



Mapecfloor I 914

Two-component epoxy protective coating for concrete, with priming function on cementitious bridge deck substrates before asphalt layer or waterproofing membranes



WHERE TO USE

Mapecfloor I 914 is a two-component epoxy protective coating for concrete, with priming function on cementitious substrates before waterproofing bridge decks with membranes (synthetic, liquid and bitumen polymer) or before installing asphalt layer (in compliance with Austrian RVS standards).

Some application examples

- Primer for waterproofing concrete bridges before applying bituminous systems.
- Primer for absorbent concrete surfaces before applying epoxy or polyurethane resin products to improve the quality of the bond.
- Reactive polymer binder for injections, repairs and protection of concrete structures (EN 1504-5).

TECHNICAL CHARACTERISTICS

Mapecfloor I 914 is a two-component epoxy protective coating for concrete, according to a formula developed in MAPEI's R&D laboratories.

Mapecfloor I 914 has a low level of viscosity, even at low temperatures, and has the capacity to penetrate deep into the substrate.

Mapecfloor I 914 also hardens very well even on damp substrates, as long as they are not subject to capillary rising damp.

Mapecfloor I 914 meets the requirements defined by EN 1504-9 (*"Products and systems for the protection and repair of concrete structures: definitions, requirements, quality control and evaluation of conformity. General principles for the use of products and systems"*) the requirements claimed by EN 1504-2 (*"Surface protection systems for concrete"*) for coating

(C), protection against ingress (PI) + moisture control (MC) and increasing resistivity (IR) and the minimum requirements claimed by EN 1504-5 (*"Concrete injection"*).

RECOMMENDATIONS

- Do not use **Mapecfloor I 914** on wet substrates or substrates subject to rising damp (please consult the MAPEI Technical Services Department).
- Do not dilute **Mapecfloor I 914** with water or solvents.
- Do not apply levelling compounds or finishing products on surfaces treated with **Mapecfloor I 914** if it is shiny. If any excess **Mapecfloor I 914** has not penetrated into the porosity of the concrete and it's already hardened, and any quartz sand has been broadcast on its surface, it will be necessary to sandpaper the surface.

APPLICATION PROCEDURE

Characteristics of the substrate

Substrates must be solid and free of dust, crumbling or detached parts, paint, wax, oil, rust and traces of any other substance which could compromise the bond. Concrete substrates must also be solid, compact and with a good mechanical strength. The tear strength must be at least 1.5 N/mm².

Mapecfloor I 914 may be applied on damp substrates as long as they are not subject to capillary rising damp.

Ambient and substrate temperature must be between +8°C and +35°C.

The temperature of the substrate must be at least 5°C higher than the dew point temperature. The

TECHNICAL DATA (typical values)				
PRODUCT IDENTITY				
	Component A	Component B		
Consistency:	fluid	fluid		
Colour:	yellow, transparent	yellow, transparent		
Density (g/cm ³):	1.1	0.95		
Brookfield viscosity (mPa·s):	800 ÷ 1,200 (# 3 - rpm 50)	25 ÷ 45 (# 1 - rpm 50)		
APPLICATION DATA (at +23°C - 50% R.H.)				
Mixing ratio:	component A : component B = 3 : 1			
Consistency of mix:	fluid			
Colour of mix:	yellow, transparent			
Density of the mix (kg/m ³):	1,080			
Brookfield Viscosity (mPa·s):	270 ± 30 (# 2 - rpm 50)			
Pot life:	approximately 30 minutes			
Dust dry:	3-4 hours			
Application temperature range:	from +8°C to +35°C			
Workability time: - at +10°C: - at +23°C: - at +30°C:	60 minutes 30 minutes 15 minutes			
Waiting time before applying the second coat: - at +10°C: - at +23°C: - at +30°C:	minimum 24 hours 12 hours 6 hours	maximum 2 days 24 hours 24 hours		
Set to light foot traffic and waiting times before laying bitumen waterproofing system: - at +10°C: - at +23°C: - at +30°C:	24 hours 12 hours 6 hours			
Waiting time before carrying out pull-out test at site temperature of: - +10°C: - +23°C: - +30°C:	24 hours 24 hours 24 hours			
FINAL PERFORMANCE DATA ACCORDING TO EN 1504-5 TAB. ZA. 1a				
Main characteristic	Test method	Requirements according to EN 1504-5	Performance of product	
Bond due to tensile strength:	EN 12618-2	cohesive failure of substrate	meets specifications	
Bond due to inclined shear strength:	EN 13618-3	monolithic failure	meets specifications	
Volumetric shrinkage (%):	EN 12617-2	< 3	2.9	
Glass transition temperature:	EN 12614	> +40°C	> +40°C	
Injection into a column of dry sand and into a column of damp sand:	EN 1771	injection class: - cracks width 0.1 mm: < 4 min - cracks from 0.2 to 0.3 mm: < 8 min	dry 1 min 10 sec	damp 1 min 39 sec
		indirect tension: > 7 N/mm ²	8 N/mm ²	9 N/mm ²
Durability (freeze/thaw cycles and wet/dry cycles):	EN 12618-2	cohesive failure of substrate	meets specifications	
Development of tensile strength at +10°C (N/mm ²):	EN 1543	tensile strength > 3 N/mm ² after 72 hours at service temperature	> 3	
Tensile strength (N/mm ²):	EN ISO 527	-	40	
Tensile modulus of elasticity (N/mm ²):	EN ISO 527	-	3,700	
Deformation at failure (%):	EN ISO 527	-	2.0	
Pull-out strength on dry concrete after 7 days (N/mm ²):	> 2.5 (failure of concrete)			
Pull-out strength on damp concrete after 7 days (N/mm ²):	2.4 (failure of concrete)			

