MAPEI

Mapefloor PU 460

Two-component elastic, coloured, aromatic, self-levelling polyurethane resin used to create Mapefloor Comfort System AR and Mapefloor Comfort System AR/X floor coating systems

DESCRIPTION

Mapefloor PU 460 is a two-component, aromatic polyurethane resin with high solids content used to create flexible, self-levelling resin coatings for floors. **Mapefloor PU 460** may also be used in combination with **Mapecomfort FL** rubber mat.

TECHNICAL CHARACTERISTICS

Mapefloor PU 460 is a two-component, coloured aromatic polyurethane resin with high solids content developed in the MAPEI R&D laboratories.
Floors coated with **Mapefloor PU 460** are elastic and resistant to foot traffic and mild chemicals.
When used in combination with **Mapecomfort FL** rubber mat, floors are characterised by their high level of comfort underfoot and good soundproofing properties to reduce the transmission of noise.

Mapefloor PU 460 complies with the principles defined by EN 13813 "*Screeds and materials for screeds - Properties and requirements*", which specifies the requirements for screed materials used in the construction of internal floors.

WHERE TO USE

Floors coated with **Mapefloor PU 460** are particularly recommended for use in internal civil and public service environments such as:

- schools, nurseries, offices, public offices, etc.;
- hospitals and care homes;
- libraries, museums, showrooms, etc.;
- apartments;
- bars and shops in general.

RECOMMENDATIONS

- Do not apply **Mapefloor PU 460** on damp substrates or on substrates with capillary rising damp (please contact MAPEI Technical Services).
- Do not dilute **Mapefloor PU 460** with solvent or water.
- Do not apply **Mapefloor PU 460** on dusty or crumbling substrates.
- Do not apply **Mapefloor PU 460** on substrates with oil or grease stains or stains in general.
- Apply **Mapefloor PU 460** on substrates after preparing them according to specification and treating them with **Primer SN** or laying **Mapecomfort FL** mat.
- 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.
- If rooms where the product is being applied need to be warmed up, do not use a gas or oil heater; the carbon dioxide and water vapour given off into the room will affect the shine and finish of the floor. Use electric heaters only.
- Remove aggressive chemicals as soon as possible after they come into contact with **Mapefloor PU 460**.
- Use suitable specific cleaning equipment and detergent to clean the product, depending on the type of dirt or stain to be removed.
- Protect the product from water for at least 24 hours after application.
- Do not apply the product directly on substrates with a moisture content of more than 4% and/or with capillary rising damp (check by testing it with a sheet of polythene).
- The temperature of the substrate must be at least 3°C above the dew-point temperature.

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COLOURS

Mapefloor PU 460 is available in various RAL colours. Please contact Head Office for a full list of the colours available. **Mapefloor PU 460** must be protected with at least two coats of **Mapefloor Finish 58 W** coloured, UV-resistant polyurethane finish. We recommend choosing a colour for the finish as similar as possible to the colour used for the **Mapefloor PU 460** self-levelling resin.

APPLICATION PROCEDURE

Substrate preparation

The surface of concrete floors must be dry, clean and sound and have no crumbling or detached areas. The compressive strength of the concrete used for the substrate must be at least 25 N/mm^2 and its pull off strength must be at least 1.5 N/mm^2 and must always be suitable for its intended use and the types of load to which the floor will be subjected. The level of moisture in the substrate must be a maximum of 4% and there must be no capillary rising damp (check by testing it with a sheet of polythene).
The surface of the substrate must be prepared with suitable equipment (e.g. shot-blasting or grinding with a diamond disk), to remove all traces of dirt, cement laitance and crumbling or detached areas and to make the surface slightly rough and absorbent. Before applying any material, remove all dust from the surface with a vacuum cleaner.
Any cracks, holes or surface irregularities must be repaired and smoothed with pourable epoxy resin **Eporip**, or epoxy mortar **Mapefloor EP19**, or tixotropic epoxy resin **Mapefloor JA** or **Mapefloor JA Fast**.
Before applying **Mapefloor PU 460**, remove all traces of dust from the surface with a vacuum cleaner.
Apply **Mapefloor PU 460** on cementitious substrates after applying a coat of **Primer SN** (for **Mapefloor Comfort System AR**), or over **Mapecomfort FL** rubber mat bonded and smoothed over with **Mapefloor Pore Filler** (for **Mapefloor Comfort System AR/X**).

Application of Primer SN (for Mapefloor Comfort System AR)

After preparing the substrate as specified, apply an even coat of **Primer SN** mixed with **Quartz 0.5** with a flat trowel or smooth rake. Immediately after applying **Primer SN**, broadcast the surface with **Quartz 0.5** while it is still wet to ensure the next coat of resin adheres perfectly.

Bonding Mapecomfort FL (for Mapefloor Comfort System AR/X)

Bond the **Mapecomfort FL** rubber mat in place with **Mapefloor Pore Filler**. Once the mat has been bonded to the substrate, skim over the surface with the same product to seal all the pores.

