



# Mapecoat Universal Eco



**Two-component  
low emitting  
transparent epoxy**



## WHERE TO USE

**Mapecoat Universal Eco** can be used as a transparent epoxy binder for:

- decorative floors made with “compact” method;
- decorative skid resistant floors;
- stone paving;
- topcoat for epoxyfloors decorated with flakes.

**Mapecoat Universal Eco** can also mixed with quartz sand for epoxymortar or mixed with **Sylothix 53** for epoxyputty.

**Mapecoat Universal Eco** is normally applied on concrete and other cement-based substrates.

## TECHNICAL CHARACTERISTICS

**Mapecoat Universal Eco** is a wear resistant epoxy for concrete floors.

**Mapecoat Universal Eco** has excellent impact resistance and good chemical resistance.

**Mapecoat Universal Eco** has low viscosity and is easy to apply.

**Mapecoat Universal Eco** is totally free of VOC, and does not contain solvents, benzylalcohol or other plasticizers.

**Mapecoat Universal Eco** is a very low emitting product, and is classified according to M1.

**Mapecoat Universal Eco** complies with the principles defined in 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 (*“Protection systems for concrete surfaces”*) for class: products for protecting surfaces - coating (C) - PR.

**Mapecoat Universal Eco** complies with EN 13813.

## APPLICATION PROCEDURE

### Preparation of the substrate

The concrete must be sound, clean and dust-free with a smooth permanent surface. Normal cleaning methods such as milling, grinding or shot blasting can be used. The substrate’s surface temperature should be at least +10°C and at least 3°C above the applicable dew point during product application.

### Preparation of the product

Components A and B should have a temperature of +15°C or more when mixed together. Component B is poured into component A and mixed with a drill whisk at a slow speed for approximately 3 minutes until the product is completely homogenous.

The product must not be thinned!



Compact method -  
primer scattered with  
Mapequarz color



Compact method-  
basecoat scattered  
Mapequartz color

## APPLICATION OF THE PRODUCT

### Used as a primer

**Mapecoat Universal Eco** should be applied using a roller or trowel in one or two coats, depending on the substrate. After application, the primer should form a covering layer without any dry areas. If there are more than 24 hours at +20°C until application of the coating, the primer should be dressed with a light layer of dry sand of grain size 0.4 to 0.8 mm (grain-to-grain) in order to ensure good adhesion for the subsequent coating.

### Used as decorative floor – compact method – system Mapefloor EP

#### Compact M1

**Mapecoat Universal Eco** should be mixed in 1:1 ratio by weight with compactfiller or **Mapefloor SL - comp. C**, and be applied on the scattered primer with a smooth or toothed trowel in an even thickness. While the mix is still fresh the surface should be scattered to a slight excess with **Mapequarz** color, and then smoothed with a power trowel suitable for epoxyfloors. The next day a thin layer of **Mapecoat Universal Eco** should be applied with a smooth trowel to seal the surface without changing the surface structure.

### Used as skid resistant decorative floor – system Mapefloor EP Dekor S M1

**Mapecoat Universal Eco** should be mixed in 1:1 ratio by weight with compactfiller or **Mapefloor SL - comp. C**, and be applied on the scattered primer with a smooth or toothed trowel in an even thickness. While the mix is still fresh the surface must be scattered to excess with **Mapequarz** color. The next day excess quartz sand should be removed, and **Mapecoat Universal Eco** should be applied with a roller or trowel in one or two coats.

### Used as a stone paving

**Mapecoat Universal Eco** should be properly mixed in ratio 1:12 by weight with **Steintepesand** (natural stone). Apply the mix on the scattered primer with a floorsliding case and a smooth trowel. After application the surface should be smoothed with a power trowel for epoxyfloors.

### Used as transparent topcoat on epoxyfloors decorated with flakes

**Mapecoat Universal Eco** should be applied within 24 hours after installing the epoxyfloor with flakes. Apply **Mapecoat Universal Eco** with a smooth rubber spreader or a v-toothed trowel in a uniform thickness of 0.1-1.0 mm. If necessary use a roller, brush or a suitable plastic roller to level the surface and eliminate any airbubbles.

## PLEASE NOTE!

**Mapecoat Universal Eco** should always be applied in an even thickness. Different thicknesses can cause visual color differences - especially in case of floors done by the "compact" method.

If the product is applied in areas with a high concentration of CO<sub>2</sub>, high moisture and/or temperatures less than 3 degrees above dew point, this might lead to a sticky and discoloured surface. Before any further treatment, this must be removed and the surface must be recoated.

## Cleaning

Tools and equipment must be washed immediately after use with **Spesialtytner**, ethanol or other cleaning agent suited for epoxy. Once it has set, the product can only be removed mechanically.

## CONSUMPTION

Used as a primer approximately 0.2-0.4 kg/m<sup>2</sup> per coat.

Used as decorative floor – compact method – total from 1.5 kg/m<sup>2</sup>.

Used as skid resistant decorative floor - total from 2.0 kg/m<sup>2</sup>.

Used as a stone paving - total from 1.0 kg/m<sup>2</sup>.

