

GROUTS AND SEALANTS

for installing ceramic tiles
and stone material



**HIGH PERFORMANCE, DURABLE, HYGIENIC,
DIRT- AND MOULD-PROOF GROUTS AND
SEALANTS, FOR EASY-TO-CLEAN, SOUND FLOOR
AND WALL COVERINGS. MAPEI GROUTS COME IN
THE PERFECT COLOUR FOR EVERY SETTING**

GROUTS AND SEALANTS

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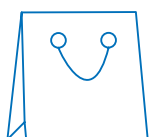
ICONS LEGEND



RESIDENTIAL ENVIRONMENTS



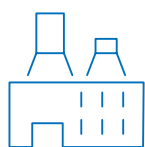
SPAS & WELLNESS AREAS



COMMERCIAL ENVIRONMENTS



MARINE INDUSTRY



INDUSTRIAL ENVIRONMENTS



FAÇADES



SWIMMING POOLS



SURFACES USED BY VEHICLES



KITCHENS AND FOOD INDUSTRY



PUBLIC SPACES



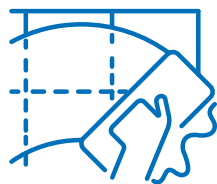
BATHROOMS



LANDSCAPING



*Mont Blanc SkyWay,
Courmayeur, Italy*

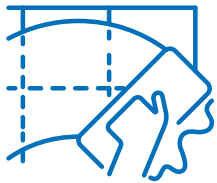


Grouting: functionality and creativity

Elegant marble floors, porcelain with a design finish, refined mosaics: every type of covering is more complete with the right grouting. A technical detail that plays a key role in the **functionality and durability of surfaces** which, at the same time, offers us the **chance to be creative** and to create an ambience with its own unique character and personality.

Through its extensive **range of coloured grouts**, **Mapei** has found the way to meet the requirements of such a well-established market, the ceramics and natural stone market, which is **in constant evolution** with the development and introduction of new materials, new tile formats and increasingly higher expectations in terms of functionality and aesthetics.

From refined, elegant spaces in hotels and public spaces to damp surroundings such as bathrooms and swimming pools, from façades covered with large format stone and porcelain tiles to commercial and industrial settings used by intense levels of traffic and exposed to aggressive chemicals: **Mapei** has the capacity to propose the most appropriate solution for any situation and to guarantee **performance properties, durability and aesthetics while safeguarding the healthiness of the surroundings**, in line with the concept of a more sustainable building industry.



Perfect installation

Classification of mortars for grouting ceramic and stone material according to EN 13888 standard

As with adhesive, a grouting product must be chosen so that it meets well defined requirements which vary according to where it is being installed, its final type of use and the type of covering material. Euronorm EN 13888 divides grouting mortars into **cementitious grouts (CG)** and **epoxy grouts (RG)**. Cementitious grouts are divided into two main classes **CG1 (normal)** and **CG2 (improved)**, which are followed by special classes **A (high abrasion resistance)** and **W (low water absorption)**.

Cementitious grouting mortars

Normal (CG1)

They may be considered sufficient for installing ceramic or porcelain tiles not subject to excessive variations in temperature and humidity in residential and commercial environments.

Improved (CG2)

Specially developed to adapt to various site conditions, they have numerous advantages compared with class CG1 grouts:

- **Resistance to temperature variations**
(installation on heating substrates or exterior substrates).
- **Good compatibility with deformable adhesives**
(such as when installing large-format tiles).

In addition to traditional applications, they are therefore recommended for areas subject to high humidity and thermal shocks or intense traffic, conditions typically found in high-intensity commercial and industrial environments.

Class A – High abrasion resistance

It is required when the **area is subject to intense foot or trolley traffic**, such as in supermarkets.

Class W – Low water absorption

W-class products are recommended for **installations subject to continuous immersion in water**, such as tiling in fountains and swimming pools.

Improved class

Cementitious grouting mortars made by **Mapei** are all part of the improved class of grouts **CG2WA** and, as such, are guaranteed when used in particularly critical site conditions.



Epoxy grouting mortars

Two-component epoxy resin-based products.

Advantages

- High mechanical resistance.
- High resistance to aggressive chemicals.

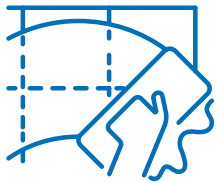
Epoxy grouting mortars are normally used when **particularly hygienic surfaces** are required, or if there are particular **strength or chemical resistance** requirements. They are particularly suitable in **industrial environments**. In the **residential** sector they are used in bathrooms, kitchens and all those areas where total cleanability of the joints is important.

Beyond the regulation

All **Mapei epoxy grouts** meet all the requirements for the **RG classification**.

The use of **Mapei epoxy grouts** allows floors, walls, worktops, etc. to comply with the **HACCP system** and the requirements of EC Regulation no. 852/2004 regarding the hygiene of foodstuffs.





Perfect installation

Classification of mortars for grouting architectural stone paving according to UNI 11714-1 standard

As for installation, also the choice of grouting has to meet precise requirements, which vary according to surrounding conditions, stress related to the use and the type of stone material.

UNI 11714-1 standard requires design consistency between the characteristics of installation bed and the filling of joints: **compact bedding** shall feature compact fillings, while on **loose bedding** joints shall be filled with elastic-pervious products or systems.

Therefore, regulations specify the types of grouting that are compatible with compact and loose bedding for the various environments and the relevant load class when in use.



PEDESTRIAN USE ONLY

Balconies, terraces, patios, courtyards, residential pathways and pavements.



PEDESTRIAN USE ONLY

Exterior terraces of restaurants/bars, pavements for pedestrian and cycle use only.



PEDESTRIAN AND LIGHT VEHICLE USE

Pavements suitable for parking, carparks or ramps/garage pathways, courtyards, adjacent lots and pathways for the connection between buildings and their parking lots.



PEDESTRIAN AND LIGHT VEHICLE USE

Squares used occasionally by slow-moving vehicles, including heavy vehicles (parvises, cemeteries, etc.), market squares, loading/offloading areas, and squares for events, town festivals, etc.



PEDESTRIAN AND LIGHT VEHICLE USE

Areas with a 30 km/h speed limit, streets or squares with limited access to vehicles, public carparks and public access ramps.



HEAVY VEHICLE USE

Streets, streets with lanes for public transport or prescribed lanes, high-traffic roads, roundabouts and speed bumps.



Piazza Duca d'Aosta square,
Milan, Italy



Grouts for compact bedding paving: pre-blended mortars

Current standard provides for the use of pre-blended mortars for grouting paving with compact bedding in case of intense vehicle traffic (P9) and recommends them in any other case.

Advantages

- High mechanical strength.
- High resistance to freezing/thawing.
- High resistance to de-icing salts.
- High resistance to sea spray and aerosol.
- Reopening to vehicular traffic in short times.

Grouts for loose-filled paving: polyurethane resins

Current standard provides for the use of polyurethane resins for grouting outdoor loose-filled paving, elastic and pervious, on small blocks, cobblestones and setts, for any kind of traffic.

Advantages

- Highly pervious.
- High flexibility.
- High mechanical strength.
- High resistance to freezing/thawing.
- High resistance to de-icing salts.
- High sound-absorbing capacity.
- No need for expansion joints or distribution joints.
- Reopening to vehicular traffic in short times.

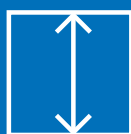
A photograph of the interior of the Spa Rudas in Budapest, Hungary. The image shows a glass-enclosed steam bath with a curved wooden bench covered in red and black patterned tiles. The walls and ceiling are also covered in similar tiles. A shower head is visible on the wall. The floor is made of large, light-colored square tiles.

Reference guide for consumption calculation

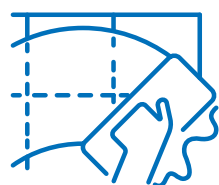
www.mapei.com/it/en/tools-and-downloads/product-calculator/grouts



GROUTS



SEALANTS



Perfect installation

Calculating the correct width for grouts

According to **current standards**, tiling should be installed with **grouts at least 2 mm wide** and their width must be increased according to the type of final use and the design loads and stresses when in service. For **architectural stone paving**, according to **UNI 11714-1** standard, when installed in exterior surroundings, **grouts must be at least 5 mm wide** and their width must be increased according to the dimensional tolerances and morphology of the stone tiles or slabs, the type of final use and the design loads and stresses when in service.

Butting adjacent slabs or tiles or leaving no gap is not permitted.

Forming joints

According to **current standards**, apart from respecting the position of structural joints, control joints and expansion joints must also be included.

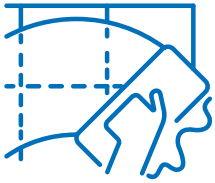


When installing tiles or slabs **on interior surfaces**, perimeter deformation joints and control joints must be created **every 24-25 m²** for ceramics and **every 20-25 m²** for stone.

When installing tiles or slabs **on exterior surfaces**, the surface must be divided into areas of maximum **9 m²** for ceramics and **16 m²** for stone. As a general guide, joints must be between **5 mm and 12 mm** wide.

For **architectural stone paving**, according to **UNI 11714-1** standard, when installing on a compact installation bed, apart from respecting the position of structural joints, control joints and expansion perimeteral joints must also be included.

In order to prevent the formation of uncontrolled cracks, joints must be installed in correspondence of slope variations, vertical corners and any other interruption on the horizontal surface. As a general guide, joints must be created **at least every 25 m²**, and must be between **at least 10 mm** wide. The width of the joint must be calculated according to the amount of movement expected and the elastic deformability of the sealant product specified.



Perfect installation

Grouts: the first step to ensure durability of flooring

Designing the installation with grouts of the correct dimensions is very important in order to obtain flooring which is **even, strong, resistant** and **durable**.

