

MAPECOAT I 62 W

Two-component, water-dispersed glossy epoxy resin



DESCRIPTION

Mapecoat I 62 W is a two-component pigmented water-based epoxy resin, developed in the MAPEI R&D laboratories, used to create glossy coloured film resin systems for cementitious substrates in general.

TECHNICAL CHARACTERISTICS

- good chemical resistance;
- good resistance to abrasion;
- dustproof;
- impermeable to liquids in general;
- complies the M1 protocol which includes VOC, formaldehyde and ammonia emission requirements according to EN 16516 and odour testing according to ISO 16000-28;
- complies with requirements of EN 13813 "Screed material and floor screeds - Screed material - Properties and requirements", which specifies the requirements for screed materials used in the construction of internal floors;
- complies with the principles defined in 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"*) and the minimum requirements of EN 1504-2, coating (C) according to the PI, MC, PR and IR principles (*"Surface protection systems for concrete"*).
- it creates seamless resin systems suitable for cleanrooms in class ISO 5 airborne particle emissions according to ISO 14644-1 standards, class -6.5/-9.7 VOC/SVOC emissions according to ISO 14644-8 standards and excellent resistance to attack from microbiological and moulds contamination according to ISO 846 standards;
- fulfils the ISO 8690 /DIN 25415 requirements with contaminants ¹³⁷Cs and ⁶⁰Co.

ADVANTAGES

- easy-to-apply;
- it does not smell unpleasant during application;

- low VOC emission (CDPH standard) and micro-particles;
- the surfaces created are easy to clean and maintain;
- suitable for floors, walls and ceilings;
- sustainability: it contributes to LEED credits. EPD (Environmental Product Declaration) compliant.

WHERE TO USE

Mapecoat I 62 W is used to create film resin systems for floors subject to mild chemical and mechanical stresses; it is also specifically designed for the waterproof and dustproof protection of walls and ceilings, included in cleanrooms, in various industrial sectors, such as:

- chemical and pharmaceutical industries;
- electronic, optical, and mechanical industries;
- food and beverage industries;
- manufacturing industries in general;
- warehouses;
- shops, malls, showrooms;
- hospitals, healthcare facilities in general;
- residential and commercial centres, infrastructure, etc.

Mapecoat I 62 W is also used as a maintenance layer on old epoxy resin systems.

COLOURS

Mapecoat I 62 W is available in various RAL colours. Please contact MAPEI headquarters for a full list of the colours available.

RECOMMENDATIONS

- Do not apply **Mapecoat I 62 W** directly to substrates subject to capillary rising damp (contact Mapei Technical Service).
- Do not dilute **Mapecoat I 62 W** with solvent.
- Do not apply **Mapecoat I 62 W** on dusty or crumbling substrates.
- Do not apply **Mapecoat I 62 W** on substrates with oil or grease stains or dirt in general.
- Do not apply **Mapecoat I 62 W** on substrates that have not been prepared according to specification.
- Do not mix partial quantities of the components to avoid mixing errors; the product may not harden correctly.
- Do not expose the mixed product to sources of heat.
- The surfaces of systems made with **Mapecoat I 62 W** may change colour or fade if exposed to UV rays, but this has no effect on the performance of the resin system.
- The surface may also change colour if it comes into contact with aggressive chemicals. A change in colour, however, does not imply any damage caused by chemical aggression.
- If rooms where the product is being used need to be warmed up, do not use heaters that burn hydrocarbons, otherwise the carbon dioxide and water vapour given off into the air will affect the shine of the finish and its appearance. Use electric heaters only.
- Remove aggressive chemicals as soon as possible if they come into contact with **Mapecoat I 62 W**.
- Use suitable specific cleaning equipment and detergent to clean the resin system, depending on the type of dirt or stain to be removed.
- Protect the product from water for at least 24 hours after application.
- Ensure effective ventilation of the rooms after installation, avoiding exposure of the resin film to the direct action of forced ventilation systems. Uneven drying could cause inconsistencies in colour and gloss of the hardened film.
- The temperature of the substrate during application and hardening process must be at least 3°C higher than the dew point. The relative humidity of the air must be max. 80%.

APPLICATION PROCEDURE

Preparation of the substrate

The surface of concrete floors or of the cementitious substrates must be dry, clean and sound and have no crumbling or detached areas. The compressive strength of concrete or cementitious mortar substrates must be at least 25 N/mm² and their tensile strength must be at least 1.5 N/mm². The substrate must also be strong enough for its final intended use and to withstand the types of loads acting on the floor.

The surface of the substrate must be prepared specific mechanical process (e.g. grinding or sanding) to remove all traces of dirt, cement laitance and crumbling or detached portions and to make the surface perfectly clean, sound, and slightly absorbent. Before applying the product, thoroughly remove all dust on the surface with a vacuum cleaner.

