



MAPEFLOOR CPU+

“The Floor”



MAPEFLOOR CPU+
THE SAFE FLOORING
DESIGNED TO RESIST

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MAPEFLOOR CPU+

“The Floor”

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Mapefloor CPU+ line

The definitive solution for durable high performance floors

The aim of this brochure is to provide an exhaustive overview of the surprising advantages and extraordinary characteristics of **Mapefloor CPU+** floors. The document has been created with the objective of presenting an accurate and detailed range of products and to highlight their functional properties and technical details that make it such an exceptional choice for industrial floors requiring performance characteristics of the highest level.

On the following pages you will have the opportunity to discover how **Mapefloor CPU+** represents an innovative and cutting-edge solution in the floors sector. From rapid-setting to the absence of unpleasant odours, from resistance to thermal shock to disinfection, every aspect has been carefully studied and developed to offer floors that exceed expectations in any sector of industry.

We will explore in detail the characteristics that make **Mapefloor CPU+** a preferred option for those looking for high performance and functional industrial floors. You will discover how **Mapefloor CPU+** stands out for its longevity, unrivalled mechanical properties and resistance to chemicals, as well as its antibacterial properties that help create safe and hygienic surroundings.

We invite you to explore this document with great care in order to have a complete view of the extraordinary opportunities offered by **Mapefloor CPU+**.

We are sure that, after reading this brochure, you will be ready to embrace the excellence of **Mapei** when it comes to industrial floors.

Properties of the system



DURABILITY



EXCELLENT
MECHANICAL
PROPERTIES



RESISTANT TO
CHEMICALS



ANTIBACTERIAL
PROPERTIES

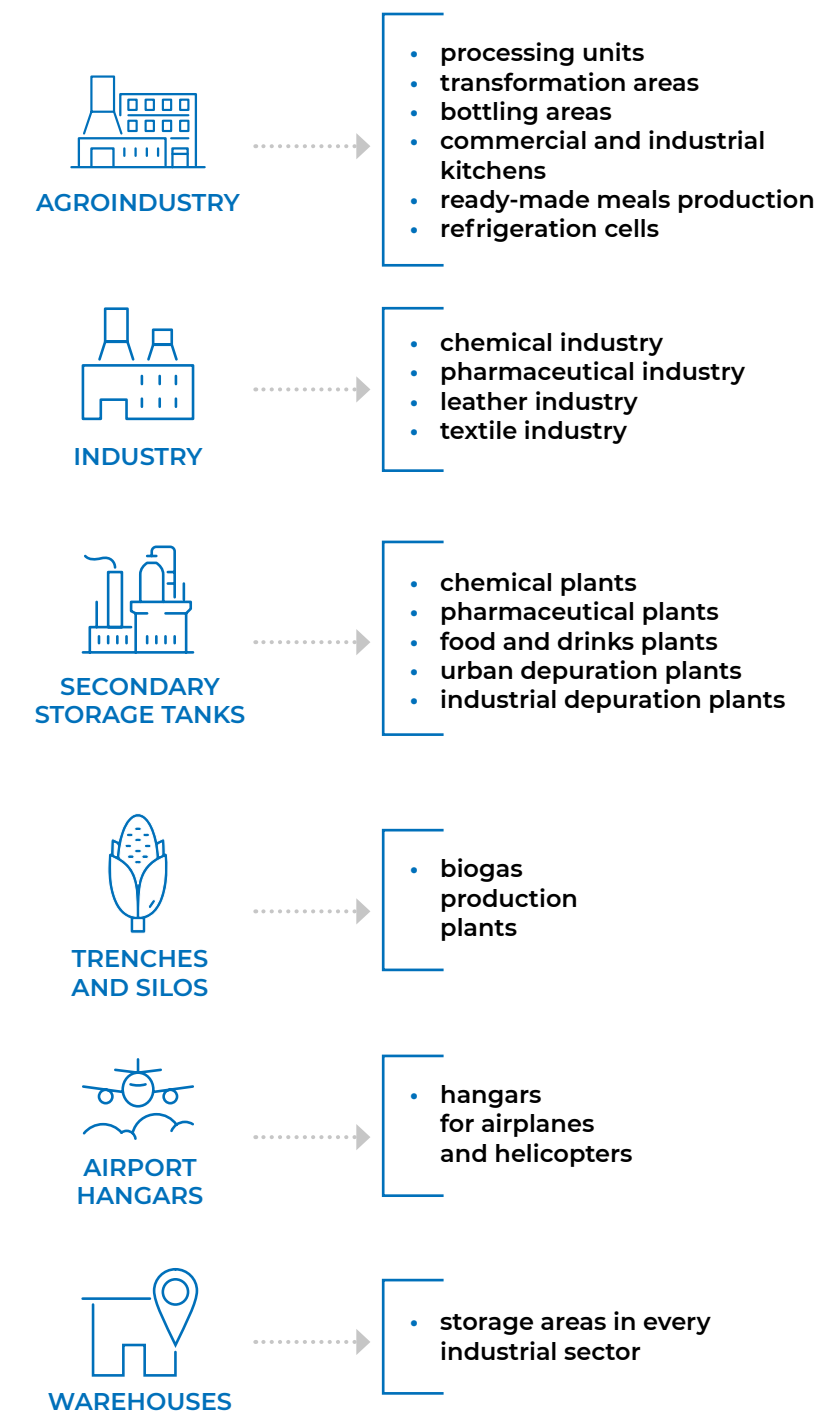


SAFE



A concrete answer to specific problems

Mapefloor CPU+ is the answer to problems typically found in specific sectors.