Ceramic or stone flooring, particularly large-format tiles or slabs installed on exterior surfaces

- **Tile joints reduce the modulus of elasticity** and, therefore, **the stiffness of the tiling**. The tiling installed by butting the tiles together is comparable to a stiff, seamless surface as if it were a single tile. When tiles are installed with “open” joints, each of the tiles has a certain degree of movement. This characteristic helps the tiling withstand the possible movement of the substrate (due to movements in the floor or dimensional instability in the substrate) and, therefore, provides **protection against the risk of cracking, tiles lifting or becoming detached from the floor**.
- **Any steps between tiles have less of an impact**. The maximum acceptable step between tiles is 1 mm for joints up to 6 mm wide for ceramics and 3 mm for stone material, and 2 mm for joints wider than 6 mm. As the width of the joint increases, the maximum acceptable step also increases.
- Installing tiles with large joints **allows the amount of filler, or grout, in the joints to be calibrated correctly**. This leads to **advantages**, such as the **durability of the grout** and its **aesthetic, mechanical and functional characteristics**.

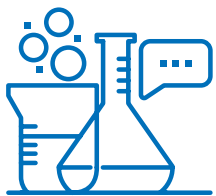




Architectural stone paving

- **Grouts are required to tie the stone elements** to each other and to the installation bed, so they form a monolithic architectural paving (for compact bedding installations) or an elastic, pervious paving (for loose bedding installations).
- **The width and depth of grouts** determine the effectiveness of grouting products, which must fill them completely in order for them to reach the **aesthetic, mechanical and functional properties required when in service**.
- **The width of grouts** must be such that they allow both the aesthetic and functional requirements to be achieved.
- **In the case of movements in tiling**, or if access is required to plant equipment under the tiling, a large grout **allows the grout to be removed** and to **preserve the condition of the flooring element**. In fact, grouts may be filled quite easily with fresh grouting material without compromising the overall appearance of the flooring.

For these and many other reasons, installing tiles with a wide joint is a requirement of current standards.



Improved grouts thanks to Mapei technologies

Mapei has improved their range of grouting products by including cutting-edge technology which **increases their performance properties, durability and uniformity of colour**, thereby guaranteeing that grouts maintain their aesthetic qualities over the years.



DropEffect®

Easy-to-clean non-absorbent grouts

The quality of grouts is essential for the cleanability and maintenance of surfaces.

Mapei grouts with **DropEffect®** technology **absorb less dirt and are easy to clean and their colour remains stable over the years**. In fact, thanks to this special technology, they are less absorbent to liquids and are water-repellent. Liquids deposited on the surface are not absorbed but remain on the surface in the form of droplets, so joints are much easier to clean before stains are formed.



BioBlock®

Put a stop to mould for more hygienic and healthier surfaces

The proliferation of bacteria on the surface of grouts, especially in damp environments such as bathrooms and spas, may lead to the formation of moulds and fungi. In addition to causing an unsightly finish, these can be harmful for the health of final users. This is why the **Mapei** Research and Development has developed **BioBlock®** technology: molecules of special organic material distributed throughout the microstructures of the grout that **impede the formation and proliferation of the microorganisms that cause mould**, keeping tiled surfaces healthier and more hygienic and maintaining their appearance and finish over the years.



Spa Rudas,
Budapest, Hungary



Stable and uniform colour

Guaranteed over time

In order to meet the aesthetic requirements of end users, the colour of grouts is undoubtedly one of the main features.

Mapei grouts are available in a wide variety of 58 colours, if we consider the various cementitious and epoxy products. The durability and uniformity in colour of **Mapei** grouts are guaranteed by their special formulation and the use of **pigments which remain stable if subjected to UV rays or weathering**.

All our products undergo **accelerated ageing tests** using a weatherometer, a device used to assess the reaction of products exposed to sunlight, rain and temperature variations.

All **Mapei grouts** are also subjected to **rigorous quality control tests** in compliance with the **ISO 9001** system.

A spectrophotometer is used to check the colour of cementitious and epoxy grouts before they are put on sale to make sure they comply with **Mapei** quality standards and that every production batch is the same.

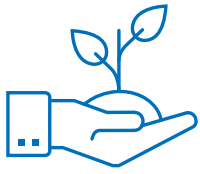


Anti-efflorescence

Stop to unaesthetic white stains

Efflorescence, the typical white streaks that can form on the joints' surface, is one of the most common and unsightly defects on ceramic tiling. The presence of calcium carbonate through the joints is typical of formulas that contain Portland cement. The binder in **Ultracolor Plus** does not contain Portland cement, which makes the **product immune from the formation of efflorescence**, ensuring **maximum colour stability**.



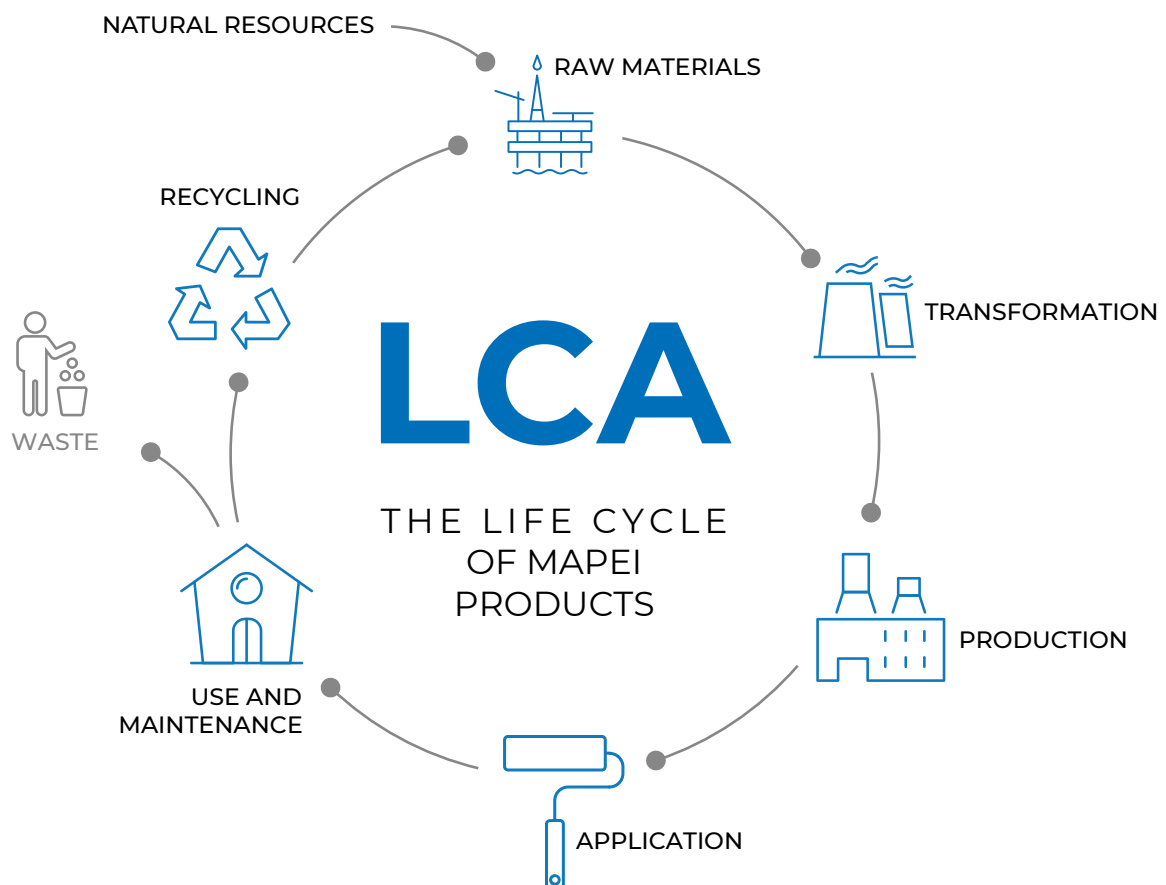


Environmental sustainability

Every year **Mapei** dedicates part of its resources into research and development. It actively promotes sustainability by adhering to international programmes and organisations, including the **LEED protocol** – Leadership in Energy and Environmental Design – developed by the US Green Building Council to provide guidance on the design of eco-sustainable buildings.

Mapei products help earn important LEED credits thanks to their **EPDs** (Environmental Product Declaration) and their **Emicode certification** for materials with a very low emission level of volatile organic compounds.

Thanks to EPD's, in Italy, **Mapei** products comply with the requirements of CAM (Criteri Ambientali Minimi - Minimum Environmental Criteria for design services and the construction and renovation of public buildings) aimed at identifying sustainable design solutions by evaluating the entire life-cycle of the products used.



Mapletree Business City 2, Singapore

Construction of a new, ultramodern and sustainable business district.

Mapei played a leading role in this innovative project with many products for the preparation of substrates and the installation of both interior and exterior tiling.












































Granite tiles in several areas such as walkways, car parks and courtyards, were installed using **Keraflex Maxi S1** and grouted with **Keracolor GG**. **Mapei** products used in some exterior works: **Topcem Pronto**, **Kerapoxy**, **Keraflex Maxi S1**, **Keracolor GG**, **Mapeflex PU50 SL**, **Primer PU 60**.





