



Mapefloor PU 461

Two-component elastic, coloured, aliphatic, UV-resistant self-levelling polyurethane resin used to create Mapefloor Comfort System AL and Mapefloor Comfort System AL/X floor-coating systems



DESCRIPTION

Mapefloor PU 461 is a two-component, UV-resistant polyurethane resin with 100% solids content used to form flexible, self-levelling resin coatings for floors. **Mapefloor PU 461** may also be used in combination with **Mapecomfort** rubber mat.

TECHNICAL CHARACTERISTICS

Mapefloor PU 461 is a two-component, coloured aliphatic polyurethane resin with 100% solids content developed in the MAPEI R&D laboratories. Floors coated with **Mapefloor PU 461** are elastic and resistant to UV rays, foot traffic and mild chemicals. When used in combination with **Mapecomfort** rubber mat, floors are characterised by their high level of comfort underfoot and good soundproofing properties to reduce the transmission of noise.

WHERE TO USE

Floors coated with **Mapefloor PU 461** are particularly recommended for use in 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 461** on damp substrates or on substrates with capillary rising damp (please contact MAPEI Technical Services).
- Do not dilute **Mapefloor PU 461** with solvent or water.

- Do not apply **Mapefloor PU 461** on dusty or crumbling substrates.
- Do not apply **Mapefloor PU 461** on substrates with oil or grease stains or stains in general.
- Apply **Mapefloor PU 461** on substrates after preparing them according to specification and treating them with **Primer SN** or laying **Mapecomfort** 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.
- We recommend using **Mapefloor PU 461** from the same production batch to guarantee an even colour.
- 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 461**.
- 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.

COLOURS

Mapefloor PU 461 is available in various RAL colours.

Please contact Head Office for a full list of the colours available.

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/mm² and its pull off strength must be at least 1.5 N/mm² 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 must be repaired by filling them with **Eporip**, while any deteriorated areas of the concrete must be repaired with **Mapefloor EP19** or a cementitious mortar from the **Mapegrout** range.

Before applying **Mapefloor PU 461**, remove all traces of dust from the surface with a vacuum cleaner.

Apply **Mapefloor PU 461** on cementitious substrates after applying a coat of **Primer SN** (for **Mapefloor Comfort System AL**), or over **Mapecomfort** rubber mat bonded and smoothed over with **Mapefloor Pore Filler** (for **Mapefloor Comfort System AL/X**).

Application of Primer SN (for Mapefloor Comfort System AL)

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 (for Mapefloor Comfort System AL/X)

Bond the **Mapecomfort** 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 461** 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 461** over the **Primer SN** or **Mapecomfort** 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 461** 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.

While the material is still wet, broadcast the surface with coloured chips to create other special effects if required. We recommend using chips up to 3-4 mm in size.

If other special finishes are created by applying **Mapefloor PU 461** in different colours using the wet-on-wet technique, it will not be possible to go over the surface with a spike-roller, otherwise the finish required will be affected. With these types of finish, any air bubbles that have not been removed will remain.

Within 48 hours of applying **Mapefloor PU 461** (at +23°C), apply the top coat of 2 layers of **Mapefloor Finish 58 W** transparent, matt, UV-resistant protective polyurethane finish in water dispersion by airless spray or with a roller working in a criss-cross pattern.

If more than 48 hours (at +23°C) go by after applying **Mapefloor PU 461**, 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.

CONSUMPTION

Mapefloor PU 461: approx. 2.8 kg/m² to form a 2 mm thick layer.

Cleaning tools

Clean tools used to prepare and apply **Mapefloor PU 461** 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: 15.0 kg;
– component B: 5 kg.

STORAGE

Mapefloor PU 461 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.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

	component A	component B
Colour:	RAL colours	transparent
Consistency:	fluid paste	clear liquid
Density (g/cm ³):	1.60	1.15
Brookfield viscosity at +23°C (mPa·s):	9,000 ± 1,000 (# 6 - 50 rpm)	700 (# 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):	3,100 (# 5 - 50 rpm)	
Colour of mix:	RAL colours	
Consistency of mix:	self-levelling fluid paste	
Density of mix (kg/m ³):	approx. 1,400	
Workability time at +20°C:	approx. 40 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 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

Adhesion (EN 13892-8) (N/mm ²):	> 3.5 (failure of concrete)
Elongation at failure (DIN 53504) (%):	75
Tear strength (DIN 53515) (N/mm):	25
Tensile strength (DIN 53504) (N/mm ²):	9
Shore A hardness (DIN 53505):	85

Mapefloor PU 461

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapefloor PU 461 component A irritates the eyes.

Mapefloor PU 461 component B irritates the respiratory system, is harmful if inhaled and may cause sensitisation to those sensitive to isocyanates if it comes in contact with the skin.

When applying the product 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. We recommend working in well ventilated areas. If there is insufficient ventilation wear a face mask with a filter. 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

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



BUILDING THE FUTURE