Reference standards and certification: **Mapefloor CPU+**

EC and international directives regulating environmental safety, safety in the workplace and hygiene in industrial environments are covered by very severe standards and require high performance standards when it comes to flooring in areas where goods are manufactured and stored. Complying with these standards requires the use of materials with high technological content and with excellent performance properties and they need to be employed according to the area where the flooring is to be installed, be it an area used for production processes or an area where products are stored.

Thanks to the **Mapefloor CPU+** line, **Mapei** proposes quality, certified and tried and tested systems with high performance properties with the capacity to meet the requirements of a multitude of production sectors, including the food and drinks, engineering, chemical and pharmaceutical sectors.

Flooring from the **Mapefloor CPU+** line guarantees compliance with standards that safeguard the health and safety of people and finished products.

The following page contains a summary of the main international reference standards.



KEY REQUIREMENTS COVERED BY THE SYSTEMS



HYGIENE

- Non-contaminant for food and drinks



- Easy to disinfect
- Easy to clean (Riboflavin test)

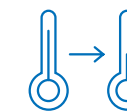


- No penetration of bacteria
- Odourless during installation
- HACCP



CHEMICAL PERFORMANCE

- Resistance to severe attack from chemicals (EN 13529)



THERMAL PERFORMANCE

- 12 mm: -40°C to +150°C
- 9 mm: -40°C to +120°C
- 6 mm: -25°C to +80°C
- 4 mm: -15/-20°C to +70°C
- 3 mm: -10°C to +60°C



HEALTH AND SAFETY

- Reaction to fire (B_{FL}-s1)
- Non-slip
 - Smooth
 - Slightly rough
 - Rough
 - Very rough
- Indoor air quality (Indoor Air Comfort Gold)
 - Low VOC content during installation
 - Low emission of VOC in service



- Weight of each component <25kg
- Reduces risk of injury



MECHANICAL PERFORMANCE

- Resistant to abrasion
- Resistant to impacts



SHORT DOWNTIMES

- Pedestrian traffic 8-24 hours
- Light traffic 24 hours
- Heavy traffic 48 hours



CE MARKING

Mapefloor CPU+ comes with two types of CE marking:



Screeds and materials for screeds – Materials for screeds – properties and requirements.



Products and systems for protecting and repairing concrete structures.

Both standards specify the requirements regarding identification, performance and durability for the construction of flooring and the protection of concrete. This information is contained in the DOP - Declaration of Performance and data sheets of the products and systems from the **Mapefloor CPU+**.



Hygiene and ease of cleaning

Standards to be respected

Thanks to the use of resin compounds of the latest generation, formulated in the lab and then tested directly on site, products from the **Mapefloor CPU+** line are specifically designed to guarantee extremely high levels of hygiene and safety.

The chemical composition of products from the **Mapefloor CPU+** line means that flooring is completely impermeable and totally resistant to the possible proliferation of bacteria and mould.

What is more, thanks to the chemical-physical characteristics of the various systems in the line, floors can be treated with extremely hot water and specific detergents and sanitisers. In such conditions these floors are the ideal surfaces for a whole host of activities. Going in to detail, the specific requirements of the pharmaceutical and food and drinks industries with regards to hygiene, disinfection and ease of cleaning, are not the same as those for other industrial sectors and require bespoke coatings. It is well-known that, in companies that process food and drinks, as with the entire production chain, surfaces that come into contact with products must comply with stringent health and safety standards to prevent them being contaminated. To summarise, we can safely say that not only does flooring made using **Mapefloor CPU+** products help maintain a high level of hygiene and guarantee more healthy surroundings; they are also precious allies in the conservation of finished products.

Regulation EU 852/2004 on the hygiene of foodstuffs (contemplated in Italian Legislative Decree No. 193/2007) contains recommendations described in the **HACCP** (Hazard Analysis and Critical Control Points) protocol.

MAPEFLOOR CPU+

complies **ISEGA** and **HACCP** protocol

ISEGA



In particular, in paragraph 1a – section 2: “*Specific requirements for areas in which food and drinks are prepared, treated or transformed*”, it is a requirement that “*floors must be maintained in good condition, be **easy to clean** and, where necessary, easy **to sanitise**. This will require the use of materials that are **resistant, non-absorbent, washable and non-toxic**...*”.

Mapefloor CPU+ fully complies with this protocol.

How the line meets the criteria

• FLOORS EASY TO CLEAN

The results of the Riboflavin test confirm their maximum level of cleanability.