FINAL PERFORMANCE			
Main characteristic	Test method	Requirements according to EN 1504-2 coating (C) principles PI, MC, IR	Performance of product
Linear shrinkage Only valid for rigid ^(b) systems ≥ 3 mm thick:	EN 12617-1	$\leq 0.3\%$	0.0
Coefficient of thermal expansion For coatings ≥ 1 mm thick:	EN 1770	Rigid ^(b) systems for external applications: $\alpha_t \leq 30 \cdot 10^{-6} \text{ K}^{-1}$	$\alpha_t \leq 29,2 \cdot 10^{-6}$
Permeability to CO ₂ (m):	EN 1062-6 (treatment of sample according to prEN 1062-11)	$S_D > 50 \text{ m}$	200
Permeability to water vapour - equivalent thickness of air S_D (m):	EN ISO 7783-2	Class I $S_D < 5 \text{ m}$ Class II $5 \text{ m} \leq S_D \leq 50 \text{ m}$ Class III $S_D > 50 \text{ m}$	$S_D > 50$ Class III
Impermeability expressed as coefficient of permeability to free water (kg/m ² ·h ^{0.5}):	EN 1062-3	$W < 0.1$	< 0.001
Resistance to thermal shock (MPa):	EN 13687-5	For rigid systems with no traffic: ≥ 1.0 with traffic: ≥ 2.0	≥ 3.0
Direct tensile adhesion (MC 0.40 type substrate) according to EN 1766 (MPa):	EN 1542	For rigid systems with no traffic: ≥ 1.0 with traffic: ≥ 2.0	≥ 3.0 (after 7 days)
Thermal compatibility measured as adhesion according to EN 1542 (MPa): - freeze-thaw cycles with de-icing salts: - storm cycles: - thermal cycles with no de-icing salts:	EN 13687/1 EN 13687/2 EN 13687/3	≥ 2.0 (after 50 cycles) ≥ 2.0 (after 10 cycles) ≥ 2.0 (after 20 cycles)	≥ 3.0 ≥ 3.0 ≥ 3.0
Diffusion of chloride ions (mm):	Subject to local and national norms and regulations: UNI 7928	no minimum value required	No penetration
Reaction to fire (275 g/m ²):	EN 13501-1	Euroclass	B-s1-d0

air relative humidity must not be higher than 80%.
These conditions must also be maintained during the hardening phase of the product.

Preparation of the product

Mapefloor I 914 is supplied in two pre-dosed packages to ensure a correct mix. We recommend that partial quantities of the product are not mixed to avoid errors in the mixing ratio, as this could result in a lack or incomplete hardening of the **Mapefloor I 914**. If a partial mix is essential, use high-precision electronic scales to dose the product. To prepare the product, add component B (hardener) to component A (resin) and slowly mix together with a suitable mixer for around 2-3 minutes until a well-blended compound is obtained. Pour the compound into a clean, metal container and mix briefly until it is well blended again.

Application of the product

The material mixed as described above must be applied on the substrate with a roller, a brush or a rubber trowel. Further coats of the product may be applied after approximately 12 hours (at +23°C). Sprinkle a loose layer of **Quartz 1.2** on the product while it is still fresh. The grain size of the quartz must be assessed according to each application and in compliance with requirements (e.g. Austrian RVS Standards). In these cases, we recommend contacting the MAPEI Technical Services Department to discuss specific applications.

Cleaning

While it is still fresh, **Mapefloor I 914** may be removed with alcohol. Once hardened, the product may only be removed mechanically.

CONSUMPTION

250-700 g/m² (depending on the absorption of the substrate).

PACKAGING

28 kg kit:
component A: 21 kg;
component B: 7 kg.

STORAGE

The product may be stored for 24 months in its original, sealed packaging in a cool place and at a temperature between +5°C and +30°C. Protect from frost.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapefloor I 914 component A is irritant for the eyes and skin, component B is corrosive and may cause burns; furthermore, it is hazardous if swallowed and may cause irreversible damage if used for lengthy periods. Both component A and B may cause sensitization when in contact with the skin of those predisposed. The product contains low molecular weight epoxy resins that may cause sensitization if cross-contamination occurs with other epoxy compounds. When applying the product it is recommended to wear protective gloves and goggles and to take the usual precautions for handling chemicals. In case of contact with the eyes or skin wash immediately with plenty of clean water and seek medical attention.

Mapefloor I 914

Do not use in the presence of pregnant women.

Mapefloor I 914 component A and B are dangerous for aquatic life. Do not dispose of them in the environment.

For further and complete information about the safe use of our product please refer to the latest version of our Safety Data Sheet.

RESTRICTED TO PROFESSIONAL USERS.

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

LEGAL NOTICE

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.

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.

All relevant references for the product are available upon request and from www.mapei.com

