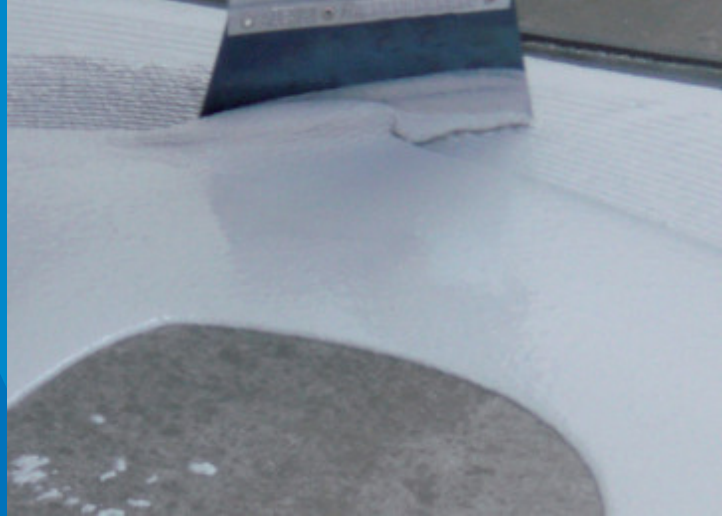
TRIBLOCK TMB

Three-component, self-levelling epoxy-cementitious coating product for layers from 1.5 to 3 mm thick



WHERE TO USE

Triblock TMB is a three-component, self-levelling, cement and epoxy resin product according to a formula developed in MAPEI R&D laboratories, specific for damp cementitious substrates.
Triblock TMB is used to form a temporary moisture barrier on cementitious substrates, even if they are either damp or not cured, before the installation of epoxy or polyurethane resin systems impervious to water vapour, preventing their detachment and the formation of blisters due to moisture in the substrate.
Triblock TMB may also be used for smoothing rough and irregular cementitious substrates before applying a resin system.

Some application examples

· Base coat on damp or not completely cured concrete flooring before applying resin systems impervious to water vapour.
· Levelling layer on rough concrete flooring or concrete flooring roughened by grinding.
· Smoothing over damp concrete surfaces before applying epoxy or polyurethane coatings.
· Thin repair layers on cementitious substrates, including damp ones, which do not require a particularly attractive finish.

TECHNICAL CHARACTERISTICS

Thanks to its excellent fluidity, **Triblock TMB** is easy and quick to apply and forms an ideal substrate for the application of self-levelling or broadcast resin systems.
Triblock TMB may be coated after just 24 hours (at + 23°C and 50% R.H.) with epoxy or polyurethane systems such as **Mapefloor System 31**, **Mapefloor System 32** or **Mapefloor System 33**, even if applied on concrete which is not fully cured or damp.
Thanks to its special formulation, **Triblock TMB** impedes and prevents the formation of blisters and the detachment of successive resin systems impervious to water vapour.
Triblock TMB has excellent adhesion to concrete substrates (which must be cured for at least 5 days), including when damp or not fully cured.
When the layer of **Triblock TMB** has hardened, it is stronger and more resistant to water, lubricants, detergents and de-icing salts than normal cementitious-based products.

ADVANTAGES

· Rapid, easy application.
· Protection against chemical attacks from de-icing salts.
· May be coated after just 24 hours (at + 23°C and 50% R.H.) with epoxy or polyurethane resin formulates.
· Excellent adhesion to concrete.
· Promotes good adhesion with successive resin coatings.
· No risk of blisters and/or detachment of successive resin systems impervious to vapour, even if applied on damp or not cured cementitious substrates.
· Very good mechanical strength.
· Compatible with the environment.

