



# TIBCHEMICALS

## PROTEGOL® UR Coating 32-55 RRM solvent-free two-component polyurethane coating

### Description

PROTEGOL® UR Coating 32-55 RRM is a two-component polyurethane coating. The product meets the requirements of DIN EN 10290, 08.2004, DIN 3476-2:2018-08.

Application is made by 2K airless hot spray system.

### Uses

Internal and external coating of

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

### Benefits

- Good corrosion protection
- Abrasion resistant
- 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  
**DIN 3476-2:2018-08** External corrosion protection of buried valves; heavy-duty thermoset plastics coatings

### 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	3000 mPa*s
Comp. B at 25 °C	100 mPa*s

Density (g/cm <sup>3</sup> )	
Comp. A	1,68
Comp. B	1,24
Comp. A + B	1,58

Mixing ratio Comp A : Comp B	
Gravimetric	82:18
Volumetric	3,3:1,0

### 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	10 °C
min. +3°C above dew point	
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	80 sec.
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#### Coating properties according to DIN EN 10290:2002/10289:2002 (typical values)

according DIN EN ISO 686 (1 sec)	
Hardness Shore D (±5)	75

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according DIN EN ISO 686 (15 sec.)

Impact resistance (max. impact energy) 8 J/mm  
Adhesion to steel 23 MPa

Cathodic disbondment after 28 d  
at 23 °C 4,70 mm

Specific electrical insulation resistance  
after 100 d at 23 °C  $9,3 \times 10^9 \Omega \text{m}^2$

Thermal aging, adhesion ( 100 d) 18 MPa (100° C)  
Flexural strength pass  
Elongation at break 19 %

**Coating properties according to AWWA (typical values)**

**Coating properties according to ISO 21809-3 (typical values)**

Adhesion (ISO 4624, 23°C)

Adhesion after 28-d hot-water immersion at  $T_{\text{max}}$   
(Annex I plus ISO 4624)

$\Omega \text{m}^2$

**Coating properties according to DIN 3476-2 (typical values)**

Resistance to thermal aging pass (in air)  
Resistance to thermal aging 13 MPa (in water)  
Spec. el. insulation resistance (23° C)  $3,6 \times 10^{10} \Omega \text{m}^2$   
Spec. el. insulation resistance (70° C)  $2,4 \times 10^6 \Omega \text{m}^2$   
Elongation at break 15 %  
Adhesion (DIN EN ISO 4624) 23 MPa  
Cathodic disbondment 4,5 mm (28 d, 23° C)  
Cathodic disbondment 4,7 mm (2 d, 80° C)

**Coating properties according to other standards (typical values)**

Cleaning agent Solvent G, B  
Repair material PROTEGOL® PU Repair Material PROTEGOL®  
UR Coating 32-45/55L

### Colours

RAL 9011 - Graphite black

Other colors on request (subject to technical feasibility and minimum order quantities)

### Coverage, theoretical

Approx. 1,58 kg/m<sup>2</sup> at 1.000 µm DFT and not considering excess consumption.

### Packing

<b>Component A</b>	<b>Component B</b>
container 1350,00 kg	barrel 250,00 kg
barrel 300,00 kg	barrel 250,00 kg
hobcock 30,00 kg	hobcock 25,00 kg

### 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 G, B.

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

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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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