Preparation of the product

The two components which make up **Mapefloor PU 460** must be mixed together just before application. Mix component A thoroughly with an electric mixer at low-speed (300-400 revs/min), and add the content of component B. Mix components A and B with a mixer at low-speed (300-400 revs/min), to prevent entraining air into the product. Mix for at least two minutes until they are completely blended.
Pour the mix into a clean container and briefly mix again.
Do not mix the product for too long to avoid entraining too much air into the mix.
Apply the mix within the pot life indicated in the data table (refers to a temperature of +20°C). Higher surrounding temperatures will reduce the pot life of the mix, while lower temperatures will increase its pot life.

Application of the product

Pour **Mapefloor PU 460** over the **Primer SN** or **Mapecomfort FL** skimmed with **Mapefloor Pore Filler**. Make sure there are no pores left in the surface otherwise they could form pin-holes in the surface of the coating during the hardening phase. If there are still pores visible smooth over the surface again with **Primer SN** or **Mapefloor Pore Filler**.
Spread the **Mapefloor PU 460** evenly using a notched spreader to form a layer at least 2 mm thick; a spreader with triangular notches is recommended. Immediately after applying the product, go over the surface several times in different directions with a spike-roller to release any air entrained in the product during mixing.
Once the **Mapefloor PU 460** has hardened, within 48 hours at +23°C, apply 2 coats of **Mapefloor Finish 58 W** coloured, matt, UV-resistant protective polyurethane finish by airless spray or with a roller working in a criss-cross pattern.
If more than 48 hours (at +23°C), go by after hardening **Mapefloor PU 460**, roughen the surface slightly with sandpaper or emery cloth before applying the finishing coat. Make sure all traces of dust are removed from the surface with a vacuum cleaner before applying the finish.
We recommend choosing a colour for the finish similar to the colour used for the base layer of **Mapefloor PU 460**.

CONSUMPTION

Mapefloor PU 460: approx. 2.5 kg/m^2 to form a 2 mm thick layer.

Cleaning tools

Clean tools used to prepare and apply **Mapefloor PU 460** with ethanol or thinners immediately after use. Once hardened, the product may only be removed using mechanical means.

PACKAGING

20 kg kits (A + B):
– component A = 15 kg;
– component B = 5 kg.

STORAGE

Mapefloor PU 460 may be stored for up to 12 months in a dry area in its original packaging at a temperature of between +5°C and +35°C.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products

TECHNICAL DATA (typical values)

PRODUCT IDENTITY		
	component A	**component B**
Colour:	RAL Colours	brown
Consistency:	fluid paste	clear liquid
Density (g/cm³):	1.26	1.20
Viscosity at +23°C (mPa·s):	2,000 (# 4 - 20 rpm)	300 (# 1 - 20 rpm)

APPLICATION DATA (at +23°C and 50% R.H.)		
Mixing ratio:	component A : component B = 75 : 25	
Viscosity of mix at +23°C (mPa·s):	1,400 (# 5 - 50 rpm)	
Colour of mix:	RAL Colours	
Consistency of mix:	self-levelling fluid paste	
Density of mix (kg/m³):	approx. 1,250	
Workability time at +20°C:	approx. 30 mins.	
Application temperature:	+10°C to +30°C (refers to the surroundings, material and substrate)	
Waiting time between coats at +23°C and 50% R.H.: **– over Primer SN lightly broadcast with Quartz 0.5:** **– over Mapecomfort FL skimmed with Mapefloor Pore Filler:**	 min. 12 hours min. 8 hours	 max. 24 hours max. 24 hours
Hardening time at +23°C and 50% R.H.: **– dust dry:** **– set to foot traffic:** **– complete hardening:**	 4 hours 24 hours 7 days	

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

FINAL PERFORMANCE	
Elongation at failure (DIN 53504) (%):	115
Tear strength (DIN 53515) (N/mm):	35
Tensile strength (DIN 53504) (N/mm²):	9
Shore A hardness (DIN 53505):	75

Essential characteristic	Test method	Requirements according to EN 13813 for synthetic resin-based screeds	Performance of product
BCA wear resistance:	EN 13892-4	≤ AR1	AR0.5
Adhesion strength:	EN 13892-8; 2004	≥ 1.5 N/mm²	≥ 3.0 N/mm²
Reaction to fire:	EN 13501-1	Value declared	B_{FL} - s1
Impact strength:	EN ISO 6272	≥ IR 4	IR 20
Permeability to water vapour:	EN ISO 7783-1-2	Class I: S_D < 5 m (permeability 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$^{0.5}$	W < 0.1 kg/m²·h$^{0.5}$
Resistance to severe chemical attack: **Class I: 3 days with no pressure** **Class II: 28 days** **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 common chemical agents. Other test liquids may be agreed upon between those interested in the tests**	EN 13529	Group 11 (class II) Group 12 (class II) Reduction in 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 dressing material from immersion in the test liquid	no alteration

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can be found on the latest version of the Safety Data Sheet, available from our website www.mapei.com.

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

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

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