• FLOORS EASY TO DISINFECT

Mapefloor CPU+ has bactericidal characteristics and eliminates more than 90% of bacteria (Escherichia coli and Staphylococcus aureus test) compared with a non-antibacterial reference sample. What is more, it may be disinfected using standard sanitising products used in the food and drinks and pharmaceutical industries.

• RESISTANT MATERIALS

Mapefloor CPU+ has outstanding characteristics in abrasion and impact resistance, as well as providing high chemical and thermal shock resistance.

• NON-ABSORBENT MATERIALS

Mapefloor CPU+ is completely impermeable to water by absorption under pressure (5 bar / 3 days according to EN 12390-8). This prevents bacteria carried by water or organic fluids from infiltrating the material or proliferating within it.

• WASHABLE

Mapefloor CPU+ is suitable for washing with hot water at between 80 and 90°C and the combined use of alkaline sanitisers and detergents.

• ODOURLESS

Mapefloor CPU+ is odourless during all stages of installation and is suitable for the food and drinks industry.



Safety at 360°

In the dynamic world of industry safety is paramount: safeguarding people and the environment is at the heart of every decision and action we undertake. **Mapefloor CPU+** is designed to comply with the most rigorous requirements, thereby helping create environments in which safety and reliability go hand in hand.

Products from the **Mapefloor CPU+** line have a series of advantages regarding safety thanks to their intrinsic characteristics and the advanced production processes. Their exceptional resistance to slip makes them ideal for high-risk environments, guaranteeing protection for people in particularly challenging industrial contexts. What is more, these products are formulated to achieve high anti-fire properties to help mitigate the risk of critical situations.

Another fundamental aspect is responsible materials and packaging management. Apart from simplifying handling and use, the availability of individual components in packs with optimised weight help guarantee a safe, risk-free work environment.

With an intransigent attention to safety and quality, products from the **Mapefloor CPU+** line represent a step forward in the creation of work environments and spaces that unite functionality with structural integrity, all to the benefit of the safety of those who use them and for the surrounding environment.

Resistance to slip

Even in the most difficult conditions, such as production areas where floors are constantly wet, it is necessary to guarantee high safety standards.

The degree of resistance to slip is fundamental when choosing flooring: **Mapefloor CPU+** comes in various degrees of roughness suitable for all needs (smooth, rough, very rough and extremely rough).



Reaction to fire

Products from the **Mapefloor CPU+** line are in fire reaction class **B_{FL}-s1**. According to EN 13501-1 standards, this is the excellence class achievable with polymer products.

Air quality

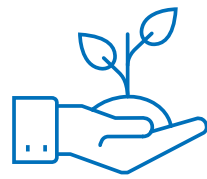
The importance of air quality in industrial environments is a crucial factor for the wellbeing and health of those who work there, both those carrying out their daily tasks and those who carry out important maintenance operations, in that it has a direct influence on the overall comfort and performance of all those who frequent these spaces. In line with **Mapei's** commitment to excellence, products from the **Mapefloor CPU+** line stand out for their exceptional standards, guaranteeing very low levels of Volatile Organic Compounds (VOC). **Mapefloor CPU+** comes with important **Eurofins Air Comfort Gold** certification regarding emissions from internal flooring systems, including German AgBB standards, Finnish M1 standard and French Afsset standards, BREEM, CAM, Singapore Green Label and Global Green Tag. It is classified A+, the highest achievable for the lowest emissions.



Responsible materials management

The single components of **Mapefloor CPU+** products always **weigh less than the 25 kg safety level**.

In this context, **Mapei's** commitment to safety and innovation translates into solutions that not only meet immediate requirements, but also form a solid foundation towards a sustainable future.



Mapei's commitment to the environment

Sustainability integrated into Mapefloor CPU+ formulates

In a world increasingly focused on environmental sustainability, Mapei is at the forefront with its line of **Mapefloor CPU+** polyurethane-cement based floors. Our dedication to sustainability is reflected in various aspects: the use of eco-compatible materials and responsible production processes are at the heart of our corporate vision.

Mapefloor CPU+ floors are formulated to minimise volatile emissions, thereby helping improve indoor air quality in those areas where they are installed. Not only does this create healthier surroundings for those who use them; it is also a demonstration of our concrete commitment to safeguarding the environment. What is more, the durability of **Mapefloor CPU+** floors translates into a longer service life, reducing the need to replace them frequently and, as a result, consume further resources. All this contributes to more responsible management of resources and a significant reduction in waste.

With **Mapefloor CPU+** you are investing not only in a high performance flooring, you are also promoting responsible choices for the environment.

Sustainability, performance and innovation are blended harmoniously into every **Mapei** formulate, highlighting our commitment to creating a better future through cutting-edge solutions.