Any cracks, holes or surface irregularities on the floor must be repaired and smoothed with Primer SN, filled, if necessary, with quartz sand or made thixotropic with the addition of **Additix PE**, or with **Mapecfloor JA** or **Mapecfloor JA Fast**. Select the most suitable product depending on the width and depth of cracks. To fill vertical surfaces use **Triblock WTS**. To repair highly deteriorated areas and joints, fill large hollows and to create or slightly modify the slope in confined areas, use **Mapecfloor EPI9**, pre-dosed, three-component epoxy mortar, for the horizontal surfaces, or **Ultratop Screed** cementitious mortar, which is also suitable for the vertical surfaces.

Application of Mapecoat I 600 W primer (optional)

A primer coat is generally not required. However, on particularly porous and absorbent substrates, it is recommended to apply a coat of water-based epoxy primer **Mapecoat I 600 W**, diluted 1:1 by weight with water, using a short-pile roller. For more technical and application information, refer to the Technical Data Sheet of **Mapecoat I 600 W**.

Preparation of the product

Shake component A and pour it entirely into the container of component B, along with the water for dilution. The amount of water required for the first coat is 20-25% by weight of the resin for substrates that have not been primed with **Mapecoat I 600 W**, and 10% by weight if the primer has been applied. The second coat should be diluted with a maximum 10% of water.

Mix with a low-speed electric mixer (300-400 revs./min.) for at least 2 minutes until the mix is completely blended. Do not overmix the product to avoid entraining too much air into the mixture. Pour the mixture into a clean container and briefly mix again.

Apply the product within the pot life indicated in the data table (referred to a temperature of +23°C). Higher surrounding temperatures will reduce the pot life, while lower temperatures will increase it.

Application of the product

Apply two or more coats of **Mapecoat I 62 W** by short-pile roller or with airless spray. The second coat should be applied between 12 and 24 hours after the first coat at +23°C, depending on the ambient conditions on site.

Always apply the product in an even thickness, rolling in two crossed directions during application.

When applying colours with poor hiding power (such as bright colours) a preliminary base coat of white **Mapecoat I 62 W** will help obtain an even colour in the finished coating. Depending on the color chosen and the type of substrate, the application of a third coat (in addition to the optional white base coat) may be necessary. Always carry out preliminary tests beforehand.

Notes: if the first coat of the product is applied directly on a cementitious substrate, it is preferable to apply the product by roller.

CONSUMPTION

Primer (optional):
Mapecoat I 600 W:

approx. 0.2 kg/m²

Film resin system:
Mapecoat I 62 W:

0.20-0.25 kg/m² per coat.

The consumption rates mentioned above are theoretical and are influenced by the actual conditions of the surfaces to be coated, absorbency, roughness, job site conditions, etc.

CLEANING

Clean the tools used to prepare and apply **Mapecoat I 62 W** with soapy water immediately after use. Once hardened, the product can only be removed mechanically.

PACKAGING

11 kg units (comp. A = 2.5 kg; comp. B = 8.5 kg)

STORAGE

24 months in its original sealed packaging, in a dry place at a temperature no lower than +10°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 SDS available from our website www.mapei.com.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

	component A	component B
Colour:	transparent	RAL colour
Consistency:	liquid	thick liquid
Density:	1.12 g/cm ³	1.30 g/cm ³
Brookfield viscosity at +23°C:	1,500 - 2,700 mPa·s (# 2 - rpm 10)	1,700 - 2,600 mPa·s (# 3 - rpm 50)

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

Mixing ratio:	component A : component B = 1 : 3.4
Colour of the mix:	RAL colour
Consistency of the mix:	thick liquid
Density of the mix:	1,240 kg/m ³
Brookfield viscosity of the mix:	approx. 3,000 - 5,000 mPa·s (# 5 - rpm 20)
Pot life:	20 min. (visible pot-life)
Application temperature:	from +10°C to +30°C (referred to ambient, material and substrate)
Recoat time:	
- on Mapecoat I 600 W (optional):	min. 8 hours max. 24 hours

– on Mapecoat I 62 W:	min. 12 hours max. 24 hours
Hardening time:	24 hours
Complete hardening:	7 days

The times above are for indication purposes only and are influenced by actual site conditions (e.g. temperature of the surroundings and substrate, relative humidity of the air, etc.)