Used as a topcoat - total 0.1-1.1 kg/m<sup>2</sup>.

Consumption is depending on the temperature and the substrate's coarseness and absorption.

## PACKAGING

8 kg packs: component A = 5.5 kg and component B = 2.5 kg.

16 kg packs: component A = 11 kg and component B = 5 kg.

580 kg packs (drums): component A = 2 x 200 kg and component B = 180 kg.

2900 kg packs (IBC): component A = 2 x 1000 kg and component B = 900 kg.

## STORAGE

Properties for use are not changed for a period of 24 months if stored between +5°C and +30°C in unopened in original packaging.

## SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

**Mapecoat Universal Eco** comp. A is irritant to the eyes and skin. It may cause sensitization when it comes in contacts with the skin.

**Mapecoat Universal Eco** comp. B is corrosive and may cause burns. It is harmful when swallowed or inhaled. It is recommended to use protective gloves and goggles and to take the usual precautions for handling chemicals. If the product comes in contact with the eyes or skin, wash immediately with plenty of water and seek medical attention. It is recommended to work only in well ventilated areas. If there is insufficient ventilation wear a face mask with a filter.

**Mapecoat Universal Eco** part A and B are dangerous to aquatic life. Do not dispose of the product to the environment.

Mapecoat Universal Eco: is a two-component low emitting transparent epoxy. The product complies with specification i EN 1504-2 Coating (C) principles: PR

## TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

	Component A	Component B
<b>Color:</b>	transparent	transparent straw-colored
<b>Appearance:</b>	liquid	liquid
<b>Density (g/cm<sup>3</sup>):</b>	1.11	1.02
<b>Brookfield viscosity at +23°C (mPa-s):</b>	approx. 310	approx. 660

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

<b>Mixing ratio:</b>	100:45 component A: component B
<b>Color of mix:</b>	transparent straw-colored
<b>Consistency of the mix:</b>	dense liquid
<b>Density of the mix (kg/m<sup>3</sup>):</b>	1,077
<b>Brookfield viscosity of the mix (mPa-s):</b>	approx. 410
<b>Application temperature range:</b>	+10°C - 30°C
<b>Potlife 25-40°C (EN 9514):</b>	19 minutes

### FINAL PROPERTIES (7 days at + 23 and 50% R.H)

<b>Drying time (BYK drying recorder):</b>	20 hours
<b>Step on time:</b>	24 hours
<b>Final setting time:</b>	7 days
<b>Compressive strength (EN 12190):</b>	65.6 MPa
<b>Flexural strength (EN 12190):</b>	35.4 MPa
<b>Taber abrasion (CS 17 / 1000 g / 1000 cycles):</b>	47 mg
<b>Shore D (ISO 868:2003):</b>	approx. 85

Performance characteristics for product or system	Test methods	Requirements according to EN 13813 for synthetic resin screeds	Product or system performance
<b>Wear resistance:</b>	EN 13892-4	< AR1	AR 0.5**
<b>Bond strength:</b>	EN 13892-8:2004	>1.5 N/mm <sup>2</sup>	> 4.8 N/mm <sup>2</sup>
<b>Impact resistance:</b>	EN 6272-1	> IR4	> IR10
<b>Reaction to fire:</b>	EN 13501-1	Declared value	E <sub>fl</sub>

Performance characteristics for product or system	Test methods	Requirements according to EN 1504-2 for synthetic resin screeds	Product or system performance
<b>Compressive strength:</b>	EN 12190	Class I: ≥ 35 N/mm <sup>2</sup> (for traffic with polyamide wheels) Class II: ≥ 50 N/mm <sup>2</sup> (for traffic with steel wheels)	Class II Compressive strength > 65 N/mm <sup>2</sup>
<b>Abrasion resistance:</b>	EN ISO 5470-1	< 3000 mg H22/1000 cycles/ load 1000 g	< 500 mg
<b>Capillary absorption and permeability to water:</b>	EN 1062-3	w < 0.1 kg/m <sup>2</sup> ·h <sup>0.5</sup>	w < 0.01 kg/m <sup>2</sup> ·h <sup>0.5</sup>
<b>Impact resistance:</b>	EN 6272-1	Class I: ≥ 4 Nm, Class II: ≥ 10 Nm, Class III: ≥ 20 Nm	Class II
<b>Pull-off test Reference substrate: MC (0.40) as specified in EN 1766, curing time 7 days:</b>	EN 1542	Average (N/mm <sup>2</sup> ) Crack-bridging or flexible systems with no traffic: ≥ 0.8 (0.5) with traffic: ≥ 1.5 (1.0) Rigid systems with no traffic: ≥ 1.0 (0.7) with traffic: ≥ 2.0 (1.0)	> 4.8 N/mm <sup>2</sup>



Compact method - compacting with power trowel



Compact method - finished floor

\*\* Correlation to EN ISO 5470-1

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

PRODUCT FOR PROFESSIONAL USE.

**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)**

**All relevant references  
for the product are available  
upon request and from  
[www.mapei.com](http://www.mapei.com)**