RECOMMENDATIONS

- If **Triblock TMB** is used as base coat on damp substrates before applying resin systems impervious to water vapour, apply a layer at least 2 mm thick.
- The layer of **Triblock TMB** may be coated with a resin system impervious to water vapour, that tolerates 4% maximum moisture content, 24 hours after application at +23°C and 50% R.H. and if the area is well ventilated.
- Before applying a resin system impervious to water vapour, check **Triblock TMB** surface moisture content which must be less than 4% or anyway compatible with the resin system to be applied. Check the moisture content with a suitable contact-type hygrometer. Do not use a hygrometer with a probe that penetrates into the surface of **Triblock TMB**.
- If the layer of **Triblock TMB** is applied on a damp substrate, it guarantees that the surface moisture content remains lower than 4% for a limited period of time (but at least 4-5 days). Apply the resin system impervious to water vapour within this time while the surface moisture content of **Triblock TMB** is lower than 4%, or compatible with the resin system to be applied. If you wait too long and the surface moisture content exceeds the recommended maximum value for the resin system, apply another layer of **Triblock TMB**.
- The surface of **Triblock TMB** does not require any further preparation before applying the resin system, but make sure the surface is dry and clean and that all dust has been removed.
- If the impervious resin system includes a primer, such as **Primer SN**, it must be applied on **Triblock TMB** so that it forms a seamless film and the consumption rate must be at least 0.300 kg/m^2.
- Make sure the area is well ventilated to eliminate excess damp during the hardening phase.
- Protect the fresh surface of **Triblock TMB** from vapour, condensation and water for at least 24 hours after application.
- Avoid applying **Triblock TMB** if the temperature is higher than +35°C and the air R.H. is too low, otherwise the product would dry too quickly, or if the temperature is lower than +8°C or air R.H. is higher than 80%.
- If uncovered **Triblock TMB** is exposed to direct sunlight a surface change in colour may occur, without affecting the physical properties of the product.
- Do not dilute **Triblock TMB** with water.
- During the application and hardening phases of the product, the temperature of the substrate must be at least 3°C higher than the dew-point temperature.

APPLICATION PROCEDURE

Preparation of the substrate

The surface of concrete floorings must be clean and sound and have no crumbling or detached areas. The compressive strength of concrete in already cured substrates must be at least 25 N/mm^2 and its tensile strength must be at least 1.5 N/mm^2. The strength of the substrate must also be suitable for its final use and to the types of loads acting on the flooring. For new flooring, concrete must be cured for at least 5 days at +20°C. The substrate may be damp but there must be no water visible on the surface.
The surface of the floor must be prepared with suitable power tools (e.g. shot-blasting or grinding with a diamond disk) to remove all traces of dirt, cement laitance and crumbling or detached portions and to make the surface slightly rough and absorbent. Before applying the product remove all dust from the surface with a vacuum cleaner.
Repair cracks by filling them with **Triblock TMB** or **Primer SN**. Concrete with localized damage may be repaired with **Triblock TMB** mixed with 30% by weight of **Quartz 0.9**.

Priming the substrate

Apply by roller a coat of **Mapecoat I 600 W** diluted 1 : 1 by weight with water so that it forms an even film on the surface. Wait 1-2 hours until the film of primer becomes transparent and sticky. If necessary, apply more **Mapecoat I 600 W** in any areas where it has been completely absorbed. For particularly porous or absorbent surfaces, apply two coats of **Mapecoat I 600 W**; wait 12 hours between each coat (at +23°C and 50% R.H.).
Apply **Triblock TMB** while the primer is still sticky.

Preparation of the product

Stir each component separately, then mix component A and component B together in a suitable container. Add component C and mix for at least 3 minutes with a low-speed electric mixer to form a smooth, well-blended mix. Do not add water.

Application of the product

Apply **Triblock TMB** with a notched trowel with V-shaped notches or with a pin-rake with thickness guides. The minimum applicable thickness is 1.5 mm, or 2 mm if the layer of **Triblock TMB** is applied on a damp substrate and is to be coated with a resin system impervious to water vapour. The maximum applicable thickness is 3 mm. Immediately after applying the product, back-roll with a spiked roller. If the layer of **Triblock TMB** is used as a base coat on damp surfaces before applying a resin system impervious to water vapour, do not broadcast the wet surface with quartz sand or any other type of aggregate.