Selection charts

Grouts for ceramics and stone material chart

SUITABLE PRODUCT		MAPEI SUGGESTION		Cementitious grouts				Epoxy grouts				Polymer grouts
1 Choose the product		2 Identify the area of use		ULTRACOLOR PLUS	KERACOLOR FF	KERACOLOR GG	KERACOLOR SF	KERAPOXY	KERAPOXY EASY DESIGN	KERAPOXY CQ	KERAPOXY IEG	FLEXCOLOR
Joint width in mm		up to 20	up to 6	from 4 to 15	up to 4	min. 1	from 1 to 15	min. 1	min. 3	from 2 to 10		
Exterior Use												
Balconies and terraces												
Façades												
Swimming pools												
Interior Use												
Heated floor												
Residential environments												
Public buildings												
Commercial environments												
Foodstuffs industries												
Areas subject to intense traffic												
Kitchens												
Damp environments												

Grouts for architectural stone paving chart

		SUITABLE PRODUCT	MAPEI SUGGESTION	Compact bedding Pre-blended mortars				Loose bedding Polyurethane resins	
				MAPESTONE PFS 2	MAPESTONE PFS 2 VISCO	MAPESTONE PFS PCC2	MAPESTONE PFS2 FLEX	MAPESTONE JOINT CUBE	MAPESTONE JOINT SLAB
1 Identify the area of use		2 Choose the product							
Joint width in mm				≥ 5	≥ 5	≥ 5	≥ 5	≥ 5	≥ 5
Stone element type									
Small blocks									
Cobblestones									
Setts									
Tiles/slabs with a regular cut shape									
Tiles/slabs with an irregular section									
Blocks									
Surrounding conditions									
Freezing/thawing									
De-icing salts									
Sea spray									
Large day/night temperature variations									
Classes of use									
P4 - Exterior paving for pedestrian, residential use only									
P5 - Public/commercial exterior paving for pedestrian and cycle use									
P6 - Public/residential paving for pedestrian and light vehicle use									
P7 - Paving of pedestrian areas, square markets occasionally used for emergency deliveries									
P8 - Paving of pedestrian areas often used by heavy vehicles									
P9 - Paving of streets and lanes									



Selection charts

Sealants chart



	Acetic silicone	Neutral silicone	Polyurethane	Hybrid	Epoxy-polyurethane
	MAPESIL AC	MAPESIL LM	MAPEFLEX PU 45 FT	MAPEFLEX MS 45	MAPEFLEX E-PU21 SL
Exterior Use					
Balconies and terraces					
Façades					
Swimming pools					
Exterior courtyards					
Cracks					
Joints between different materials					
Fitting/glass joints					
Fitting/wall joints					
Interior Use					
Structural joints					
Cracks					
Joints for industrial floors					
Joints for civil floors					
Joints with kitchen tops					
Joints for stone flooring					
Tile joints					
Sanitary joints for bathrooms					
Fitting/glass joints					
Fitting/wall joints					
Bonding of skirtings and doorsteps					
Architectural paving – Classes of use					
P4 - Exterior paving for pedestrian, residential use only					
P5 - Public/commercial exterior paving for pedestrian and cycle use					
P6 - Public/residential paving for pedestrian and light vehicle use					
P7 - Paving of pedestrian areas, square markets occasionally used for emergency deliveries					
P8 - Paving of pedestrian areas often used by heavy vehicles					
P9 - Paving of streets and lanes					
Sealant deformability					
Joint movement ≤ 10% of width					
Joint movement > 10% ≤ 20% of width					
Joint movement ≤ 25% of width					
Type of sealant					
High-flowing					
Thixotropic					

Colour chart

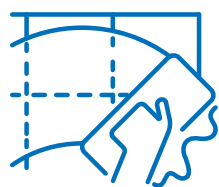
Mapei Coloured Grouts

Colour chart			Mapei Coloured Grouts															
			CEMENTITIOUS GROUTS				EPOXY GROUTS				PASTE PRODUCTS				COMPLEMENTARY			
			ULTRACOLOR PLUS	KERACOLOR SF	KERACOLOR FF	KERACOLOR GG	KERAPOXY	KERAPOXY CQ	KERAPOXY IEG	KERAPOXY EASY DESIGN	FLEXCOLOR	MAPEGLITTER	MAPECOLOR METALLIC	ELASTIC SEALANTS	MAPESIL AC	MAPESIL LM		
100	WHITE																	
103	MOON WHITE																	
111	SILVER GREY																	
123	ANCIENT WHITE																	
110	MANHATTAN 2000																	
112	MEDIUM GREY																	
282	BARDIGLIO GREY																	
113	CEMENT GREY																	
174	TORNADO																	
119	LONDON GREY																	
114	ANTHRACITE																	
127	ARTIC GREY																	
187	LINEN																	
176	GREEN-GREY																	
125	CASTLE GREY																	
163	LIGHT LILAC																	
168	CERULEAN																	
167	AVIO																	
169	STEEL BLUE																	
177	SAGE																	
189	SPELT																	
188	BISCUIT																	
120	BLACK																	
137	CARIBBEAN																	
130	JASMINE																	
290	CREAM																	
131	VANILLA																	
138	ALMOND																	
132	BEIGE 2000																	
133	SAND																	
134	SILK																	
141	CARAMEL																	
135	GOLDEN DUST																	
152	LIQUORICE																	
142	BROWN																	
147	CAPPUCCINO																	
136	MUD																	
144	CHOCOLATE																	
146	RICH BROWN																	
149	VOLCANO SAND																	
145	TERRA DI SIENA																	
143	TERRACOTTA																	
172	SPACE BLUE																	
173	CROCUS BLUE																	
283	SEA BLUE																	
182	TORMALINE																	
183	LIME GREEN																	
150	YELLOW																	
151	MUSTARD YELLOW																	
165	CHERRY RED																	
999	TRANSPARENT																	
700	TRANSLUCENT																	
700 + MOONLIGHT																		
700 + SHINING																		
700 + STARDUST																		
700 + SAHARA																		
700 + RED CLAY																		
GOLD																		
SILVER																		

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



*National Mosque, Masjid Negara,
Kuala Lumpur, Malaysia*



Grouts for **ceramics** and **stone material**

With **Mapei Coloured Grouts** collection it is possible to find the ideal solution for every project. A wide variety of colours is available. Choose the best solution for your needs from among **cementitious, epoxy and paste grouts**.

Mortars for cementitious grouts

A complete range of grouts for all types of ceramic, stone and glass mosaic coverings. They are ideal for **residential and commercial use**.

- **Ultracolor Plus**
- **Keracolor FF**
- **Keracolor GG**
- **Keracolor SF**

Mortars for epoxy grouts

They are particularly suitable when particular requirements for **hygiene** and **resistance to aggressive chemicals** are required. They are ideal in **industrial environments**, where very high resistance to chemicals and high strength is required.

- **Kerapoxy**
- **Kerapoxy Easy Design**
- **Kerapoxy CQ**
- **Kerapoxy IEG**

Mortars for polymer grouts

Ready- and easy-to-use.

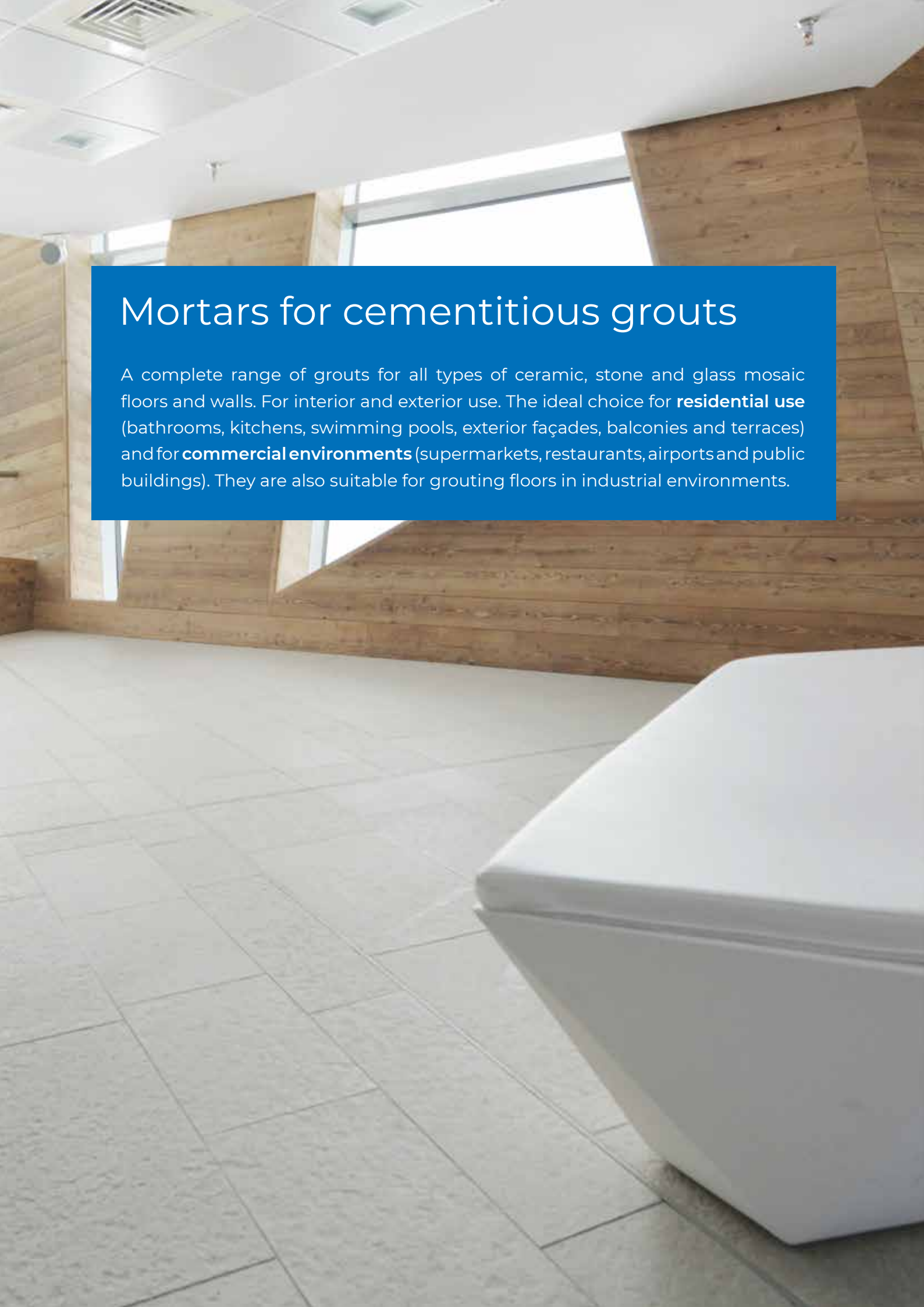
- **Flexcolor**

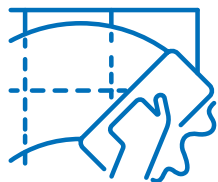


Mont Blanc SkyWay,
Courmayeur, Italy

Mortars for cementitious grouts

A complete range of grouts for all types of ceramic, stone and glass mosaic floors and walls. For interior and exterior use. The ideal choice for **residential use** (bathrooms, kitchens, swimming pools, exterior façades, balconies and terraces) and for **commercial environments** (supermarkets, restaurants, airports and public buildings). They are also suitable for grouting floors in industrial environments.





