MAPECOAT DW 25

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







CE
EN 1504-2

IN COMPLIANCE WITH EUROPEAN STANDARD
EN 1504-2 (C)
PRINCIPLES
PI-MC-PR-RC-IR
MAPEI
SURFACE PROTECTION SYSTEMS FOR CONCRETE

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 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:

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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.
D2	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.
E	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.
- Especially during hot weather, avoid exposing the two components to direct sunlight before mixing and store them at a temperature between +15°C and +25°C.
- Do not apply **Mapecoat DW 25** on dusty or crumbly substrates.
- Do not apply **Mapecoat DW 25** on surfaces subject to capillary rising damp (please consult the MAPEI Technical Services Department).
- Do not apply **Mapecoat DW 25** on flexible substrates/systems.

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 completely mixed together.

Pour component B (catalyser) into component A (resin) and mix with a low-speed mixer to avoid air entraining until a homogenous mix is obtained.

Do not use partial quantities of the product in order to avoid dosage errors, otherwhise **Mapecoat DW 25** may not harden correctly.

Application of the paint

It is essential that the substrate temperature be at least 3°C above the dew point, especially if the product is applied in "closed" environments/tanks (make sure the area is well ventilated to avoid the formation on condensation on the surface of the substrates).

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 is 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).



Application by brush of Triblock P on damp substrate



Triblock P applied to blend in the joint between a floor slab and a vertical wall



Application of Triblock P by roller



Filling the tank after Mapecoat DW 25 has completely hardened

CLEANING

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

CONSUMPTION

400-600 g/m² in two coats, which corresponds to a final thickness of approximately 300-450 µm (2 coats of product). If just one coat is applied, a dry final thickness of at least 200 µm (consumption of approximately 300 g/m²) is required.

In any case, the consumption highly depends on the substrate's roughness and the application method used.

PACKAGING

15 kg units (12 kg of component A + 3 kg of component B) and 5 kg units (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

When the product reacts it generates considerable heat. After mixing components A and B, we recommend applying the product as soon as possible and never leaving the container unattended until it is completely empty.

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.

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/cm³	1.003 g/cm³
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/m³
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
Abrasion resistance (TABER test) (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
Permeability to CO_2:	EN 1062-6 (sample treated according to prEN 1062-11)	permeability to CO_2 S_D > 50 m	> 900 m
Permeability to water vapour:	EN ISO 7783-1-2	Class I: S_D < 5 m (permeable to water vapour) Class II: 5 m ≤ S_D ≤ 50 m Class III: S_D > 50 m (not permeable to water vapour)	Class III
Capillary absorption and permeability to water:	EN 1062-3	W < 0.1 kg/m²·$h^{0.5}$	< 0.01 kg/m²·$h^{0.5}$
Resistance to thermal shock (1x):	EN 13687-5	≥ 2 MPa	3.5 MPa
Resistance to severe chemical attack 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
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):	EN ISO 6272-1	no cracks or delamination after loading Class I: ≥ 4 Nm Class II: ≥ 10 Nm Class III: ≥ 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^2) cracking or flexible systems with no traffic: ≥ 0.8 (0.5)[b)] with traffic: ≥ 1.5 (1.0)[b)] rigid systems[c)] with no traffic: ≥ 1.0 (0.7)[b)] with traffic: ≥ 2.0 (1.0)[b)]	3.5 MPa
Reaction to fire after application:	EN 13501-1	Euroclasses	$B_{FL}s1$

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

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The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation.

The most up-to-date TDS can be downloaded from our website www.mapei.com.

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