use for agricultural buildings and constructions.

Conformity certificates with fire protection coatings PLAMCOR.

Transport construction: standards STO-01393674-007-2022 and STO-01393674-008-2021 JSC "TSNIIS" (AO «ЦНИИТС»), STO 12288779-001-2020 "Avtodor" (ГК «Автодор»).

Oil and gas industry: conforms to requirements of normative documents of the companies "Gazprom", "Transneft", "Rosneft", "Lukoil", "Irkutsk NK", "Surgutneftegaz", "Gazpromneft".

Industrial and civil construction: is recommended for use GOST 9.401, regulations ПД ГМ-02-18 by "Hydromontazh" group, "Norilsk Nickel".

Approved by the testing centers: NPO "LKP" with OMZ "Victoria", TSNIIS, VNIIST, VNIIGAZ, NII Transneft, BashNIPIneft, NIIES (RusHydro), Severtsov Institute of Ecology and Evolution of RAS (Nha Trang, Sochi, Severomorsk).

Technical data

Color	according to RAL
Gloss	Gloss (gl.), semi-gloss (s.gl.), matt (m.)
Class according to GOST 9.032, not exceeding	IV (gl., s.gl.), V (m.)
Heat resistance	+120 °C, +150 °C short-term
Density, g/cm ³	1,35±0,10 (gl., s.gl.), 1,40±0,10 (m.)
Viscosity	thixotropic
Pot life, at 20 °C, h, min.	2
Solids	
- by volume, %	54±2
- by mass, %	60,0-73,0
Drying time to degree 3 (GOST 19007) at 20 °C, h	5
Dry film thickness, µm	50-90 (s.g.,m.), 50-70 (gl.)
Wet film thickness, µm	90-170 (s.g.,m.), 90-130 (gl.)
Theoretical spreading rate of one-layer coating, g/m ²	125-225 (s.gl.,m.), 125-175 (gl.)
Hiding power g/m ² max.	
RAL 3020	200
RAL 5005, RAL 5017	175
RAL 7004	125
RAL 9003	160
RAL 9004	170

Surface preparation

Surface of the underlying coat shall be cleaned from dirt and if required degreased, dust and moisture shall be removed.

Application

- Prior to use mix the base until smooth;
- While mixing constantly add hardener, mix thoroughly for 2-3 minutes, if required use thinner to reach working consistency.

For POLYTON-UR (UV) semi-gloss, the ratio of the base and hardener by weight is 9:1, by volume is 7:1, respectively (except for RAL 9006, for which the ratio by weight is 7.8:1, by volume is 7.5:1). The mass ratio is indicated on the label of the container and in the quality certificate.

The pot life of POLYTON-UR (UV) depending on the ambient temperature is shown in the table:

Parameter	Ambient temperature		
	+10 °C	+20 °C	+30 °C
The pot life of POLYTON-UR (UV)	4 h	2 h	1 h

POLYTON-UR (UV) shall be applied at temperatures from minus 10 °C to plus 40 °C. The recommended temperature range for application – from plus 5 °C to plus 30 °C and relative air humidity not exceeding 85 %. Surface temperature on application and drying shall be as minimum 3°C higher than the dew point, however, not more than 40 °C.

POLYTON-UR (UV) prepared for application shall have the temperature of plus 15 °C.

When painting is carried out at temperatures below 0 °C the surface shall be free from snow, ice and white frost. Within the first 24 hours after application of the enamel one shall avoid exposure of the coating to precipitation.

Recommended application procedures:

Airless spray

Recommended thinner without
Pressure 10-15 MPa (100-150 bar)
Nozzle diameter 0.011-0.015" (0.28-0.38 mm)

Conventional (air) spray

Recommended thinner SOLV-UR (TS 2319-032-12288779) or oil solvent (GOST 10214)
Quantity up to 5 % by mass
Pressure 0.3-0.4 MPa (3-4 bar)
Nozzle diameter 1.8-2.2 mm

Brush/roller

Recommended thinner SOLV-UR or oil solvent (GOST 10214)
Quantity up to 5 % by mass

Equipment cleaning

SOLV-UR
Thinners 646, 647, 649

Time intervals prior to application of POLYTON-UR (UV) of the underlying coats at 20 °C relative air humidity (65±5)% are shown in the table:

Underlying coat	Min. time **	Max. time ***
ISOLEP-primer	2 h	8 months
ISOLEP-mastic	grey	6 months
	silver-grey	3 months
ISOLEP-mio	4 h	6 months
POLYTON-UR *	3 h	18 h
FERROTAN *	24 h	15 days
VINICOR-ecoprime-01	8 h	1 month

* The minimum and maximum overlap time depends on the relative air humidity and air temperature, the dependence of the drying time on the environmental parameters is given in the technological instructions.

** Reduction of time is allowed only on agreement with the manufacturer when the required measures are taken to ensure drying of the underlying layer.

*** When the maximum interval is exceeded and/or when storing constructions under sunlight additional measures to ensure adhesion of the subsequent layers may be required – using POLYTON-UR (UV).

In more detail (with details of temperature and relative air humidity) the recommended time intervals are given in the technological instructions.

Failure to follow the overcoating interval recommendations may lead to the appearance of defects in the coating and deterioration of intercoat adhesion.

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

Drying stage	Drying time at ambient temperature, °C					
	-10	0	+10	+20	+30	+40
To tack free, h	25	14	6	1,5	1	0,5
To 3 degree (GOST 19007), h	70	32	13	5	4	2,5
To handle * and to overcoat (if necessary), h	80	36	17	6	3,5	1,5
To packing and shipping *, h	90	40	24	14	6	4
To through dry, d	55	20	12	7	5,5	3

* The specified curing time is recommended to be taken as a guideline for the technological process. In fact, the curing time depends on the temperature of the surface and ambient air, the degree of dilution of the material, the thickness of the coating, the efficiency of ventilation, the relative humidity of the air, the design features of the structures and may differ from the indicated.

Storage and handling

POLYTON-UR (UV) is supplied as the Base in 20, 3 and 1 litre metal containers and the Curing Agent in 3, 0.5 and 0.25 litre metal containers.

Storage conditions of the base and hardener - 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 base and curing agent is 24 months starting with the date of manufacture.

Precautions

When working with the POLYTON-UR (UV) 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.

POLYTON-UR (UV) is classified as fire-hazardous material.

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 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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