Ultracolor Plus

DESCRIPTION

Mapei safe, mould-resistant and water-repellent coloured grout

High-performance, **anti-efflorescence**, quick-setting and drying polymer-modified mortar with **water-repellent DropEffect®** and **mould-resistant BioBlock®** technologies for **grouting joints up to 20 mm wide**.



POT LIFE OF MIX	20-30 minutes	EMICODE	EC1 Plus - very low emission
WAITING TIME FOR FINISHING	15-30 minutes	STORAGE	12 months (for 23 kg bags) 24 months (for 2 and 5 kg bags)
SET TO LIGHT FOOT TRAFFIC	3 hours	CONSUMPTION	According to the size of the grouts and tiles
READY FOR USE (at +23°C and 50% R.H.)	After 24 hours (48 hours for swimming pools)	PACKAGING	23 kg bags 4x5 kg or 8x2 kg Alupack boxes depending on the colour
COLOURS	40		



MOULD-RESISTANT

BioBlock® technology prevents the formation of the microorganisms that form mould at the root.



WATER-REPELLENT

Low dirt pick-up. The **DropEffect®** technology reduces water and liquid absorption making grouts easier to clean.



ANTI-EFFLORESCENCE

It does not form any efflorescence and guarantees that colours remain uniform without stains and remain stable over the years.



QUICK-SETTING AND DRYING

Set to light foot traffic after 3 hours, quickly ready for use.



HIGH RESISTANCE

Excellent resistance to abrasion and flexural stress even after freeze-thaw cycles.



40 COLOURS

Colours are resistant to UV rays and atmospheric agents.



GOOD RESISTANCE TO ACIDS

WHERE TO USE

- All types of ceramics.
- Marble and stone material.
- Marble and glass mosaic.
- Interior and exterior use.
- Floors and walls.
- **Swimming pools, façades and balconies.**
- Floors and walls in areas subject to **intense traffic** (airports, shopping centres, restaurants, etc.).

AREAS OF USE



CERTIFICATIONS & TECHNOLOGIES



Dallara Academy, Varano De' Melegari, Italy

Exhibition area and education and training centre of Dallara Automobili.

A building with a daring design, composed of a system of geometric figures, it was awarded as the Best Future Building at the 2017 ABB Leaf Awards in London. For tiling the three outdoor cones, special **three-dimensional ceramic tiles** (10x10 cm) were used. These tiles were installed with **Ultrabond Eco PU 2K** or **Kerabond+Isolastic** and grouted with **Ultracolor Plus**. Elastic joints were installed to control thermal expansions, using **Mapesil LM** silicone sealant.



The Star, Sydney, Australia

Luxury hotel and casino overlooking the Darling Harbour.

2000 m² of Cararra marble and Nero Marquina marble on the interior floors were installed using **Keraflex Maxi S1**.

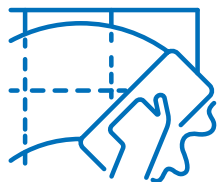
Large-format porcelain tiles were installed in the restrooms and in the water feature of the main foyer by using **Granirapid** adhesive.

All the wet substrates were waterproofed using **Mapelastic Smart**.

The tile and stone joints (except those in contact with water) were grouted with **Ultracolor Plus**. Joints in the water feature were grouted with **Kerapoxy**.







Keracolor FF

DESCRIPTION

Coloured, water-repellent cementitious mortar

Pre-blended, high-performance, polymer-modified cementitious mortar with **water-repellent DropEffect®** technology for grouting **joints up to 6 mm**.

Mixed with the **Fugolastic** admixture, it reaches a level of strength which makes it suitable for severe in-service conditions (grouting of façades, swimming pools, bathrooms and floors subject to intense traffic).



POT LIFE OF MIX	Approx. 2 hours	EMICODE	EC1 Plus - very low emission
WAITING TIME FOR FINISHING	10-20 minutes	STORAGE	12 months (for 25 kg bags) 24 months (for 5 kg bags)
SET TO LIGHT FOOT TRAFFIC	Approx. 24 hours	CONSUMPTION	According to the size of the grouts and tiles
READY FOR USE (at +23°C and 50% R.H.)	3 days (7 days for tanks and swimming pools)	PACKAGING	25 kg bags, 4x5 kg Alupack boxes depending on the colour
COLOURS	14		



WATER-REPELLENT

Low dirt pick-up. The **DropEffect®** technology reduces water and liquid absorption, making grouts easier to clean.



DURABLE AND STRONG

Good resistance to abrasion, compression, flexural stress and to freeze-thaw cycles.



EASY TO CLEAN

Smooth and compact final surface, with low water absorption, easy to clean.



UNIFORM GROUTS, WITHOUT CRACKS

Keracolor FF mortar is characterised by a low shrinkage rate, which means it does not form cracks.



GOOD RESISTANCE TO ACIDS



GOOD PRICE-PERFORMANCE RATIO

WHERE TO USE

- All types of ceramics.
- Marble and stone material.
- Marble and glass mosaic.
- Interior and exterior use.
- Floors and walls.
- **Swimming pools.**
- Particularly **smooth and glossy floor surfaces** (polished porcelain, pre-polished marble, glazed tiles).
- Ceramic industrial flooring where resistance to chemicals is not required (garages, warehouses, etc.).

CERTIFICATIONS & TECHNOLOGIES



AREAS OF USE



New Istanbul airport, Turkey

From Terminal 1 to the Control Tower: Mapei products in the world's largest airport.

In the Terminal 1 building, the water-repellent, cementitious mortar **Keracolor FF**, ideal for grouts up to 6 mm, was used for grouting large format tiles (120x60 cm). **Elastorapid**, high-performance, two-component, highly deformable, cementitious adhesive, was used for bonding tiles in some areas.





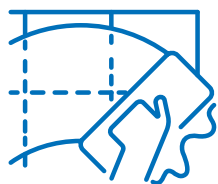


Masjid Negara (National Mosque), Kuala Lumpur, Malaysia

Renovation works: waterproofing and installation of covering on roofs, domes and pyramids.

After having primed the surfaces with **Primer SN**, they were waterproofed with **Purtop 1000**. The mosaic tiles on the dome and pyramids were bonded with **Kerapoxy** and grouted with **Keracolor FF + Fugolastic**.





Keracolor GG

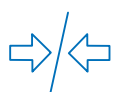
DESCRIPTION

Coloured cementitious mortar ideal for terracotta and exposed brickworks

Pre-blended, high-performance polymer-modified cementitious mortar for grouting **joints from 4 to 15 mm**. Mixed with the **Fugolastic** admixture, it reaches a level of strength which makes it suitable for severe in-service conditions (grouting of façades, swimming pools, bathrooms and floors subject to intense traffic).



POT LIFE OF MIX	Approx. 2 hours	EMICODE	EC1 Plus - very low emission
WAITING TIME FOR FINISHING	10-20 minutes	STORAGE	12 months (for 22-25 kg bags) 24 months (for 5 kg bags)
SET TO LIGHT FOOT TRAFFIC	Approx. 24 hours	CONSUMPTION	According to the size of the grouts and tiles
READY FOR USE (at +23°C and 50% R.H.)	3 days (7 days for tanks and swimming pools)	PACKAGING	25 kg bags, 4x5 kg Alupack boxes depending on the colour
COLOURS	13		



DURABLE AND STRONG

Good resistance to abrasion, compression, flexural stress and freeze-thaw cycles.



UNIFORM GROUTS, WITHOUT CRACKS

Keracolor GG mortar is characterised by a low shrinkage rate which means it does not form cracks.



GOOD RESISTANCE TO ACIDS

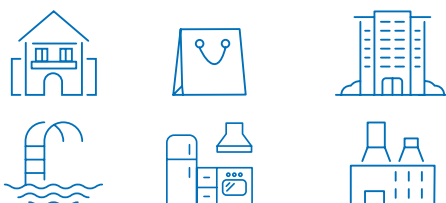


GOOD PRICE-PERFORMANCE RATIO

WHERE TO USE

- All types of ceramics.
- Suitable for **terracotta**.
- **Exposed brick**.
- Stone material.
- Interior and exterior use.
- Floors and walls.
- **Exterior façades**, balconies, terraces and **swimming pools**.
- Grouting **floors with a rustic finish**.
- Ceramic industrial flooring where resistance to chemicals is not required (garages, warehouses, etc.).

AREAS OF USE



CERTIFICATIONS & TECHNOLOGIES



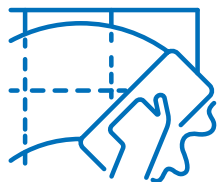
Mont Blanc SkyWay, Courmayeur, Italy

Mont Blanc New Cableways - complete reconstruction of the three ski lifts.

In the three stations of the cableway (Pontal d'Entrèves, Pavillon du Mont Frèty and Punta Helbronner, the arrival station with a panoramic terrace, at an altitude of 3.466 m) the coverings and the floor porcelain tiles of different format were bonded with **Ultralite S1**.

Floors and wall coverings were grouted with **Keracolor GG**.





Keracolor SF

DESCRIPTION

Fine-grained mortar for smooth and glossy surfaces

Fine-grained, high-performance, white cementitious mortar for grouting **joints up to 4 mm**.

Mixed with the **Fugolastic** admixture, it reaches a level of strength which makes it suitable for severe in-service conditions (grouting façades, swimming pools, bathrooms and floors subject to intense traffic). It may also be used for grouting joints in marble floors to be polished on site.



POT LIFE OF MIX	Approx. 2 hours	EMICODE	EC1 Plus - very low emission
WAITING TIME FOR FINISHING	10-20 minutes	STORAGE	12 months (for 22 kg bags) 24 months (for 5 kg bags)
SET TO LIGHT FOOT TRAFFIC	Approx. 24 hours	CONSUMPTION	According to the size of the grouts and tiles
READY FOR USE (at +23°C and 50% R.H.)	3 days (7 days for tanks and swimming pools)	PACKAGING	22 kg bags, 4x5 kg Alupack boxes
COLOURS	White		



FINE-GRAINED

Ideal for grouting thin joints and for smooth and glossy surfaces.



DURABLE AND STRONG

Good resistance to abrasion, compression, flexural stress and freeze-thaw cycles.