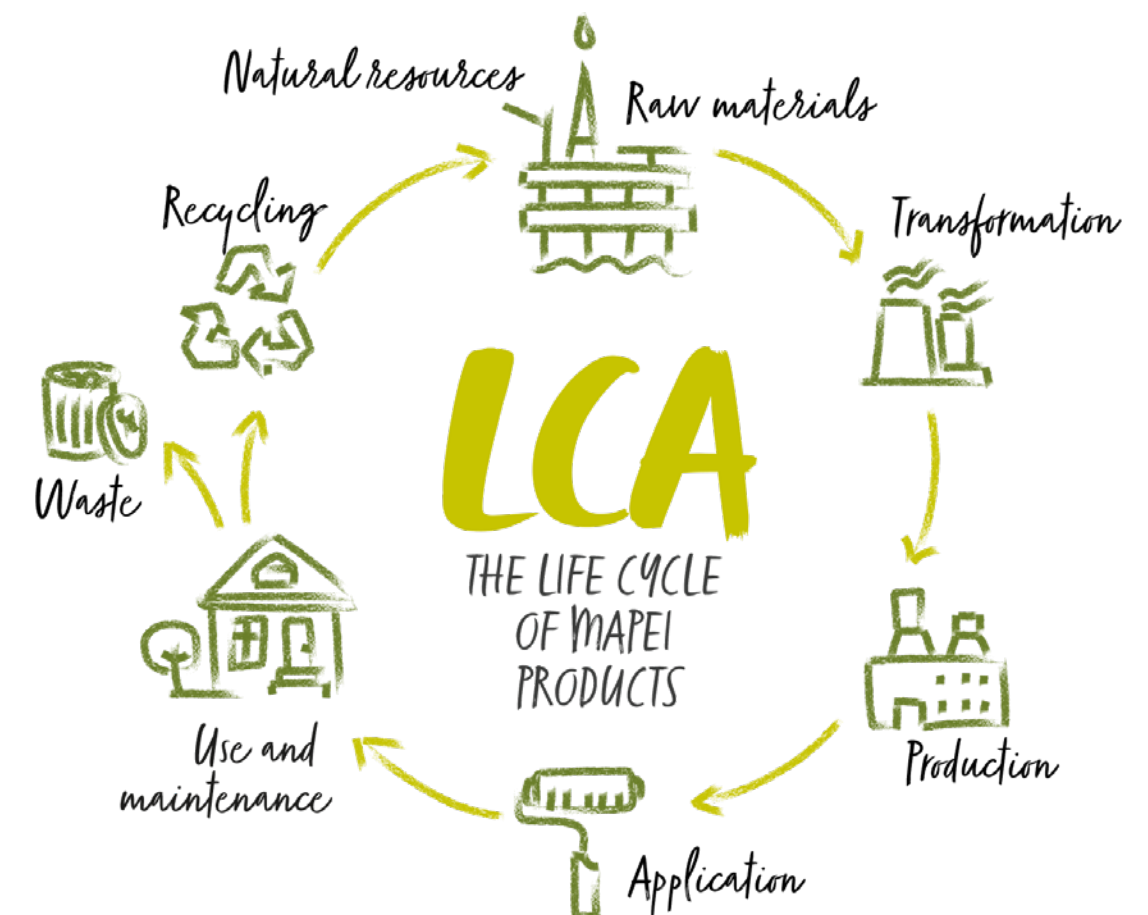
Every product from the **Mapefloor CPU+** line comes with:

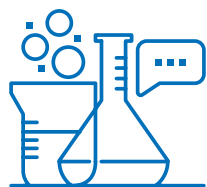
- **Leed Letter** to obtain LEED credits;
- **EPD Environmental Product Declaration** prepared according to international standards such as ISO 14025 and EN 15804 and certified by third parties.

Environmental Product Declaration

The **Environmental Product Declaration (EPD)** is a complete report, prepared according to international standards, that documents the environmental effects of a product, such as climate change, air pollution and mineral, fossil and hydric resources depletion, throughout its life cycle, which are measured using standardised **LCA** (Life Cycle Assessment) methods.

The standardised **LCA** (Life Cycle Assessment) method, an analysis of a product's life cycle, is an evaluation of the product's environmental impacts throughout its life cycle, from the extraction of the raw materials used in the formula, to their transportation to the manufacturing plant, the production cycle, product packaging, waste, transportation of the finished product to the distributor and then final disposal.





Exceptional resistance to chemicals

Chemical aggression to flooring in general refers to damage or alterations to the surface of the flooring caused by contact with aggressive chemical substances used during processing or floor cleaning.

This phenomenon could appear in the form of discolouration, stains, loss of shine or the formation of blisters on the surface of the resin flooring. In some cases, the mechanical and physical properties could even be affected, reducing the longevity and performance of the flooring.



The ideal solution in critical environments

Mapefloor CPU+ polyurethane-cement flooring has been developed to have excellent resistance to chemical aggressions can withstand exposure to a wide range of chemicals such as oil, grease, acids, alkalis and solvents without sustaining damage or deterioration. It is, therefore, the ideal solution for the chemical, foodstuff and pharmaceutical industries where the work environment is often exposed to liquids and hazardous substances.



