POLYTON®-UR (UV)

topcoat

(TU 20.30.12-033-12288779-2018)

Quality management system is certified according to ISO 9001

Description

Double-packed acrylurethane enamel, consisting of a base and aliphatic polyisocyanate hardener. It has high decorative properties, resistance to atmospheric factors, including UV radiation.

The enamel is produced in three types: gloss, semi-gloss and matt. Color – according to RAL. Enamel of two brands is produced: A – general purpose, B – with biocide (funginertness according to GOST 9.050).

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.

It is allowed for use in the premises providing for humid disinfection. For protection of metal structures, one shall use gloss and semi-gloss enamel, for concrete structures- semi-gloss and matt types.

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

- with compositions ISOLEP-mastic (TU 20.30.12-065-12288779-2017), ISOLEP-primer (TU 2312-067-12288779-2008), ISOLEP-mio (TU 2312-050-12288779-2008), VINICOR-ecoprime-01 (TU 2312-002-67503963-2011), FERROTAN (TU 20.30.12-036-12288779-2018), POLYTON-UR (TU 2312-029-12288779-2002) and other materials based on epoxy and polyurethane;
- with fire-retarding compositions of the PLAMCOR-series.

Heat resistance of the coating is up to 120 °C in the dry non-aggressive environment.

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.

Oil and gas industry: included into the JSC "Transneft" Register, "Gazprom" Register;

Recommended for use by PJSC "OC Rosneft"-included into regulations П2-05 ТИ-0002, complies to the requirements of regulations П2-05.02 ТІ-0002, letter No. АР-5484 dd. 06.04.2016.

Transport construction: standards СТО-01393674-007-2015 and STO-01393674-008-2014 JSC "TSNIIS", process procedure ТР 12288779.02073.00007 (TSNIIS), СТО 12288779-001-2018 "Avtodor"; accreditation by Russian Railways, standard process procedures 12288779.02073.00058, 12288779.02073.00062, 12288779.02073.00160 to paint bridges.

Industrial and civil construction: is recommended for use GOST 9.401 (version No.2), regulations РД ГМ-01-02 by "Hydromontazh" group.

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).

Russian River Register (certificate No. 07574 dd. 24.11.2016)

Technical data

Coating	
Color	according to RAL
Gloss	gloss, semi-gloss, matt
Class according to GOST 9.032, not exceeding	IV (gl., s.gl.), V (m.)
Enamel	
Density, g/cm^3	1,30±0,10
Viscosity	thixotropic
Pot life, at temperature 20 °C, h, min.	2
Non-volatile	
By volume, %	54±4
By mass, %	69±4
Drying time to degree 3 (GOST 19007)	
at temperature 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 enamel base until smooth;
- While mixing constantly add hardener (base/hardener mixing ratio depends on the enamel color as stated on the label of the package and in the enamel quality certificate), mix thoroughly for 2-3 minutes;
- If required use thinner to reach working consistency.

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

The enamel 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.

The enamel shall be applied by airless spray, conventional (air) spray or by brush/roller in 1-2 layers onto the clean and dry surface (for enamel of such rich colors as orange, red, yellow, it is recommended to apply two layers).

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 (TU2319-032-12288779) 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
Quantity	up to 5 % by mass

Equipment cleaning SOLV-UR
Thinners 646, 647, 649

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

Stages in drying	Hours at temperature °C					
	-10	+0	+10	+20	+30	+40
Tack free	25	14	6	1.5	1	0.5
Turning over, handling	48	31	17	6	3.5	1.5
Stackable	55	37	25	14	6	4

* The said hardening time is recommended as estimated time for the process. Actual hardening time depends of the temperatures of surface and ambient air, dilution degree, coating thickness, ventilation efficiency, relative air humidity, design features and may differ from those stated.

In-between drying at temperature plus 20 °C is not less than 6 hours, at minus 10 °C – not less than 48 hours. Time intervals prior to application of the enamel 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 ***
POLYTON-UR *		3 h	33 h
FERROTAN *		24 h	15 days
VINICOR-ecoprime-01		8 h	1 month
ISOLEP-mastic	grey	6 h	6 months
	silver-grey	6 h	3 months
ISOLEP-mio		4 h	6 months
ISOLEP-primer		2 h	8 months

** 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).*

Holding time at plus 20 °C prior to operation in the aggressive environment – not less than 7 days, at temperature minus 10 °C – not less 30 days.

Storage and handling

The enamel POLYTON-UR (UV) is delivered in two tare packages: base – in metal buckets, hardener – in metal buckets or cans depending on the weight.

Storage conditions of the base and hardener - in accordance with GOST 9980.5 (at air temperature from minus 40 to plus 40 °C).

The enamel components shall be stored away from heat sources, the tare shall be protected from direct sunlight and atmospheric condensation. It is allowed to store under direct sunlight, however not more than 3 hours.

The shelf life of the base and hardener is 24 months starting with the date of manufacture.

Precautions

When working with the composition one shall observe the existing sectorial 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.

The enamel and its components (base, hardener) are classified as a fire-hazardous material.

The hardened coating is not harmful to human health.

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