EASY TO CLEAN

Smooth and compact final surface, with very smooth texture and low water absorption, easy to clean.



UNIFORM GROUTS, WITHOUT CRACKS

Keracolor SF mortar is characterised by a low shrinkage rate which means it does not form cracks.



GOOD RESISTANCE TO ACIDS



GOOD PRICE-PERFORMANCE RATIO

WHERE TO USE

- All types of ceramics.
- Stone material and pre-polished marble.
- Glass and pre-finished marble mosaic.
- Interior and exterior use.
- Floors and walls.
- Ideal for **particularly smooth and glossy surfaces** (polished porcelain, pre-polished marble, etc.).
- Ideal for grouting **thin joints**.

CERTIFICATIONS & TECHNOLOGIES



AREAS OF USE



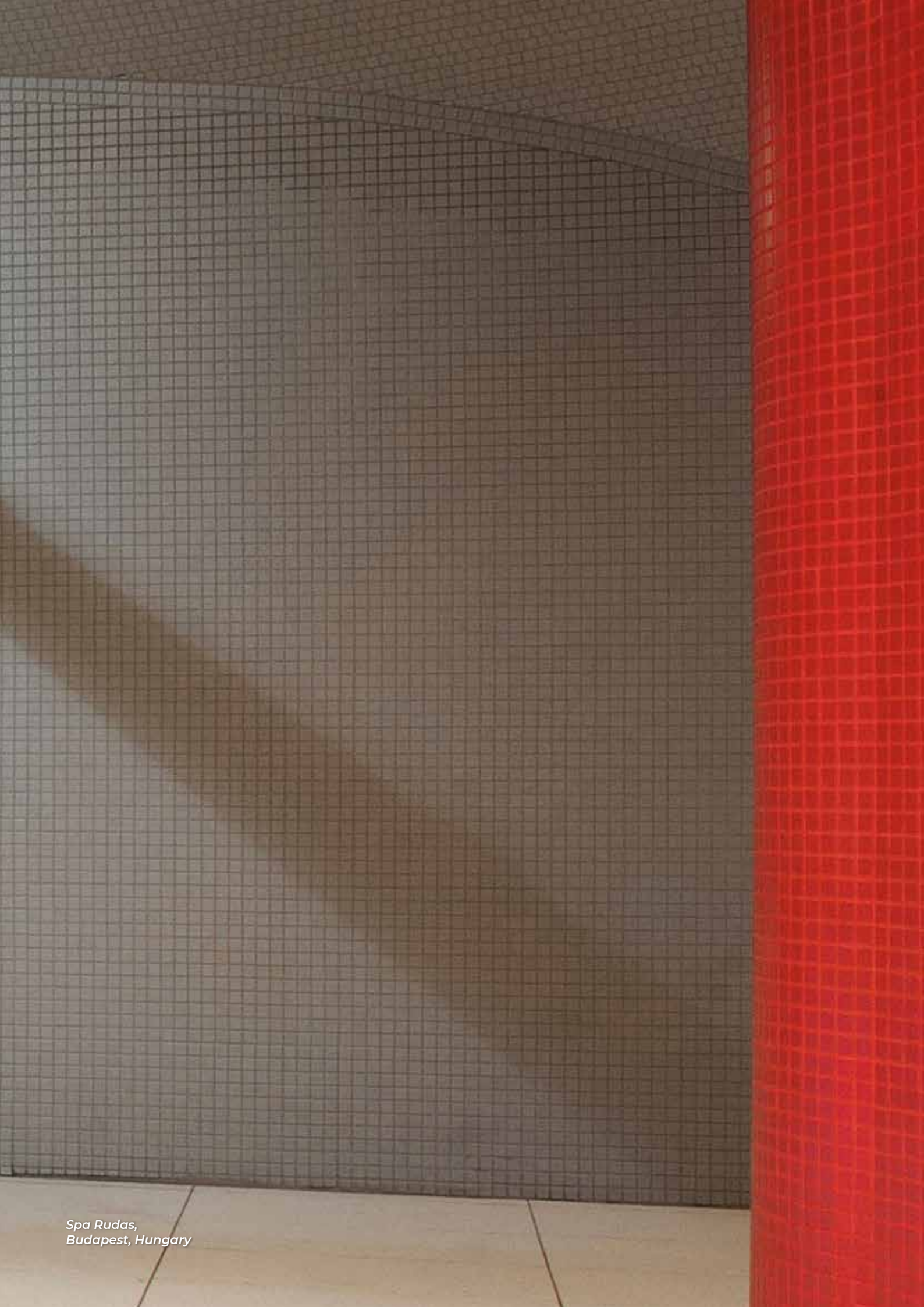


St. Regis Hotel, Kuala Lumpur, Malaysia

Construction of a luxury hotel.

Mapei adhesives and grouts were selected for installing refined floors and wall marble coverings of high quality in the 208 hotel rooms (22,000 m²). In particular, **Keraflex**, **Keraflex Maxi S1** and the mortar **Keracolor SF**, ideal for grouting marble and smooth and shiny surfaces, were used.

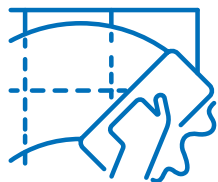




*Spa Rudas,
Budapest, Hungary*

Mortars for epoxy grouts

Thanks to their technical characteristics, **epoxy grouts** are particularly suitable when demanding requirements for **hygiene and resistance to chemicals** are needed. They are used in residential and commercial environments to guarantee a **highly attractive** and **decorative finish** and no absorption along with good performance figures. They are suitable also in all **industrial environments** where very high chemical resistance and high mechanical strength are required, together with resistance to acids and hydrocarbons, such as for floors in the foodstuffs industries (cured meat factories, oil mills, etc.).



Kerapoxy

DESCRIPTION

Epoxy mortar suitable for kitchens and for the foodstuffs industry

Two-component **acid-resistant** epoxy grout for joints of at least 1 mm. Can also be used as an adhesive.



POT LIFE OF MIX	45 minutes	COLOURS	17
SET TO LIGHT FOOT TRAFFIC	Approx. 24 hours	EMICODE	EC1 Plus - very low emission
READY FOR USE (at +23°C and 50% R.H.)	4 days (10 days for tanks and swimming pools). Surfaces can also be subjected to chemical attack after 10 days.	STORAGE	24 months
		CONSUMPTION	According to the size of the grouts and tiles
		PACKAGING	10-5 kg units and 12x2 kg boxes

AREAS OF USE



EXCELLENT RESISTANCE TO ACIDS

Suitable for industrial environments exposed to aggressive chemicals.



HIGH MECHANICAL STRENGTH

Particularly suitable for commercial and industrial environments subject to heavy traffic.



WATERPROOF AND HYGIENIC GROUTS

The surface of grouts is smooth, compact and waterproof and does not absorb any dirt, which means they are more hygienic and easier to clean.



SUITABLE FOR KITCHENS AND FOODSTUFFS INDUSTRIES

Allows grouting floors and worktops in compliance with the HACCP system and the requirements of EC Regulation no. 852/2004 regarding the hygiene of foodstuffs.



UNIFORM COLOUR THAT REMAINS STABLE OVER THE YEARS

17 colours resistant to UV rays and atmospheric agents.

WHERE TO USE

- Ceramics.
- Stone material.
- Interior and exterior use.
- Floors and walls.
- Can also be used as an adhesive.
- Ideal for **foodstuffs industries** (dairies, abattoirs, breweries and wine-cellars...), **kitchen worktops**, **laboratory benches**, where a high level of hygiene is required.
- Ideal for grouting **industrial floors** where high mechanical resistance and resistance to acid attack is required.
- **Swimming pools**; including with salt or thermal water, and tanks containing **chemically aggressive water** (purification plants).



CERTIFICATIONS & TECHNOLOGIES



0474

Orientierungsschule Riaz, Switzerland

Building of a new school.

Mapei contributed to the construction of the building by providing a wide range of products of different lines: admixtures for concrete, products for the installation of ceramic and wooden flooring, solutions for sports flooring. 150 m² of 10x10 tiles were installed in the school kitchen using **Kerafix Plus LD**. **Kerapoxy**, epoxy mortar with EC1 Plus certification, was used for grouting. It is particularly recommended for use in foodstuffs processing environments, where high hygiene requirements and strength are required.





Aquahouse Thermal & Beach, San Costantino and Elena, Bulgaria

Building of a spa facility by the sea.

Mapei products were used for waterproofing and installing floor and wall coverings in swimming-pools and interior areas. Specifically, **Topcem**, **Mapelastic**, **Keraflex Maxi SI** and **Kerapoxy** epoxy mortar were used.







Kerapoxy Easy Design

DESCRIPTION

Epoxy mortar with improved workability and high visual impact

Two-component, versatile, decorative, acid-resistant epoxy grout, with a bacteriostatic agent and **BioBlock®** technology, easy to apply and clean, ideal for grouting ceramic tiles, glass mosaics and stone materials, to be used also in combination with **MapeGlitter** and **Mapecolor Metallic**. For grouting joints from 1 to 15 mm wide. Can also be used as an adhesive



POT LIFE OF MIX	45 minutes	COLOURS	41
SET TO LIGHT FOOT TRAFFIC	Approx. 24 hours	EMICODE	EC1 Plus - very low emission
READY FOR USE (at +23°C and 50% R.H.)	4 days (10 days for tanks and swimming pools). Surfaces can also be subjected to chemical attack after 10 days.	STORAGE	24 months
		CONSUMPTION	According to the size of the grouts and tiles
		PACKAGING	3 kg units

AREAS OF USE



WIDE RANGE OF COLOURS

Available in 41 colours. Mixed with **MapeGlitter**, or **Mapecolor Metallic** allows for a wider range of colours and metallic grouts.



EXCELLENT WORKABILITY

It has a creamier consistency, which makes application easier and quicker and surfaces are easier to clean after grouting.



NON-ABSORBENT AND EASY TO CLEAN



ANTIBACTERIAL AND MOULD-RESISTANT

Certified as an anti-bacterial and anti-microbe product according to ISO 22196:2011 standard. Thanks to BioBlock®, it prevents the proliferation of micro-organisms and the formation of moulds, ensuring the highest hygiene.



