

# MAPECOAT DW 25

Two-component epoxy paint for anti-acid and non-toxic coatings on concrete surfaces, suitable for contact with drinking water



## WHERE TO USE

Protection for concrete surfaces and cementitious render in the food and drinks industries in processing and production areas, concrete water tanks and pipes used for slightly aggressive chemical substances and storage tanks used to contain drinking water.

### Some typical application examples

- Lining tanks used for containing drinking water.
- Coating storage tanks for foodstuffs.
- Protective lining in depuration tanks.

## TECHNICAL CHARACTERISTICS

**Mapecoat DW 25** is a two-component, epoxy resin-based paint containing special pigments with high covering properties, formulated in MAPEI's own research laboratories.

Once it has completely hardened, **Mapecoat DW 25** is capable of resisting the eroding action caused by solutions saturated and by slightly aggressive acids.

According to transfer tests contained in the Italian Ministerial Decree issued 06-04-2004, No. 174, subsection 2, article 5, **Mapecoat DW 25** may be used in fixed water plants used for the capitation, treatment, adduction and treatment of water for human consumption.

**Mapecoat DW 25** is also certified and complies with the requirements of EU 10/2011 Regulations for materials in contact with foodstuffs.

The table below lists some of the foodstuffs:

Food simulant	Main assigned foodstuffs
A	Fruit in shell, in paste and cream form. Fresh, peeled or chopped vegetables. Fresh, chilled, preserved, smoked or processed fish and meat. Preserved fish, crustaceans and molluscs in an oily medium. Sugar syrup, molasses honey. Cheese preserved in an oily medium. Fried or roasted foods.

<b>D2</b>	Fats, animal and vegetable oils, natural or processed. Dry and fresh bakery products, biscuits, pastry goods and cakes. Chocolate, cocoa paste and substitutes and coated products. Spices and flavourings in an oily medium, e.g. pesto. Fruit preserved in an oily medium.
<b>E</b>	Dry foods, cereals in their original state, flaked and puffed, cereal flours and semolina. Starches. Dried and dehydrated fruits. Dried and dehydrated vegetables. Pasta, including cocoa butter, lard, butter, margarine. Cheese with and without rind. Eggs in various forms. Milk powder. Sugars and sugar products in solid form, cocoa, coffee in grain or powder form. Preparations for soups and broths. Sauces in powder form. Frozen and deep-frozen foods. Aromatic plants, tea, chamomile, spices, herbs in natural state, salt, pepper, saffron.

**NB: Mapecoat DW 25** is also suitable for contact with other foodstuffs not listed in the table. Our Technical Services Department is available for any information required.

**Mapecoat DW 25** is resistant to freezing and leaves a pleasant finish on the surfaces treated.

**Mapecoat DW 25** complies with the principles defined by EN 1504-9 standards ("*Products and systems for protecting and repairing concrete structures. Definitions, requirements, quality control and conformity assessment. General principles for the use and application of systems*"), and the requirements of EN 1504-2 standards ("*Protection systems for concrete surfaces*") for class: products for protecting surfaces - coating (C) – protection against ingress (PI) + moisture control (MC) + physical resistance/surface improvement (PR) + resistance to chemicals (RC) + increasing resistivity by limiting moisture content (IR).

## RECOMMENDATIONS

- Do not use **Mapecoat DW 25** on damp surfaces, unless treated beforehand with **Triblock P**.
- Do not dilute **Mapecoat DW 25** with solvents or water.
- Do not apply **Mapecoat DW 25** if it is about to rain.
- Do not apply **Mapecoat DW 25** if the temperature is lower than +5°C.
- Do not apply **Mapecoat DW 25** on hot surfaces or surfaces exposed to direct sunlight.
- During hot weather, avoid exposing the two components to direct sunlight before mixing. We also recommend storing the components at a temperature of approximately +10°C for at least 24 hours.
- Do not apply **Mapecoat DW 25** on dusty or crumbly substrates.
- Do not apply **Mapecoat DW 25** on surfaces subject to capillary-action rising damp (please consult the MAPEI Technical Services Department).

## APPLICATION PROCEDURE

### Preparation of the substrate

The surfaces to be treated must be perfectly clean, sound and dry.