Resistance characteristics of the line

The characteristics that provide this type of floor such high resistance to chemicals can be summarised as follows:

- **PRESENCE OF A REAL PROTECTIVE BARRIER**

The chemical properties of the polyurethane combine with the mechanical resistance and hardness of the cementitious formulate creating a compound that is resistant to chemical attacks.

- **SEAMLESS, COMPACT AND IMPERMEABLE STRUCTURE**

Floors from the **Mapefloor CPU+** line are known for their resistance to the penetration of external agents such as harmful liquids and chemicals, acting as a true barrier that prevents these agents from infiltrating and reacting.

- **DIFFERENT THICKNESSES**

Floors from the **Mapefloor CPU+** line can be created in various thicknesses, according to the application area and resistance required. This allows for tailoring the solution to the specific needs of the industrial environment, ensuring adequate protection against chemical agents present in the usage area.

- **LONG-LASTING**

Correct installation and regular maintenance help preserve the floor's resistance to chemicals and performance characteristics over time.

The advantages of Mapefloor CPU+



PROTECTIVE
BARRIER



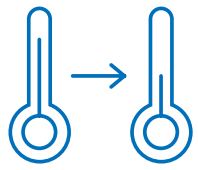
IMPERMEABLE



DIFFERENT
THICKNESSES



DURABLE
OVER TIME

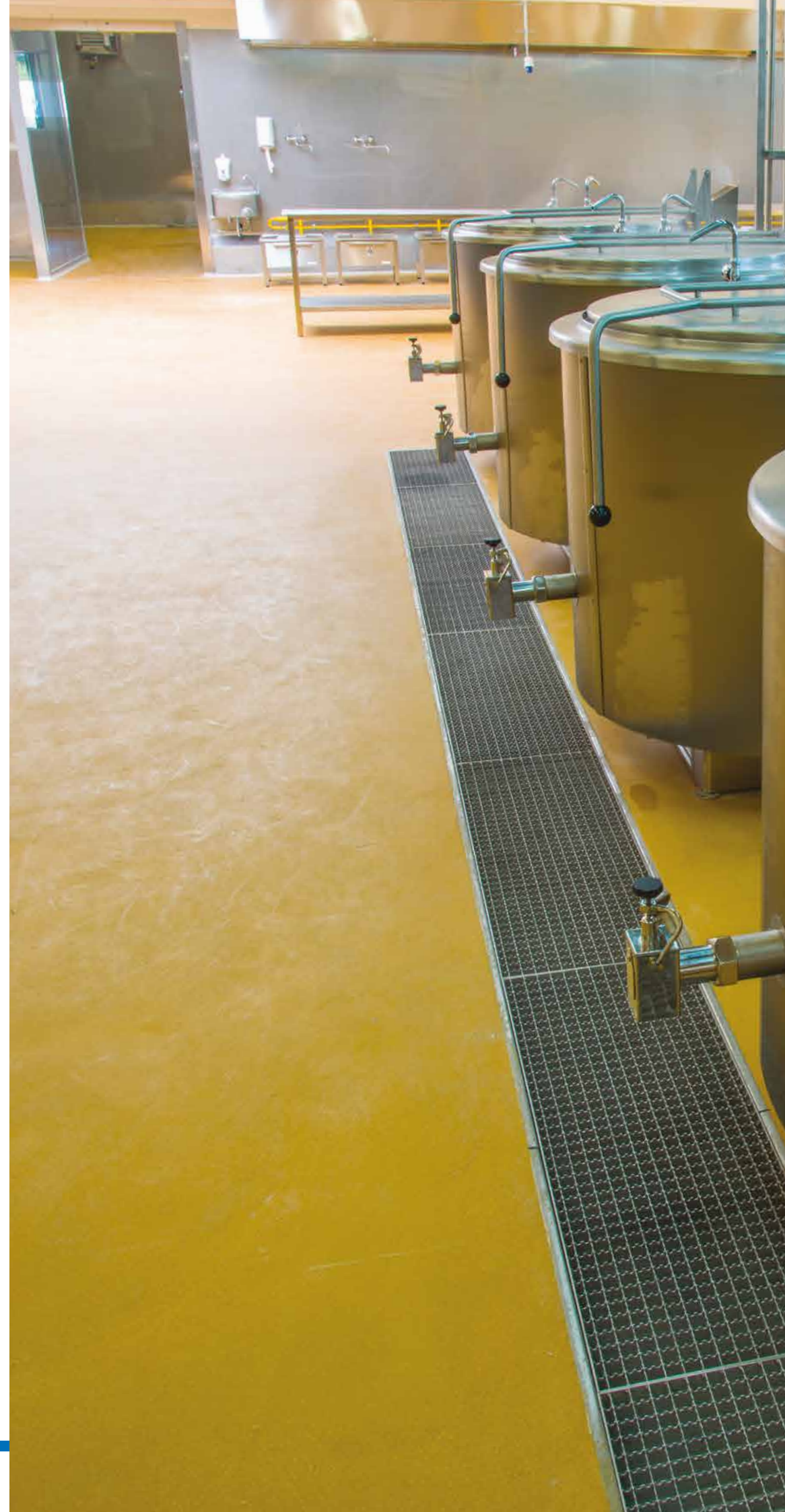


Thermal resistance

Thermal resistance is a critical property of floors, especially in industrial contexts where wide temperature variations can occur. Polyurethane-cement floors from the **Mapefloor CPU+** line represent an excellent solution for environments that require high thermal resistance and stand out as the ideal choice to overcome the most challenging situations.