HIGH HYGIENE

Allows grouting floors and worktops in compliance with the HACCP system and the requirements of EC Regulation no. 852/2004 regarding the hygiene of foodstuffs.



STABLE AND UNIFORM COLOUR

Resistant to UV rays and aggressive atmospheric agents: colours are highly stable to guarantee that grouts have an even colour that remains stable over the years.



ACID RESISTANT

Excellent chemical resistance and mechanical strength, the final surface of the grout is smooth and compact, with no absorption, and ensures a high level of hygiene.

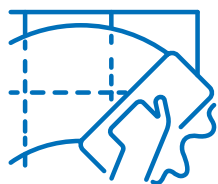
WHERE TO USE

- Ideal for glass mosaic.
- All types of ceramics.
- Stone material.
- Interior and exterior use.
- Ideal for **showers, bathrooms, thermal facilities, Turkish baths**.
- **Swimming pools**, especially recommended for salt or thermal water.
- Grouting **decorative coverings** in environments with a high aesthetic value.

CERTIFICATIONS & TECHNOLOGIES







Kerapoxy CQ

DESCRIPTION

Antibacterial and mould-resistant epoxy mortar

Two-component **acid-resistant** epoxy mortar with **bacteriostatic BioBlock® technology**, ideal for grouting ceramic tiles and mosaics. Can also be used as an adhesive. Product **certified by the University of Modena** according to ISO 22196:2007 standard as a **grouting mortar protected against the formation and proliferation of micro-organisms**.



POT LIFE OF MIX	45 minutes	EMICODE	EC1 Plus - very low emission
SET TO LIGHT FOOT TRAFFIC	Approx. 24 hours	STORAGE	24 months
READY FOR USE (at +23°C and 50% R.H.)	4 days (10 days for tanks and swimming pools). Surfaces can also be subjected to chemical attack after 10 days.	CONSUMPTION	According to the size of the grouts and tiles
COLOURS	17	PACKAGING	3 kg or 10 kg units for the colours 113, 114, 132, 282 and 100

AREAS OF USE



ANTIBACTERIAL AND MOULD-RESISTANT

Certified as an anti-bacterial and anti-microbe product. Thanks to **BioBlock®**, it prevents the proliferation of micro-organisms and the formation of moulds, ensuring the highest hygiene.



ACID PROOF

Suitable for commercial and industrial environments subject to heavy traffic and exposed to aggressive chemicals: it is acid resistant and has high mechanical strength.



SUITABLE FOR KITCHENS AND FOODSTUFFS INDUSTRIES

Thanks to its anti-bacterial properties, it is suitable for the foodstuffs industry and for kitchens where a high level of hygiene is required.



WATERPROOF HYGIENIC GROUTS

The surface of grouts is smooth, compact and waterproof and does not absorb any dirt, which means it is more hygienic and easier to clean.



UNIFORM COLOUR THAT REMAINS STABLE OVER THE YEARS

17 colours resistant to UV rays and atmospheric agents.

WHERE TO USE

- Ceramics.
- Stone material.
- Glass mosaic.
- Interior and exterior use.
- Floors and walls.
- **Swimming pools**; including with salt or thermal water, Turkish baths.
- Ideal for **foodstuffs industries** (dairies, abattoirs, breweries and wine-cellars...), **kitchen worktops, laboratory benches**, where a **high level of hygiene** is required.



CERTIFICATIONS & TECHNOLOGIES



Baladin brewery, Piozzo, Italy

Building of the new production plant.

Porcelain tiles measuring 60x60 cm were installed in all the production and storage areas. For bonding tiles, the high-performance adhesive, specific for large format tiles **Keraflex Maxi S1 zero** was used. The product has very low emissions of volatile organic compounds (VOC) and residual greenhouse gas emissions offset, such features are in line with the ethical values of the brewery. The joints in the processing and storage areas were grouted with **Kerapoxy CQ**.

Thanks to its acid-resistant and bacteriostatic properties, it is ideal for foodstuffs industries, where a high level of protection against the formation and proliferation of micro-organism is required. For the expansion joints, the product chosen was **Mapeflex PU30**, the ideal sealant for joints in ceramic floors subject to intense traffic.





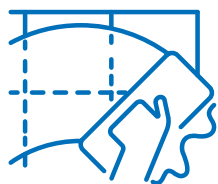
Demjén Thermal Spa, Demjén, Hungary

760 m of caves and 1,500 m² of water surfaces this spa is the largest thermal cave system of Central Europe.

Baths and damp areas were levelled with **Planitop Fast 330** and waterproofed with **Mapelastic**. **Elastorapid** was used for laying tiles in swimming pools, while **Keraflex S1** and **Keraflex Maxi S1** were employed in other areas.

Thanks to its high chemical resistance, **Kerapoxy CQ** was selected for grouting joint in baths, where water rich in sulphur, sodium, calcium and iron constantly flows at 68°C.





Kerapoxy IEG

DESCRIPTION

Epoxy mortar with extremely high chemical resistance

Two-component epoxy mortar with **extremely high chemical resistance** for joints at least 3 mm wide. For **acid-resistant** grouting of ceramic and stone material where **higher resistance to chemical products compared with that of conventional epoxy grouts** is required (in particular, to oleic acids and aromatic hydrocarbons).



POT LIFE OF MIX

45 minutes

SET TO LIGHT FOOT TRAFFIC

Approx. 24 hours

READY FOR USE (at +23°C and 50% R.H.)

4 days
Time varies depending on temperature

COLOURS

113 and 130

EMICODE

EC1 Plus - very low emission

STORAGE

24 months

CONSUMPTION

According to the size of the grouts and tiles

PACKAGING

10 kg units



DURABLE AND STRONG

Highly compact grouts with excellent resistance to chemicals and excellent cleanability according to a formula developed in the **Mapei** research laboratories.



VERY HIGH RESISTANCE TO CHEMICALS AND HIGH STRENGTH

Extremely high mechanical properties and resistance to chemicals, higher than those of normal epoxy grouts.



MORE HYGIENIC AND EASY TO CLEAN SURFACES

Smooth and compact final surface, with no absorption and easy to clean, ensures a high level of hygiene.



EXCELLENT WORKABILITY

Easy to spread and finish off.



HARD-WEARING

Excellent resistance to heavy traffic.



SOUND GROUTS, WITHOUT CRACKS

No shrinkage and no cracks.

WHERE TO USE

- Ceramic and stone material.
- **Acid-resistance** grouting with extremely high chemical resistance:
 - **ham factories** (especially in the areas where boning and curing are carried out)
 - **sausage factories** (especially in cooking areas, exposed to oleic acid)
 - **oil mills**
 - pickling factories
- Grouting **floors and worktops in compliance with the HACCP system** and the requirements of EC Regulation no. 852/2004 regarding the hygiene of foodstuffs.

AREAS OF USE



CERTIFICATIONS & TECHNOLOGIES



0474





Musical Instrument Museum, Tempe, USA

Musical instrument museum in Phoenix, Arizona.

Porcelain tiles of various sizes were laid on over 2000 m² of floors in galleries, corridors and in the restaurant of the museum, using the high-performance adhesive with extended open time **Ultracontact**.

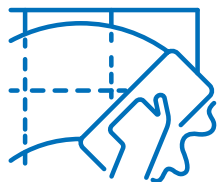
Clinker floors in the kitchen were grouted with **Kerapoxy IEG** mortar, particularly recommended for application in industrial environments, in areas used for preparing and cooking food and wherever a high resistance to aggressive chemicals and dirt in general is required. This mortar is resistant to moulds and high temperatures and makes grouts' cleaning and maintenance much easier.



The background of the entire page is an abstract geometric pattern composed of various colored rectangles and squares. The colors include shades of blue, red, black, beige, and olive green. The rectangles are arranged in a non-uniform, overlapping manner, creating a dynamic and modern visual effect.

Mortars for polymer grouts

Mapei has developed **pasty grouts** which, because of their nature, are particularly **easy to use**.



Flexcolor

DESCRIPTION

Ready-to-use polymer mortar, ideal for flexible substrates

Ready-to-use, polymer filler paste for joints from 2 to 10 mm with **water-repellent DropEffect®** and **mould-resistant BioBlock® technology**, for grouting ceramic tiles and mosaics 2 to 10 mm wide.



WAITING TIME FOR FINISHING

15 to 20 minutes depending on the surrounding conditions and absorption of the tiles

SET TO LIGHT FOOT TRAFFIC

48 hours

READY FOR USE

7 days

COLOURS

100 White, 110 Manhattan 2000, 111 Silver Grey, 112 Medium Grey, 132 Beige 2000

STORAGE

12 months

CONSUMPTION

According to the size of the grouts and tiles

PACKAGING

5 kg buckets



READY TO USE AND EASY TO APPLY



IDEAL FOR FLEXIBLE SUBSTRATES

Resistant to vibrations and deformations in substrates. Therefore, it is particularly suitable for grouting exterior façades and flexible substrates.



EASY TO CLEAN

Once applied, it is easy to clean from the surface of tiles.



RESISTANT TO WATER

Drop-effect water-repellent: **DropEffect®** technology significantly reduces absorption of surface water which means grouts also absorb less dirt and are easier to clean.



MOULD-RESISTANT

BioBlock® technology prevents the formation of the microorganisms that may form mould on the grout surface at the root.



UNIFORM COLOUR

Colour resistant at atmospheric agents.

WHERE TO USE

- All types of ceramic tiles.
- Interior floors and walls.
- Exterior walls only.
- For joints from 2 to 10 mm.
- Suitable for **exterior façades** and **flexible substrates**.

CERTIFICATIONS & TECHNOLOGIES



AREAS OF USE



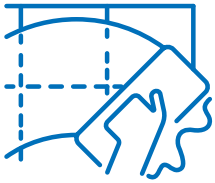
UNIFIMM Tower, Bologna, Italy

This triangular-base office tower, with its 26 floors and 125 metres in height, is a model of environmental sustainability.

Mapei provided material for laying about 8400 m² of large-format ceramic tiles and 600 m² of Pietra Serena. In the gap between exterior glass walls, where a laying system able to absorb stresses generated by temperature variations and flexibility of the substrate was required, slabs were installed on anti-fracture **Mapetex** membrane with the highly elastic two-component adhesive **Elastorapid** and then sealed with **Mapesil LM**.