Completely remove all crumbly parts via sand-blasting, dust, form-release compound and old paint.

Seal any cracks and repair deteriorated areas with products from the **Mapegrout** range.

Seal all porosity and level off uneven areas in the substrate with **Mapefinish** fine smoothing and levelling mortar.

If the substrate is damp, only use **Mapecoat DW 25** after applying **Triblock P** three-component epoxy cementitious primer (refer to the **Triblock P** Technical Data Sheet). **Triblock P** may be used as is by diluting it

accordingly with water, or by adding **Quartz 0.25** or **Quartz 0.5** sand, to obtain a smoothing mortar to be used on uneven concrete surfaces.

**Mapecoat DW 25** must only be applied after the substrate has been completely cured.

### Preparation of the paint

The two components which make up **Mapecoat DW 25** must be mixed together.

Pour component B (catalyser) into component A (resin) and blend together with a low-speed drill to avoid air being drawn in, until a homogenous mix is obtained.

Only mix complete units to avoid accidental errors in the mixing ratio; which could lead to incorrect hardening of the product.

### Application of the paint

**Mapecoat DW 25** must be applied evenly in 2 coats using traditional application techniques, such as a brush, a roller or by spraying or with an airless spray-gun. Wait from 6 to 24 hours between each coat, according to the surrounding temperature. Protect from rain for at least 12 hours.

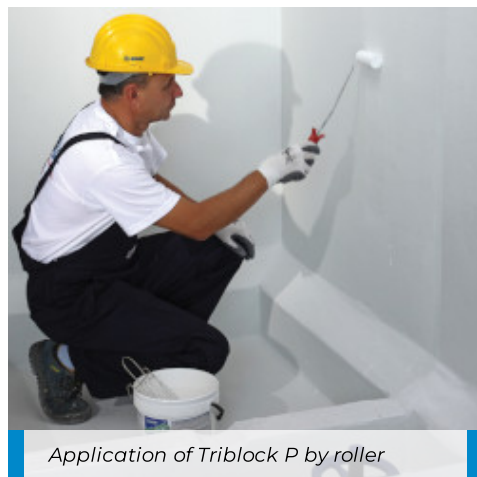
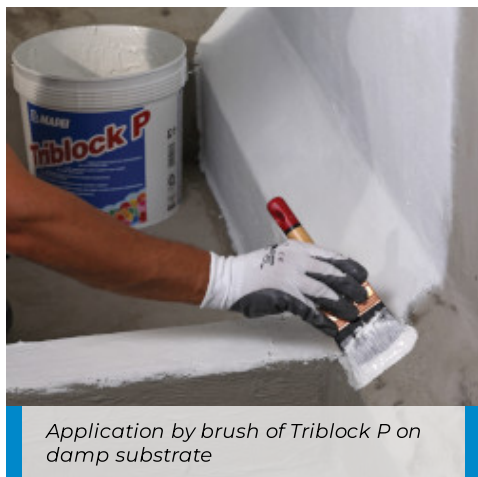
**Mapecoat DW 25** may be set to light foot traffic after 24 hours.

### Cleaning surfaces before putting into service

At approximately +20°C, we recommend waiting at least 1 week after applying the product before putting storage tanks into service. In winter or at low temperatures, hardening times are longer. Before filling storage tanks treated with **Mapecoat DW 25**, rinse thoroughly with plenty of clean, hot water.

### Maintenance operations while in service

Surfaces painted with **Mapecoat DW 25** may be washed with water and detergent (since there are a number of products available on the market, carry out a preliminary test beforehand).



## CLEANING

Clean **Mapecoat DW 25** from brushes, rollers and spraying equipment before it dries with ethanol.

## CONSUMPTION

400-600 g/m<sup>2</sup> per coat, which corresponds to a final thickness of around 300-450 µm (2 coats of product). The consumption depends on the characteristics of the substrate on which it is applied and the application method used and may be higher if the surface is uneven.

## PACKAGING

5 kg kits (4 kg of component A + 1 kg of component B).

## STORAGE

**Mapecoat DW 25** may be stored for up to 24 months in its original packaging in a dry area at a temperature of between +5°C and +30°C away from sources of heat and naked flames.

## SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website [www.mapei.com](http://www.mapei.com).

PRODUCT FOR PROFESSIONAL USE.

## TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

	component A	component B
Colour:	white	transparent
Consistency:	thick paste	fluid
Density:	1.43 g/cm <sup>3</sup>	1.003 g/cm <sup>3</sup>
Viscosity:	2,500 mPa·s (5 shaft - 20 rev.)	500 mPa·s (2 shaft - 50 rev.)
Maximum VOC content according to Directive 2004/42/EC:	160 g/l	

### APPLICATION DATA (at +23°C and 50% R.H.)

Mixing ratio:	component A : component B = 4 : 1
Density (A+B):	1,300 kg/m <sup>3</sup>
Viscosity (A+B):	1,500 mPa·s (3 shaft - 20 rev)
Colour (A+B):	white
Application temperature:	from +5°C to +30°C
Pot life:	30'-40'
Setting time of film:	4-5 hours

Waiting time between coats:	6-24 hours
Final hardening time:	7 days

**PERFORMANCE CHARACTERISTICS IN COMPLIANCE WITH CE CERTIFICATION EN 1504-2 - Table ZA.1d and ZA.1g (coating C, PI-MC-PR-RC-IR principles)**

Performance characteristic	EN 1504 Test method	Requirements	Product performance
<b>Abrasion resistance (TABER test)</b> (Note: Testing methods according to EN 13813 for flooring systems are also acceptable):	EN ISO 5470-1	Loss in weight less than 3000 mg after 1000 cycles with an H22 abrasive disk with a load of 1,000 g	< 600 mg
<b>Permeability to CO<sub>2</sub>:</b>	EN 1062-6 (sample treated according to prEN 1062-11)	Permeability to CO <sub>2</sub> $S_D > 50$ m	> 900 m
<b>Permeability to water vapour:</b>	EN ISO 7783-1-2	Class I: $S_D < 5$ m (permeable to water vapour) Class II: $5 \text{ m} \leq S_D \leq 50$ m Class III: $S_D > 50$ m (not permeable to water vapour)	Class III
<b>Capillary absorption and permeability to water:</b>	EN 1062-3	$W < 0.1 \text{ kg/m}^2 \cdot \text{h}^{0.5}$	$< 0.01 \text{ kg/m}^2 \cdot \text{h}^{0.5}$
<b>Resistance to thermal shock (1x):</b>	EN 13687-5	$\geq 2$ MPa	3.5 MPa
<b>Resistance to severe chemical attack</b> Class I: 3 days with no pressure Class II: 28 days with no pressure Class III: 28 days with pressure We recommend using test liquids for the 20 classes indicated in EN 13529, which cover all types of the most commonly-used chemical agents. Other test liquids may be agreed upon between those interested in the tests:	EN 13529	Reduction of hardness less than 50% when measured according to the Buchholz method (EN ISO 2815) or the Shore method (EN ISO 868), 24 hours after removing the coating material from immersion in the test liquid	No variation in performance. Bubbles with 10% acetic acid after 28 days
<b>Resistance to impact measured on MC (0.40) coated concrete samples according to EN 1766 (note: the forecast thickness and impact load influence which class is chosen):</b>	EN ISO 6272-1	No cracks or delamination after loading Class I: $\geq 4$ Nm Class II: $\geq 10$ Nm Class III: $\geq 20$ Nm	Class I



Direct traction adherence test. Reference substrate: MC (0.4) as specified in EN 1766 curing: – 28 days for single component systems containing concrete and PCC systems; – 7 days for systems with reactive resin	EN 1542	Average (N/mm <sup>2</sup> ) Cracking or flexible systems with no traffic: $\geq 0.8$ (0.5) <sup>b)</sup> with traffic: $\geq 1.5$ (1.0) <sup>b)</sup> Rigid systems <sup>c)</sup> with no traffic: $\geq 1.0$ (0.7) <sup>b)</sup> with traffic: $\geq 2.0$ (1.0) <sup>b)</sup>	3.5 MPa
Reaction to fire after application:	EN 13501-1	Euroclasses	B <sub>f</sub> s1

## WARNING

*Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.*

**Please refer to the current version of the Technical Data Sheet, available from our website [www.mapei.com](http://www.mapei.com)**

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