In fact, flooring from the **Mapefloor CPU+** line has shown to be exceptionally high-performing even in extreme conditions thanks to the synergic combination of the polyurethane and cementitious binder, the result of intense research and development work by **Mapei**. Characterised by their very high level of technological content, **Mapefloor CPU+** floors are designed to withstand thermal shock, ranging from extremely low temperatures (down to -40°C) to very high temperatures (up to +150°C), all within a few millimetres of thickness. This incredible capacity to withstand extreme temperatures ensures floors maintain their stability, integrity and resistance even in the most severe and challenging conditions.

THERMAL SHOCK RESISTANCE				
THICKNESS MAPEFLOOR CPU+, mm	MINIMUM TEMPERATURE, °C		MAXIMUM TEMPERATURE, °C	
3	-10	Refrigeration cells	60	Spilled liquids
4	-15°/-20°	Refrigeration cells	70	Spilled liquids
6	-25	Refrigeration cells	80	Spilled liquids
9	-40	Refrigeration cells	120	Spilled liquids and steam-cleaning
12	-40	Refrigeration cells	150	Spilled liquids and steam-cleaning



This notably high temperature range is particularly advantageous in sectors such as the food and drinks, chemical and pharmaceutical industries where the temperature can vary dramatically due to particular production or work processes. In fact, **Mapefloor CPU+** floors have the capacity to successfully withstand both the intense cold of industrial freezers and refrigeration cells and the high temperatures of hot processing environments, such as in food and drinks processing areas.

What is more, the floor's resistance to thermal shock minimises the risk of surface defects, preserving the structural integrity of the floor and guaranteeing the safety of its users.



Reliable and long-lasting performance

Mapefloor CPU+ polyurethane-cement floors have proven to be reliable in industrial surroundings where temperature variations play a fundamental role, representing a cutting-edge solution when it comes to offering constantly **reliable and long-lasting performance**.





Maximum efficiency

Quick installation with Mapefloor CPU+

Amongst the numerous benefits of **Mapefloor CPU+** line floorings, one crucial aspect stands out: the extraordinary speed at which the surfaces of flooring can be installed and put into operation. This characteristic translates into a considerable advantage for the end customer.

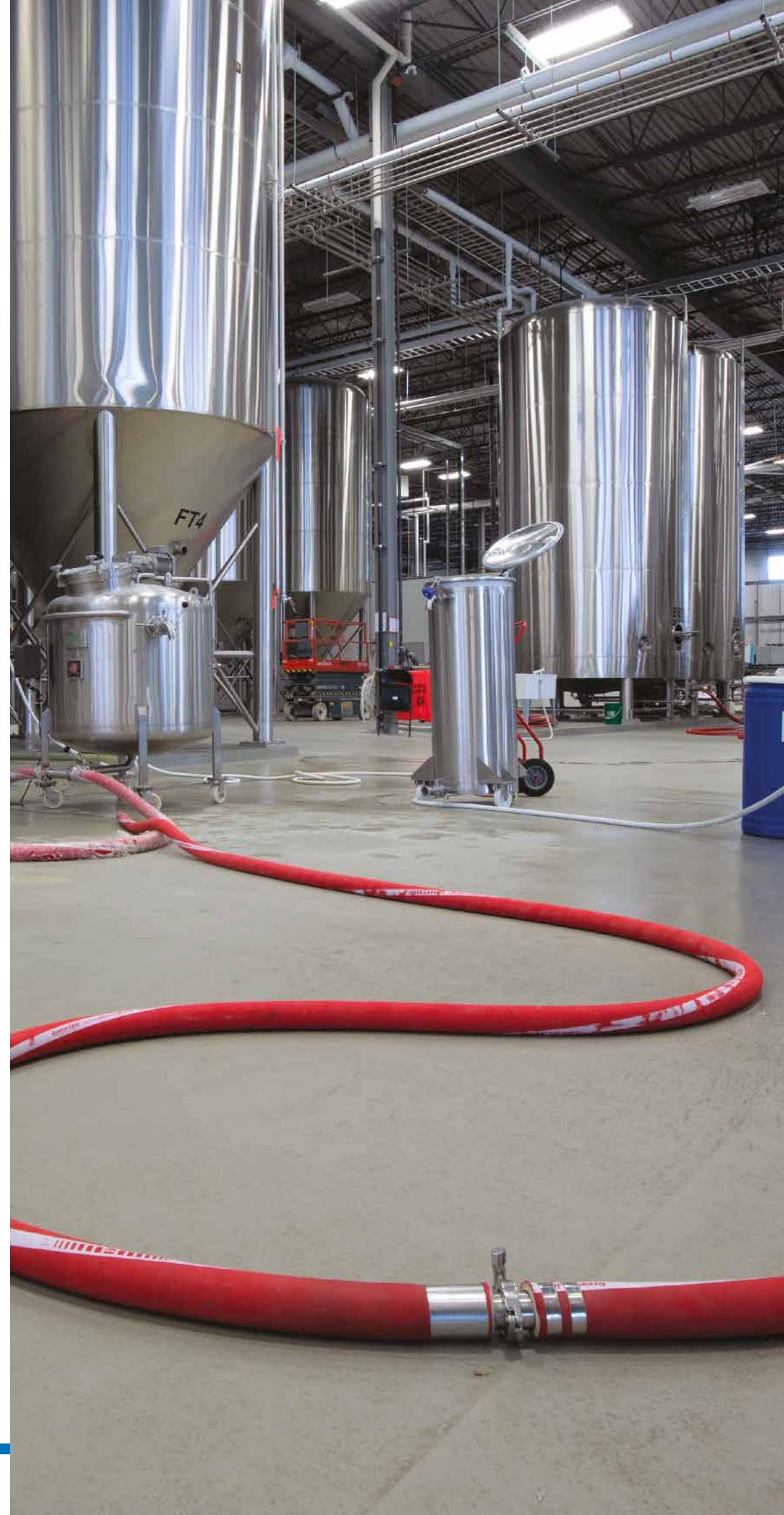
In these contexts, the need of a temporary closure of the plant's activities for renovation work or to install new floors could cause long interruptions to a company's activities. However, thanks to the quick installation and implementation of **Mapefloor CPU+** floors, it is possible to avoid the disruption and costs associated with "plant downtimes".

