

# TW 3001

## Technical Data Sheet

### Description

TW 3001 is a modern, solvent free two-component coating material with various corrosion extenders and wear protection. TW 3001 is ideally suited for the corrosion protection of surfaces such as steel, stainless steel and aluminium, and for the protection of mineral surfaces made of concrete and cement plaster in direct contact with media.

### Composition

Solvent free according to Protective Coatings Directive of German Paint Industry Association (Vdl-RL 04)

### Recommended Applications

TW 3001 is primarily used as an inner coating for tanks, silos, fittings, pumps, gravel filters, containers, pipes and equipment in the drinking water supply and in the food and beverage industry.

### Features

- Viscoplastic, mechanically resistant, abrasion-resistant, shock and impact resistant
- Suitable for potable water, many foodstuffs, chemicals, cleaning agents and disinfectants
- Very good adhesion to steel, stainless steel, aluminium and concrete
- Economic alone-coat application
- No extensive post-treatment before initial filling
- Testable for pores on metal surfaces
- Contains no benzyl alcohol
- Fulfils the requirements of the assessment basis/guideline of the German Federal Environment Agency (Umweltbundesamt UBA) for product hygiene suitability for drinking water according to system 1+ with external monitoring.
- Tested according to DVGW (German Association for Gas and Water) worksheet W 270 (growth of microorganisms in drinking water).
- Physiologically harmless (expert report by Eurofins Institute Nehring).
- Monitored by KIWA NL in accordance with BRL-K 759 as a certified coating for contact with drinking water.

### Preparation of Material

Stir component A mechanically before mixing. Add components A+B carefully in the prescribed mixing ratio before processing. To prevent splashing or spilling of the liquid, mix the components with a variable-Speed electric mixer (step less regulation) at a low speed for a short period. Then increase the speed to maximum 300 rpm for intensive mixing. The mixing duration is at least 3 minutes and is complete when the two components have combined to form an homogenous mixture. Decant the mixture into a clean container and mix again once more as described above.

The material must not be diluted.

**Mixing ratio** 100 : 26 part by weight  
(Part A : B)

### Resistance

#### CHEMICAL RESISTANCE

Depending upon medium, available on request. No long term resistance to ozone containing media.

#### TEMPERATURE RESISTANCE

Dry heat up to approx. +100 °C

### Surface Preparation

Appropriate surface preparation is essential in order to obtain good results with this product. The exact requirements change according to kind of application, expected serviceable life and the original status of the surface.

#### Steel

Surface preparation by blasting according the DIN standard DIN EN ISO 12944-3 and -4 as well as DIN EN 14879-1

#### Surface preparation methods

DIN EN ISO 8504-2 Abrasive blast cleaning

Preparation of steel substrates before application of paints and related products

DIN EN ISO 8501-1 Preparation grade Sa 2½

DIN EN ISO 8501-2 Visual assessment of surface cleanliness

DIN EN ISO 8501-3 Preparation of grade welds, edges, etc., table 1 P3

Test for the assessment of surface cleanliness

DIN EN ISO 8502-4 Dew Point

#### Optional:

DIN EN ISO 8502-3 Assessment of dust, quantity <2, size <2

DIN EN ISO 8502-6 Bresle method

Surface roughness characteristics of blast-cleaned steel substrates

DIN EN ISO 8503-1 Ry5 (Rz) 40 - 100 µm

#### Stainless steel/aluminium:

Remove deposits which would hinder bonding. The surface must be dry and free from dirt, grease or oil. Increase surface profile by sweep blasting acc. DIN EN ISO 12944-4. Blast with mineral blasting material (mean roughness RZ min. 50 µm).

#### Concrete and cement plaster:

The surface areas to be coated must conform to the building standards and must be capable of bearing loads, firm and free from bond-impairing materials. The average tensile strength according to DIN 1048 should be at least 1.5 N/mm<sup>2</sup> and must not fall below the lowest individual value of 1.0 N/mm<sup>2</sup>. In the case of high mechanical loads, the average nominal value is 2.0 N/mm<sup>2</sup> and the lowest individual value 1.5 N/mm<sup>2</sup>. Suitable preliminary coatings compatible with the system are to be used. The respective over coating times must be adhered to. For the preparation of other surfaces please request our advice. The underground moisture must be ≤ 4 %, measured with a CM device.

Technical Data			
Density liquid	ASTM D 792	1.35	g/cm <sup>3</sup>
Adhesion on steel (per pull-off tester ERICHSEN)	DIN EN ISO 4624	5-15 (reference value*)	MPa
Solid content (mixture)	volume	100	%
	weight	100	%
Porosity test	DIN 55670	5	Volt/micron coating thickness

\*depending on test plate

## Application Instructions

Conditions of object:

Temperature of substrate and air no less than +15 °C, relative air humidity max. 80 %; temperature of the surface to be coated has to be at least 3 °C over the respective dew-point. Low temperatures delay curing and aggravate treatment. Higher air humidity as well as falling below dew-point may result in formation of condense humidity on subsoil respectively coating surface, thus possibly causing severe impairment in adhesion. The conditions of object have to be observed during treatment and curing time.

When close to these limits, the use of heaters or drying apparatus is recommended.

