



# Mapecfloor PU 461

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



## DESCRIPTION

**Mapecfloor PU 461** is a two-component, UV-resistant polyurethane resin with high solids content used to form elastic, self-levelling resin coatings for floors.

**Mapecfloor PU 461** may also be used in combination with **Mapecomfort FL** rubber mat.

## TECHNICAL CHARACTERISTICS

**Mapecfloor PU 461** is a two-component, coloured aliphatic polyurethane resin with high solids content developed in the MAPEI R&D laboratories.

Floors coated with **Mapecfloor PU 461** are elastic and resistant to UV rays, foot traffic and mild chemicals. When used in combination with **Mapecomfort FL** rubber mat, floors are characterised by high level of comfort underfoot, good soundproofing properties and reduction in the transmission of noise.

**Mapecfloor PU 461** complies with the principles defined in EN 13813 "Screeds and materials for screeds - 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 **Mapecfloor 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 **Mapecfloor PU 461** on damp substrates or on substrates with capillary rising damp (please contact MAPEI Technical Services).
- Do not dilute **Mapecfloor PU 461** with solvent or water.
- Do not apply **Mapecfloor PU 461** on dusty or crumbling substrates.
- Do not apply **Mapecfloor PU 461** on substrates with oil or grease stains or stains in general.
- Apply **Mapecfloor PU 461** 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.
- We recommend using **Mapecfloor 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 **Mapecfloor 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/mm<sup>2</sup> and its pull off strength must be at least 1.5 N/mm<sup>2</sup> 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 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 FL** 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 FL (for Mapefloor Comfort System AL/X)

Bond **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 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 **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 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 hardening of **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 hardening of **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/m<sup>2</sup> to form a 2 mm thick layer.

### Cleaning tools

Clean tools used to prepare and apply **Mapefloor PU 461** with 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.

## TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

	component A	component B
<b>Colour:</b>	RAL colours	transparent
<b>Consistency:</b>	fluid paste	clear liquid
<b>Density (g/cm<sup>3</sup>):</b>	1.35	1.15
<b>Brookfield viscosity at +23°C (mPa-s):</b>	6,000 ± 1,000 (# 6 - 50 rpm)	2,500 (# 1 - 20 rpm)

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

<b>Mixing ratio:</b>	component A : component B = 75 : 25	
<b>Viscosity of mix at +23°C (mPa-s):</b>	3,500 (# 5 - 50 rpm)	
<b>Colour of mix:</b>	RAL colours	
<b>Consistency of mix:</b>	self-levelling fluid paste	
<b>Density of mix (kg/m<sup>3</sup>):</b>	approx. 1,300	
<b>Workability time at +20°C:</b>	approx. 40 mins.	
<b>Application temperature:</b>	+10°C to +30°C (refers to the surroundings, material and substrate)	
<b>Waiting time between coats at +23°C and 50% R.H.:</b> – 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
<b>Hardening time at +23°C and 50% R.H.:</b> – 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

<b>Elongation at failure (DIN 53504) (%):</b>	75
<b>Tear strength (DIN 53515) (N/mm):</b>	12
<b>Tensile strength (DIN 53504) (N/mm<sup>2</sup>):</b>	4
<b>Shore A hardness (DIN 53505):</b>	75

Essential characteristic	Test method	Requirements according to EN 13813 for synthetic resin-based screed	Performance of product
<b>Bond strength:</b>	EN 13892-8; 2004	≥ 1.5 N/mm <sup>2</sup>	≥ 2.50 N/mm <sup>2</sup>
<b>BCA wear resistance:</b>	EN 13892-4	≤ 100 µm	≤ 12 µm
<b>Impact strength:</b>	EN ISO 6272	≥ 4 Nm	≥ 4 Nm
<b>Reaction to fire:</b>	EN 13501-1	A1 <sub>FL</sub> to F <sub>FL</sub>	B <sub>FL</sub> -s1

# Mapecolor PU 461

## STORAGE

Mapecolor 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.

## SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website [www.mapei.com](http://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](http://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.*

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