FINAL PERFORMANCE

Taber Test after 7 days (EN ISO 5470-1) (at +23°C, 50% R.H, 1,000 cycles/1,000 g, CS 17 wheel):	55 mg
Gloss:	approx. 80

Essential characteristics	Test method	Requirements according to EN 13813 for synthetic resin-based screeds	Typical values
BCA wear resistance:	EN 13892-4	≤ AR6	AR0.5
Bond strength:	EN 13892-8	≥ B1.5	≥ B2,0
Impact resistance:	EN ISO 6272	≥ IR4	IR20
Reaction to fire:	EN 13501-1	from Al _{FL} to F _{FL}	B _{FL} –sI

PERFORMANCE CHARACTERISTICS FOR CE MARKING ACCORDING TO EN 1504-2 - TAB.ZA. 1d; ZA.1e; ZA.1f (coating C, PI-MC-PR-IR)

Essential characteristics:	Test method	Requirements according to EN 1504-2	Typical values
Abrasion resistance (TABER test): <i>Note: testing methods for flooring systems according to EN 13813 are also acceptable</i>	EN ISO 5470-1	Loss in weight less than 3,000 mg abrading wheel H22/rotation 1,000 cycles/load 1,000 g	350 mg
Permeability to CO ₂ :	EN 1062-6	S _D > 50 m	S _D 204 m
Permeability to water vapour:	EN ISO 7783	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 I
Capillary absorption and permeability to water:	EN 1062-3	w < 0.1 kg/m ² ·h ^{0.5})	w 0,002 kg/m ² ·h ^{0.5}
Resistance to impact measured on coated concrete samples according to EN 1766 MC (0.40). <i>Note: The thickness and the impact of the expected load influence the choice of class.</i>	EN ISO 6272	No cracks or delamination after loading Class I: ≥ 4 Nm Class II: ≥ 10 Nm Class III: ≥ 20 Nm	Class III

Bond strength by pull-off 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) Crack-bridging or flexible systems: without traffic: ≥ 0.8 (0,5) ^{b)} with traffic: ≥ 1.5 (1,0) ^{b)} rigid systems ^{c)} without traffic: ≥ 1.0 (0,7) ^{b)} with traffic: ≥ 2.0 (1,0) ^{b)}	3.62 MPa (rigid system with traffic)
Reaction to fire:	EN 13501-1	from Al _{FL} to F _{FL}	B _{FL} -s1 C-s1-d0

CLEANROOM TESTING (CSM STANDARD)			
Characteristics	Test method	Test parameters	Classification
Concentration of airborne particles from the material when subjected to friction:	ISO 14644-1	vs. PA6 Force: 300 N	ISO Class: 5
Evaluation of volatile organic compound (VOC/SVOC) emissions at +23°C and +90°C:	ISO 14644-8	Class from 0 (high VOC concentration of 1 g/m ³) to -12 (VOC emissions of 10 ⁻¹² g/m ³ , or 0.001 ng/m ³) 0 = excellent 1 = very good 2 = good 3 = poor 4 = very poor 5 = not resistant	ISO-ACCM Class: -6.5 / <- 9.7
Biological resistance:	ISO 846		ISO/CSM: 0 / excellent

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.

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.

TECHNICAL SPECIFICATIONS

Supply and installation of two-component water-based epoxy resin, pigmented, glossy, suitable to make film resin systems for floors, walls and ceilings in cleanroom areas in class ISO 5 airborne particle emissions according to ISO 14644-1 standards, class -6.5/<-9.7 VOC/SVOC emissions according to ISO 14644-8 standards and excellent resistance to attack from microbiological and moulds contamination according to ISO 846 standards (such as **Mapecoat I 62 W** by MAPEI S.p.A.).

The hardened product must have the following performance characteristics:

Taber Test (after 7 days at +23°C, 50% R.H, 1,000 cycles/1,000 g, CS17 wheel) (EN ISO 5470-1):	55 mg
Taber Test (at +23°C, 50% R.H, 1,000 cycles/1,000 g, H22 wheel) (EN ISO 5470-1):	350 mg

BCA wear resistance (EN 13892-4):	$\leq 20 \mu\text{m}$
Bond strength (EN 13892-8):	$\geq 2.5 \text{ N/mm}^2$
Impact resistance (EN ISO 6272):	20 Nm
Permeability to CO ₂ (EN 1062-6):	$S_D 204 \text{ m}$
Permeability to water vapour (EN ISO 7783):	$S_D < 5 \text{ m}$
Capillary absorption and permeability to water (EN 1062-3):	$w 0.002 \text{ kg/m}^2 \cdot \text{h}^{0.5}$
Gloss:	approx. 80
Concentration of airborne particles from the material when subjected to friction (ISO 14644-1):	ISO Class: 5
Evaluation of volatile organic compound (VOC/SVOC) emissions at +23°C and +90°C (ISO 14644-8):	ISO-ACC _m Classe: -6.5 / <-9.7
Reaction to fire (EN 13501-1):	B _{FL} -s1 C-s1-d0
Biological resistance (ISO 846):	ISO/CSM: 0 (excellent)
Fulfil the ISO 8690 / DIN 25415 requirements with contaminants ¹³⁷ Cs and ⁶⁰ Co.	
Complies the M1 protocol which includes VOC, formaldehyde and ammonia emission requirements according to EN 16516 and odour testing according to ISO 16000-28.	
Sustainability: it can contribute to LEED credits. EPD (Environmental Product Declaration) compliant.	

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