The method of application has a major effect on achieving uniform thickness and appearance. Spray application will give the best results. The indicated dry film thickness is easily achieved by airless spray. In case of application by roller or brush, additional palliations may become necessary to achieve the required coating thickness, depending on type of construction, site conditions, colour shade, etc. Prior to major coating operations a test application on site may be useful to ensure the selected application method will provide the requested results. Do not thin TW 3001!

By brush and roller:

Any bubbles should be removed with a surface brush. Several applications (usually 3) are necessary in order to reach the layer thickness of 400 µm. On a mineral substrate the first coat of TW 3001 must be applied by hand. Care must be taken that TW 3001 is worked well into the substrate when doing this. This is usually done with a surface brush or a paintbrush. The substrate must be free of pores after the application of the first layer. Only mix the quantities which are to be applied shortly. Consider the fast curing properties of TW 3001!

Airless spraying:

Can be applied by one single step of 400 µm. However we recommend to apply two coats each of 200–250 µm.

Spray pressure in gun of:	min. 180 bar
Remove sieves, pump directly (without connected suction hose)	
Nozzle size:	0.48-0.58 mm (0.019-0.023 inch)
Spraying angle:	e.g. 50°
Diameter of hoses:	3/8", max. 20 m
In front of spraying pistol:	1/4" ca. 2 m
Material temperature:	min. +20 °C
At lower temperatures we recommend insulation of the hoses and the use of an inline heater; particularly when longer hoses are used.	

Pot life in minutes:

	+20 °C	+30 °C
12.6 kg	20	10

This schedule states the practical curing time from beginning of mixing.

## Composition of Coating and Material Consumption

Recommendations for proven coating systems:

For the sake of more effective inspection, it is recommended that different colours are used for each layer of the coating structure.

System A: Protection of steel surfaces

Coatings	1 x TW 3001 Minimum dry film thickness 400 µm
Substrate	Properties in accordance with section on „surface preparation: Steel“

System B: Protection of stainless steel or aluminium surfaces

Coatings	1 x TW 3001 Minimum dry film thickness 400 µm
Substrate	Properties in accordance with section on "surface preparation: stainless-steel/aluminium"

System C: Protection of mineral surfaces

Coatings	1 x TW 3001 Minimum dry film thickness 400 µm
Primer/sealer	1 x QV 7 G
Levelling mortar	2 x QV 7
Substrate	Properties in accordance with section on "surface preparation: Concrete and cement plaster"

Theoretical material consumption/coverage without loss for medium dry film thickness of:

DFT in µm	WFT in µm	approx. kg/m <sup>2</sup>	approx. m <sup>2</sup> /kg
400	400	0.54	1.85

## Re-Coating Intervals/Sequence Coatings

Waiting time between coats:

Min.: 8 h (20 °C)

Max.: 72 h (20 °C)

The coating surface must be prepared by sweep-blasting in case of a longer waiting time.

## Curing Time

	+20 °C
Dry to touch:	after 10 h
Easy load:	after 18 h
Full mechanical and chemical resistance:	after 7 days

The above mentioned values are standard values. Variations caused by practical requirements or conditions are possible.

## Final drying time

The following periods should be adhered to for potable water tanks: 10 to 14 days at a substrate temperature of + 20 °C.

TW 3001 may only come into contact with potable water if it has been ascertained by testing that the coating is cured to the extent that it can no longer impair the potable water. On putting the containers/plant components into operation, the DVGW directives (German Association for Gas and Water) governing cleaning and disinfection as well as the applicable potable water regulations, in particular §11 "List of treatment agents and disinfection procedures", must be obeyed.

### Instruction for initial filling:

Before filling the coated tanks or pipes for the first time with potable water or foodstuffs, steep in water or rinse for at least 1 day.

## Packing Units

The material is supplied in one packing size: 12.6 kg (10.0 kg Part A and 2.6 kg Part B). Delivery in colours: beige and blue.

## Cleaning

For cleaning use SC Cleaner. If the material is allowed to set, it can only be removed by mechanical means.

## Storage

The material should ideally be stored in unopened original bins under cool, dry and frost free conditions, at temperatures between +10 and +32 °C, divergence during transport is acceptable. Please observe the expiry date stated on the material.

## Safety Instructions

For the handling of our products, the significant physical, safety-related, toxicological and ecological data according the substance-specific safety data sheet are to be extracted. The applicable rules and regulations, such as for example the Hazardous Substances Regulation, have to be observed.

A detailed safety data sheet will be delivered with the material or is available upon request.

Whilst all reasonable care is taken in compiling technical data on the company's products, all recommendations or suggestions regarding the use of such products are made without guarantee, since the conditions of use are beyond the control of the company. It is the responsibility of the customer to satisfy himself that each product is fit for the purpose for which he intends to use it, that the actual conditions of use are suitable, and that in the light of our continual research and development programme, the information relating to each product has not been superseded.

• PATIG GmbH • Bruchstücker 11-15 • D - 76661 Philippsburg •  
• Tel. +49 (0)7256 9347-0 • Fax +49 (0)7256 9347-20 • E-Mail: info@patig-gmbh.com • www.patig-gmbh.com •

Date of issue: 10.02.23/23.05.23