



TIBCHEMICALS

PROTEGOL® UR Coating 32-45 solvent-free two-component polyurethane coating

Description

PROTEGOL® UR Coating 32-45 is a two-component polyurethane coating. The product meets the requirements of DIN EN 10290, 08.2004, AWWA C222-99, Real Decreto 118/2003.

Application is made by 2K airless hot spray system.

Uses

Internal and external coating of

- Pipes, pipe bends
- Fittings
- Tanks, containers
- Piling pipes

Benefits

- Good corrosion protection
- Abrasion-resistant and impact-resistant
- Good chemical resistance

Referenced Standards

DIN EN 10290, 08.2004 Steel tubes and fittings for onshore and offshore pipelines - External liquid applied polyurethane and polyurethane-modified coatings

AWWA C222-99 AWWA Standard for Polyurethane Coatings for the Interior and Exterior of Steel Water Pipe and Fittings

Real Decreto 118/2003 Real Decreto 118/2003, de 31 de enero, por el que se aprueba la lista de sustancias permitidas para la fabricación de materiales y objetos plásticos destinados a entrar en contacto con los alimentos y se regulan determinadas condiciones de ensayo.

Product data

The following data has been obtained at +23°C unless otherwise stated:

Type	polyurethane
Component A (Base)	polyol
Component B (Hardener)	isocyanate

Physical state	
Component A	viscous
Component B	liquid

Viscosity	
Comp. A at 50 °C	2600 mPa*s
Comp. B at 25 °C	200 mPa*s

Density (g/cm ³)	
Comp. A	1,50
Comp. B	1,24
Comp. A + B	1,44

Mixing ratio Comp A : Comp B	
Gravimetric	78,5:21,5
Volumetric	3,0:1,0

Coating properties

Recommended dry film thickness	≥1500 µm
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Actual required DFT may vary in certain applications, please contact us for technical clarification.

Service temperature	-20 °C to 80 °C
Short term temperature load without temperature gradient to the substrate	110 °C
Minimum surface temperature min. +3°C above dew point	10 °C
Processing temperature	
Component A	50 °C to 80 °C
Component B	20 °C to 50 °C

Max. rel air humidity	80 %
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Potlife at 60 °C	30 sec.
Potlife at 23 °C	200 sec.

Coating properties according to DIN EN 10290:2002/10289:2002 (typical values)

Hardness Shore D (±5) according DIN EN ISO 686 (1 sec.)	83
Hardness Shore D (±5)	77

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according DIN EN ISO 686 (15 sec.)

hobbock 30,00 kg

hobbock 25,00 kg

Impact resistance (max. impact energy)	11 J/mm
Adhesion to steel	17 MPa
Cathodic disbondment after 28 d at 23 °C	3,70 mm
Specific electrical insulation resistance after 100 d at 23 °C	1x10 ⁹ Ωm ²
Thermal aging, adhesion (100 d)	20 MPa (100° C)
Flexural strength	pass
Elongation at break	16 %
Coating properties according to AWWA (typical values)	
Hardness Shore D according ASTM D4541	>65
Cath. disbondment (30 d, 23°C, ASTM G8)	1,4 mm
Flexibility (ASTM D522)	pass
Abrasion resistance (ASTM D4060)	96 mg (1000 r)
Impact resistance (ASTM G14)	9,1 J
Dielectric strength (ASTM D149)	>20 kV/mm
Water absorption (ASTM D570)	pass
Chemical resistance (ASTM D543)	pass

Coating properties according to other standards (typical values)

Cleaning agent	Solvent B, G
Repair material	PROTEGOL® PU Repair, PROTEGOL® UR Coating 32-45/55 L (Cartridge), PROTEGOL® UR Coating 32-60 (Cartridge)

Colours

RAL 5005 - Signal blue
RAL 7000 - Squirrel grey
RAL shades are approximate and may vary slightly
Other colours on request (subject to technical feasibility and minimum order quantities)

Coverage, theoretical

Approx. 1,44 kg/m² at 1.000 µm DFT and not considering excess consumption.

Packing

Component A barrel 300,00 kg	Component B barrel 250,00 kg
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Shipping and Storage Regulations, Application, Health and Safety

Storage:

In a cool and dry place shelf life is approx. 24 months in tightly closed original packs.

Maintenance of tools:

Immediately after use, all tools should be cleaned with Solvent B, G.

Solvent-free: The product does not contain any volatile organic ingredients (VOC) according to regulation 814.018 (VOCV) of Switzerland (Verordnung 814.018 über die Lenkungsabgabe auf flüchtigen organischen Verbindungen (VOCV))
Refer to our general work instructions for PROTEGOL® Coatings.

Refer to our safety data sheets prior to use. Carefully read and follow all safety instructions on labels and packaging. Handle and store material with care in accordance with the safety data sheets. Follow and observe any applicable local or national laws and regulations.

Regulations regarding explosion protection with regard to the construction and equipment of facilities (machines) can be found, among other sources, in the corresponding harmonized European standard (BS EN 16985:2018-12-14 "Spray booths for organic coating material - Safety requirements" (former DIN EN 12215 and DIN EN 13355)); furthermore, local laws and/or regulations must be observed.

Contact us to make sure you have the latest version of safety data sheet, technical data sheet and work instruction at hand.

Important Notice:

The information on the properties of the product components represent average values that correspond to our defined quality specifications. Our products are manufactured and controlled in accordance with strict quality management and quality control requirements, which are subject to ISO 9001: 2015 certification. Information on the default values defined by us are given in the acceptance test certificates. The product properties marked as "typical values" are taken from the test reports of external institutes, unless otherwise stated. The information in our documents in printed or electronic form is based on our knowledge and experience. Due to numerous possible influences in the processing and application of our products, our statements do not release the processor from the responsibility to test the goods for their own procedures and purposes; Legally binding assurance of certain properties or suitability for a specific application cannot be derived from our information. It is the responsibility of the recipient of our products to observe any property rights as well as existing laws and regulations.

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