CLEANING

Clean tools used to prepare and apply **Triblock TMB** with water immediately after use. Once hardened, the product may only be removed mechanically.

CONSUMPTION

Primer: **Mapecoat I 600 W**: 200 g/m² per coat.
Self-levelling layer: **Triblock TMB**: approx. 2.0-2.1 kg/m² per mm of thickness.

PACKAGING

24 kg kit A+B+C as follows:
· component A: 1 kg;
· component B: 3 kg;
· component C: 20 kg.

STORAGE

Triblock TMB may be stored for 12 months, in its original packaging in a dry area at a temperature of +5°C to +30°C. Protect from frost.

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.
PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)			
PRODUCT IDENTITY			
	comp. A	comp. B	comp. C
Colour:	white	straw yellow	grey
Consistency:	liquid	liquid	powder
Density (g/cm³):	1.1	1.01	1.2
Brookfield viscosity (mPa·s):	9,500 (# 4 - rpm 10)	30 (# 1 - rpm 50)	–
APPLICATION DATA (at +23°C - 50% R.H.)			
Mixing ratio:	comp. A : comp. B : comp. C = 1 : 3 : 20		
Colour of mix:	light grey		
Consistency of mix:	self-levelling		
Density of mix (kg/m³):	2,050		
Pot life of mix at +20°C:	20 min.		
Substrate temperature:	from +8°C to +30°C		
FINAL PERFORMANCE (3 mm thickness)			
Dust dry (at +23°C and 50% R.H.):	2-4 h		

Light pedestrian traffic (at +23°C and 50% R.H.):	24 h
Fully cured (at +23°C):	7 gg

Main characteristics	**Test method**	**Requirements according to EN 13813 for hydraulic binders-based screeds modified with reactive binders of CT type**	**Product performance**	
Compressive strength (N/mm²):	EN 13892-2	C 5 ÷ C 80 (28 days)	24 h	25
			7 days	55
			28 days	68
Flexural strength (N/mm²):	EN 13892-2	F 1 ÷ F 50 (28 days)	24 h	7
			7 days	10
			28 days	12
Adhesion to concrete (N/mm²):	EN 13892-8	> 1.5	28 days	> 3
Wear resistance (Böhme) ($cm^3/50\ cm^2$):	EN 13892-3	1.5 ÷ 22	28 days	7.5
Reaction to fire:	EN 13501-1	value declared by the manufacturer	$A2_{FL}$-s1	

FINAL PERFORMANCE (3 mm thickness)

Main characteristics	**Test method**	**Requirements according to EN 1504-2 (Principles MC, PR and IR - coating)**	**Product performance**
Taber abrasion resistance 28 days H22/1000 revs/ 1000 g (mg):	EN ISO 5470-1	< 3000	450
Resistance to thermal shock (MPa):	EN 13687-5	> 2.0 for rigid systems with traffic	2.2 (+160°C)
Adhesion to concrete (substrate type MC 0.40) according to EN 1766 (MPa):	EN 1542	For rigid systems with no traffic: ≥ 1.0 with traffic: ≥ 2.0	> 3 (after 28 days)
Impact strength (Nm):	EN 6272-1	Class I: ≥ 4 Nm Class II: ≥ 10 Nm Class III: ≥ 20 Nm	Class III: > 20
Impermeability expressed as coefficient of permeability to free water ($kg/m^2 \cdot h^{0.5}$):	EN 1062-3	W < 0.1	W < 0.1
Permeability to water vapour:	EN ISO 7783-1	Class I S_D < 5 m Class II 5 m ≤ S_D ≤ 50 m Class III S_D > 50 m	S_D < 5 Class I (permeable to water vapour)
Reaction to fire:	Euroclass	value declared by the manufacturer	$A2_{FL}$-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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