This term, in fact, refers to the period in which a company is forced to suspend its normal activities to allow for installation of flooring and normally translates into a loss of time and earnings.

By using **Mapefloor CPU+** floors, however, companies can minimise these periods of inactivity, avoid lengthy downtimes and guarantee the continuity of work, with the company able to continue operating, almost without stopping, during installation of the flooring.

In addition, these floors are exceptionally long-lasting and consistent resistance to daily stresses, ensuring that the investment in the ongoing improvement of work environments endures over time.

To summarise, **Mapefloor CPU+** floors demonstrate they are a strategic partner for companies looking to optimise their efficiency, reduce downtimes and maintain profitability during adaptation and renovation processes of their dedicated workspaces.



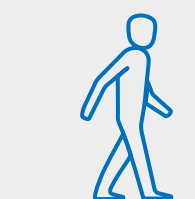
PLANT DOWNTIMES

0 hours



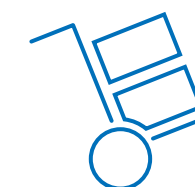
END OF INSTALLATION

8/12 hours



PEDESTRIAN TRAFFIC

24 hours



LIGHT TRAFFIC

48 hours



FULL SERVICE



Products and systems

The choice of products and systems available from the **Mapecolor CPU+** line is presented as an articulated structure but characterised by the maximum simplicity. Based on a modular approach, there are various main components common to all products to considerably simplify supply operations and disposal of their corresponding packaging.

This approach facilitates the speed and availability of the solutions proposed at both product level and in the variety of its articulated systems. This leads to always being in a position to offer end clients the **ideal solution** to fulfil all their particular requirements (such as resistance to slip, chemical substances, thermal shock, and so on) and in conformity with the final area of use of the flooring.

A complete range of colours

Mapecolor CPU+ is available in various colours: grey, beige, red, green, ochre, blue and orange.



Due to the printing processes involved, the colours should be taken as merely indicative of the shades of the actual products.



Products and systems

Mapefloor System CPU+/DP

Multi-layered high performance polyurethane-cement system for thicknesses from 4 to 6 mm.



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Substrate:
concrete



Mapefloor CPU+/HD

High performance polyurethane-cement mortar for thicknesses from 6 to 12 mm.



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Substrate:
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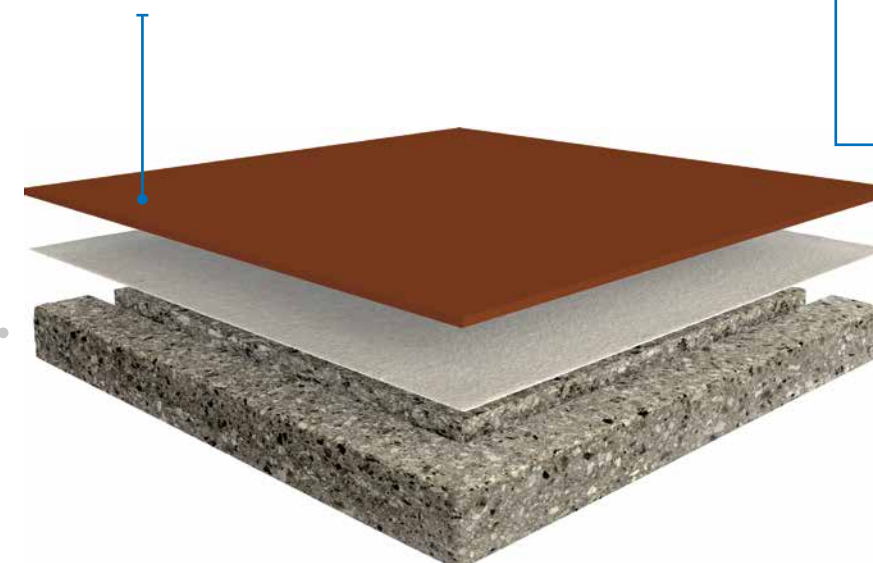
Mapefloor CPU+/MF