On interior walls, one-component lightweight deformable adhesive **Ultralite S1** was chosen to lay large format tiles on plasterboard primed with **Primer G**. For the joints, the ready-to-use grouting mortar **Flexcolor** was used to grant good deformability and an attractive finish.





Complementary products

Accessory items

Fugolastic

Polymer liquid admix for Keracolor FF, Keracolor GG and Keracolor SF

USE

Mixed with the cement-based grouts of the **Keracolor** range as a substitute for mixing water, it **improves the grout adhesion and mechanical strength** and **reduces water absorption**. It is recommended for exterior grouts on façades, balconies and swimming pools and for floors subject to heavy traffic.



MapeGlitter

Polyester, aluminium and epoxy resin metal-effect coloured glitter to be mixed with Kerapoxy Easy Design

USE

Mixed with **Kerapoxy Easy Design** epoxy grout, allows for a wider range of colours and sparkly, metallic finish, with distinctive decorative effects. It is particularly recommended for metal and glass tiles and mosaics.

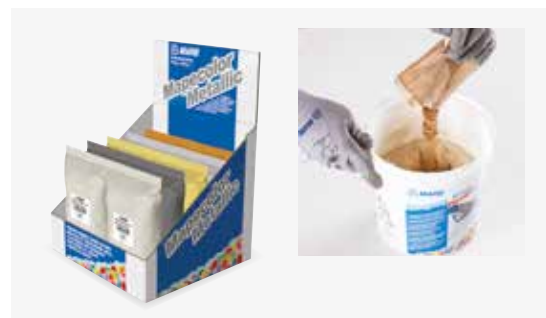


Mapecolor Metallic

Powder pigments based on very high-quality pearlescent mica, to be mixed with Kerapoxy Easy Design

USE

Mixed with **Kerapoxy Easy Design** epoxy grout allows for a wider range of colours and metallic grouts. It is particularly recommended for metal tiles, ceramic tiles with a metallic effect, glass and ceramic mosaic and glass tiles.

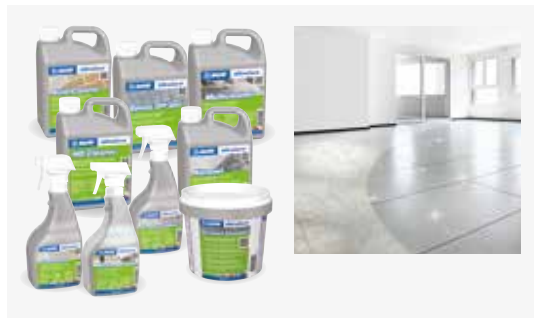


UltraCare range

Professional products for taking care of floor and wall coverings, keeping them durable over time.

USE

Products suitable for cleaning, maintaining and protecting surfaces



Renewing grouts

UltraCare Fuga Fresca

Paint to bring back the colour of grouts

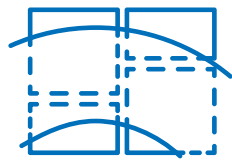
USE

Acrylic resin paint in water dispersion to **bring back the colour** of joints in ceramic tiling. Available in all colours from the **Keracolor** and **Ultracolor Plus** range.





*Pedestrian zone, Košice,
Slovak Republic*



Solutions for architectural stone paving

Stone in its various shapes and types has been used to create the most **beautiful** road surfaces in **historical town centres** and is also used to create **pedestrian zones, cycle lanes and roads exposed to intense traffic**. It is also used in **residential buildings** for exterior surfaces, stairs and landings.

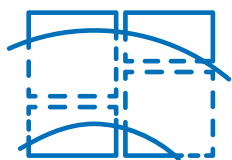
Mapei has developed a range of **specific products for architectural stone paving** which are ideal for use under various service conditions, including when it has to withstand **heavy loads** and **intense traffic**.



Market Square
Spoleto, Italy

A photograph of a cobblestone-paved plaza in a European town. In the foreground, a person is walking, their legs and feet blurred due to motion. The ground is paved with dark, irregular cobblestones set in a light-colored grout. In the background, there are white buildings with blue shutters, outdoor cafe seating with black metal chairs and tables, and large yellow umbrellas. A large black planter with green plants is on the left. The overall scene is a typical European town square.

Grouts for architectural stone
paving on compact bedding



Mapestone PFS 2

DESCRIPTION

Pre-blended mortar for grouting joints in architectural stone paving

High-performance mortar in exposure class XF4 and XS3, with high mechanical strength and good resistance to de-icing salts, freeze-thaw cycles and seawater for grouting **architectural stone paving in class P4, P5, P6, P7, P8, P9 according to standard UNI 11714-1:2018.**



POT LIFE OF THE MIX

Approx. 20 minutes, at +20°C

WAITING TIME BEFORE CLEANING

20-30 minutes, at +20°C

SET TO LIGHT FOOT TRAFFIC

Approx. 24 hours, at +20°C

READY FOR USE

7 days, at +20°C

COLOURS

Neutral, dark grey and white

STORAGE

12 months (for 25 kg bags)

CONSUMPTION

According to the width of grouts and the size of stone elements

PACKAGING

25 kg bags

AREAS OF USE



WHERE TO USE

- Small blocks
- Cobblestones
- Blocks
- Smoller bricks
- Slabs



DURABLE AND STRONG



UNIFORM GROUTS, WITHOUT CRACKS

Thanks to its low water/cement ratio **Mapestone PFS 2** is characterised by a low shrinkage rate, which means it does not form cracks.



HIGH COMPRESSIVE STRENGTH



RESISTANT TO FREEZE/THAW CYCLES



RESISTANT TO DE-ICING SALTS



RESISTANT TO SEAWATER



MAXIMUM PRACTICALITY

Pre-blended, ready-to-use product. Just add water and mix with a power mixer for 3 minutes.



QUICK SETTING AND QUICKLY READY FOR USE



SUITABLE FOR SURFACES WITH VEHICLE ACCESS

(combined with suitable bedding).



COMPLETE SISTEM

With **Mapestone TFB 60** bedding.

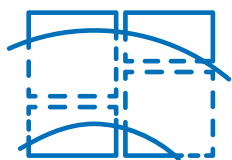


Trieste Seafront, Lignano Sabbiadoro, Italy

Redevelopment and refurbishment of Trieste Seafront.

Giallo d'Istria marble stone with bush-hammered finishing and Pietra Piasentina with flame or bush-hammered finishing were chosen for the new waterfront of Lignano Sabbiadoro. The paving was installed on a compact bedding made with **Mapestone TFB Cube**, pre-blended mortar specific for highly resistant and durable bedding. Joints were grouted with **Mapestone PFS 2**, pre-blended mortar ideal for environments subject to severe weather conditions and high levels of sea salt thanks to its high resistance to freeze/thaw cycles, de-icing salts and seawater.





Mapestone PFS 2 Visco

DESCRIPTION

Mortar for grouting architectural slab and block-paving

Low viscosity, pre-blended mortar with exceptional physical-chemical characteristics suitable for areas exposed to dry/damp cycles (exposure class XF4). Resistant to compression, de-icing salts, freeze-thaw cycles and seawater, it is suitable for grouting **architectural stone paving in class P4, P5, P6, P7, P8, P9 according to standard UNI 11714-1:2018.**



POT LIFE OF THE MIX

Approx. 40 minutes, at +20°C

WAITING TIME BEFORE CLEANING

20-30 minutes, at +20°C

SET TO LIGHT FOOT TRAFFIC

Approx. 24 hours, at +20°C

READY FOR USE

7 days, at +20°C

COLOURS

Neutral, dark grey and white

STORAGE

12 months (for 25 kg bags)

CONSUMPTION

According to the width of grouts and the size of stone elements

PACKAGING

25 kg bags

AREAS OF USE



WHERE TO USE

- Slabs
- Blocks

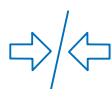


DURABLE AND STRONG



UNIFORM GROUTS, WITHOUT CRACKS

Thanks to its low water/cement ratio **Mapestone PFS 2 Visco** is characterised by a low shrinkage rate, which means it does not form cracks.



HIGH COMPRESSIVE STRENGTH



LOW VISCOSITY OF THE MIX

Ideal for grouting road surfaces made from irregular shaped elements. Thanks to its low viscosity it is very effective in filling air pockets around cobblestones and between cobblestones and the installation bed.



RESISTANT TO FREEZE/THAW CYCLES



RESISTANT TO DE-ICING SALTS



RESISTANT TO SEAWATER



MAXIMUM PRACTICALITY

Pre-blended, ready-to-use product. Just add water and mix with a power mixer for 3 minutes.



QUICK SETTING AND QUICKLY READY FOR USE



SUITABLE FOR SURFACES WITH VEHICLE ACCESS

(combined with suitable installation mortar).



COMPLETE SISTEM

With installation of **Mapestone TBF 60**.



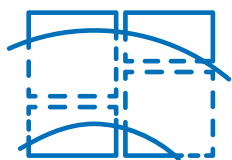
Piazza d'Azeglio, Florence, Italy

Redevelopment of Piazza d'Azeglio square and via della Colonna.

For the construction of the driveway of the square and of via della Colonna, the Municipality decided to install the ancient paving. Each single element is hand-made, featuring the typical, trapezoid section with irregular base.

Considering the characteristics of the stone material and the need for a vehicular passage, the paving was installed on a compact bedding made with **Mapestone TFB 60**, pre-blended mortar specific for highly resistant and durable installation beds. For grouting, **Mapestone PFS 2 Visco** pre-blended, low viscosity mortar, ideal for effectively filling the air pockets around the irregular slabs and in the interface with the installation bed, was chosen.