High performance self-levelling polyurethane-cement mortar for thicknesses from 3 to 6 mm.



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Substrate:
concrete



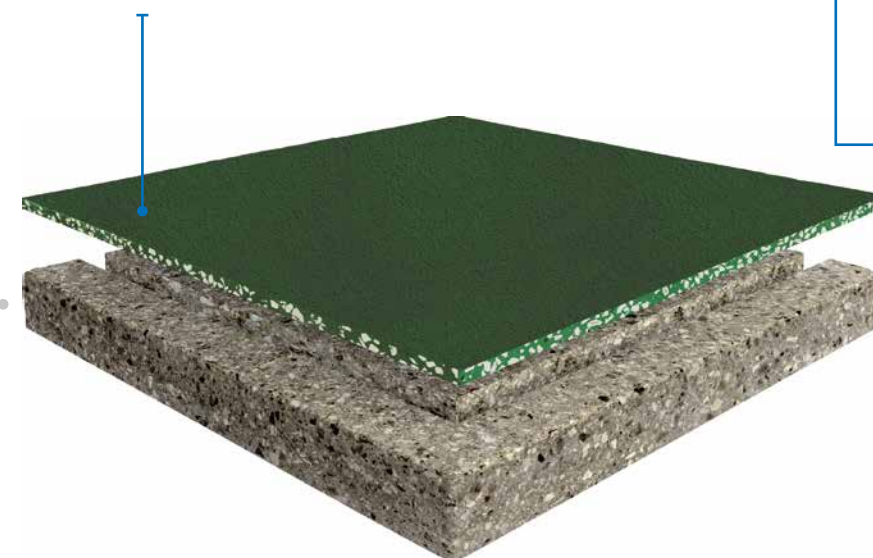
Mapefloor CPU+/NZ

High performance polyurethane-cement mortar for thicknesses from 4 to 6 mm.



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Substrate:
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Products and systems

Mapefloor CPU+/RT

High performance polyurethane-cement mortar for thicknesses from 6 to 9 mm.



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Substrate:
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Mapefloor CPU+/UD

High performance fine-textured polyurethane-cement mortar for thicknesses from 6 to 12 mm.



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Substrate:
concrete



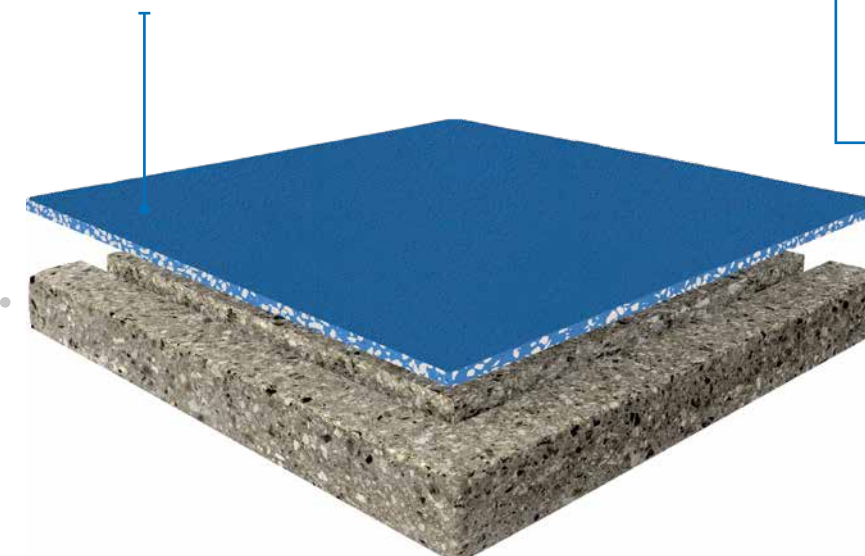
Mapefloor CPU+/SR

High performance highly non-slip polyurethane-cement mortar for thicknesses from 6 to 12 mm.



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Mapecolor CPU+

Colouring paste for products from the **Mapefloor CPU+** range.



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Mapefloor CPU+/ COVE

Polyurethane-cement mortar for fillets, coving and features.



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Mapefloor CPU+/ Primer

Polyurethane-cement primer for **Mapefloor CPU+** range.



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Mapefloor CPU+/ TC

Finish for walls and polyurethane-cement floor systems.



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EVERYTHING'S OK WITH MAPEI

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