Mapestone PFS PCC 2

DESCRIPTION

Pre-blended polymer-modified mortar for grouting joints in architectural stone paving

Mortar with a low modulus of elasticity, exceptional physical-chemical characteristics suitable for areas exposed to dry/damp cycles specified by exposure class XF4. Highly resistant to compression, de-icing salts, freeze-thaw cycles and seawater, it is suitable for grouting **architectural stone paving in class P4, P5, P6, P7, P8, P9 according to standard UNI 11714-1:2018.**



POT LIFE OF THE MIX	Approx. 20 minutes, at +20°C	READY FOR USE	7 days, at +20°C
WAITING TIME BEFORE CLEANING	20-30 minutes, at +20°C	COLOURS	Neutral
SET TO LIGHT FOOT TRAFFIC	Approx. 24 hours, at +20°C	STORAGE	12 months
		CONSUMPTION	According to the width of grouts and the size of stone elements
		PACKAGING	25 kg bags

AREAS OF USE



WHERE TO USE

- Climatic zones with large day/night temperature variations
- Lithotypes with high coefficient of thermal expansion
- Small blocks
- Smoller bricks
- Cobblestones
- Slabs
- Blocks



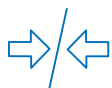
DURABLE AND STRONG



IDEAL FOR AREAS SUBJECTED TO LARGE DAY/NIGHT TEMPERATURE VARIATIONS AND LITHOTYPES WITH HIGH COEFFICIENT OF THERMAL EXPANSION



UNIFORM GROUTS, WITHOUT CRACKS
Thanks to its low water/cement ratio **Mapestone PFS PCC 2** is characterised by its low shrinkage rate, which means it does not form cracks.



HIGH COMPRESSIVE STRENGTH



RESISTANT TO FREEZE/THAW CYCLES



RESISTANT TO DE-ICING SALTS



RESISTANT TO SEAWATER



MAXIMUM PRACTICALITY
Ready-mixed, ready-to-use product. Just add water and mix with a power mixer for 3 minutes.



QUICK SETTING AND QUICKLY READY FOR USE



SUITABLE FOR SURFACES WITH VEHICLE ACCESS
(combined with suitable installation mortar).



COMPLETE SISTEM
With installation of **Mapestone TFB 60**

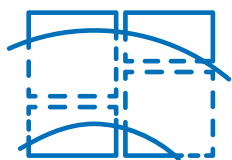


Piazza Duca d'Aosta, Milan, Italy

Redevelopment of the square in front of the Milan Central Railway Station.

The square paving was refurbished using granite slabs and river cobblestones. The paving was installed on **Mapestone TFB 60**, pre-blended mortar specific for highly resistant and durable installation beds. **Mapestone PFS PCC 2**, pre-blended mortar with a low modulus of elasticity, ideal for extreme temperature variations and high expansion coefficient large format stones was chosen.





Mapestone PFS 2 Flex

DESCRIPTION

Pre-blended, polymer-modified mortar with low modulus of elasticity (25 GPa) and high pull-off strength for grouting architectural stone paving

Mortar with a low modulus of elasticity, high pull-off strength and exceptional physical-chemical characteristics suitable for areas exposed to dry/damp cycles specified by exposure class XF4. Highly resistant to compression, de-icing salts, freeze-thaw cycles and seawater, it is suitable for grouting **architectural stone paving in class P4, P5, P6, P7, P8, P9 according to standard UNI 11714-1:2018.**



POT LIFE OF THE MIX Approx. 20 minutes, at +20°C

WAITING TIME BEFORE CLEANING 20-30 minutes, at +20°C

SET TO LIGHT FOOT TRAFFIC Approx. 24 hours, at +20°C

READY FOR USE 7 days, at +20°C

COLOURS Neutral, white and dark grey

STORAGE 12 months

CONSUMPTION According to the width of grouts and the size of stone elements

PACKAGING 25 kg bags

AREAS OF USE



WHERE TO USE

- Climatic zones with large day/night temperature variations
- Lithotypes with high coefficient of thermal expansion
- Small blocks
- Smoller bricks
- Cobblestones
- Slabs
- Blocks



DURABLE AND STRONG



IDEAL FOR AREAS SUBJECTED TO LARGE DAY/NIGHT TEMPERATURE VARIATIONS AND LITHOTYPES WITH HIGH COEFFICIENT OF THERMAL EXPANSION



UNIFORM GROUTS, WITHOUT CRACKS
Thanks to its low water/cement ratio **Mapestone PFS2 Flex** is characterised by its low shrinkage rate, which means it does not form of cracks.



HIGH COMPRESSIVE STRENGTH



RESISTANT TO FREEZE/THAW CYCLES



RESISTANT TO DE-ICING SALTS



RESISTANT TO SEAWATER



MAXIMUM PRACTICALITY
Ready-mixed, ready-to-use product. Just add water and mix with a power mixer for 3 minutes.



QUICK SETTING AND QUICKLY READY FOR USE



SUITABLE FOR SURFACES WITH VEHICLE ACCESS
(combined with suitable installation mortar).



COMPLETE SISTEM
With installation of **Mapestone TFB 60**



Piazza dell'Isolotto, Florence, Italy

Redevelopment of the Piazza dell'Isolotto square.

The Square paving was refurbished using irregular and fettled-edge Pietra Serena slabs.

The paving was installed on a compact bedding made of **Mapestone TFB 60**, pre-blended mortar specifically developed for highly resistant and durable bedding. Joints were grouted with **Mapestone PFS2 Flex**, pre-blended mortar with a low modulus of elasticity and high pull-off strength, ideal for large temperature swings and when installing large-format, even irregular, stones with high expansion coefficient.



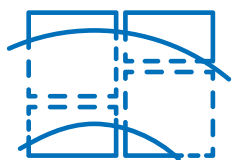


LITTORI SOCIETE

The image shows a cobblestone street in Forcola, Italy. The street is paved with irregular, light-colored stones. In the background, there is a stone building with several windows and a door. A metal railing runs along the left side of the street. A blue banner with white text is overlaid on the upper part of the image. The text reads: "Joints for architectural stone paving on loose bedding".

Joints for architectural stone paving on loose bedding

*Via Immacolata,
Forcola, Italy*



Mapestone Joint

DESCRIPTION

Binder for creating elastic and pervious architectural stone paving

One-component, solvent-free, polyurethane binder with a characteristic odour for sealing joints in **elastic** and **pervious** architectural stone paving.

Two application methods:

- 1 - Mapestone Joint Cube** for **small blocks, cobblestones** and **setts** in class **P4, P5, P6, P7, P8, P9** according to **standard UNI 11714-1:2018**.
- 2 - Mapestone Joint Slab** for **slabs and blocks** in class **P4, P5, P6**.



TIME TO FORM SKIN Approx. 3 hours and 30 minutes

SET TO LIGHT FOOT TRAFFIC Approx. 24 hours, at +20°C

READY FOR USE 48-72 hours, at +20 °C

COLOURS Amber

STORAGE 12 months

CONSUMPTION According to the width of grouts and the size of stone elements

PACKAGING 25 kg cans, 200 litre drums and 1000 litre tanks

AREAS OF USE MAPESTONE JOINT SLAB



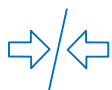
AREAS OF USE MAPESTONE JOINT CUBE



PERVIOUS



DURABLE
AND STRONG



HIGH COMPRESSIVE
STRENGTH



RESISTENTE AI CICLI
GELO/DISGELO



RESISTANT TO
DE-ICING SALTS



RESISTANT
TO SEAWATER



NOISE REDUCING



QUICK SETTING AND QUICKLY
READY FOR USE



SUITABLE FOR SURFACES
WITH VEHICLE ACCESS
(Combined with suitable bedding)

WHERE TO USE MAPESTONE JOINT CUBE

- Small blocks
- Setts
- Cobblestones

WHERE TO USE MAPESTONE JOINT SLAB

- Slabs
- Blocks





Private residence, Albiano, Italy

Installation of new residential paving.

The paving around the residence was made using split porphyry stones with opus incertum laying technique on a gravel pervious bed, bonded with **Mapestone Joint**, which was used also for sealing.



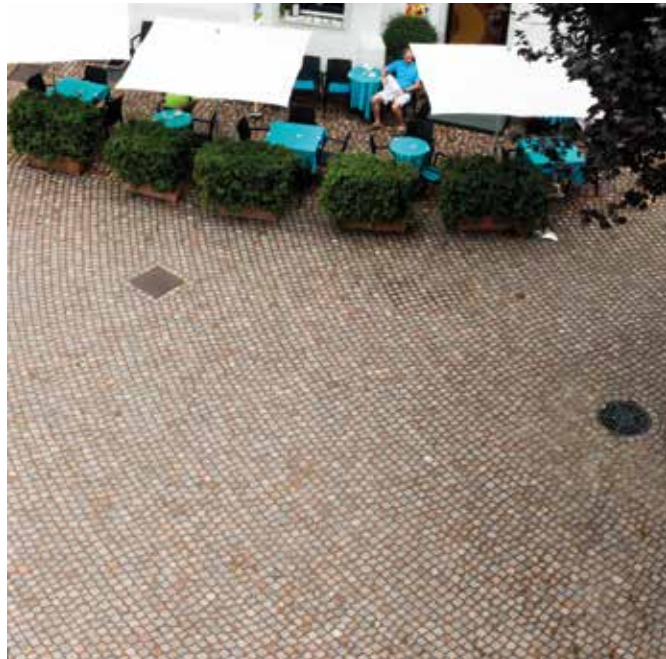


San Michele, Appiano, Italy

Redevelopment of Piazza del Municipio square in San Michele centre.

The centre of San Michele was redeveloped using an elastic and pervious paving on loose bedding of porphyry small blocks. **Mapestone Joint** was used for sealing joints.

The designers of the paving wanted to represent the grapes, excellence product of the Appiano area, creating a circular installation pattern and selecting 3 different types of porphyry colours. Paving created using **Mapestone Joint** is elastic and does not require joint positioning. The design is therefore unaltered and perfectly reproduced in the installation pattern.





Sportzentrum Gstaad,
Switzerland



Elastic sealants

A **complete range of coloured products** for every requirements, for sealing ceramic, natural stone and glass mosaic floor and wall coverings.

Certified according to the most stringent international standards and with very low emission level of volatile organic compounds.

Mapei sealants are the results of constant research with the aim of introducing **high quality products** on the market to make application **easy, quick** and **safe**.

This document presents only some of the products of the sealant line, which are specifically used in ceramic, natural stone, glass mosaic covering as well as in architectural stone paving.

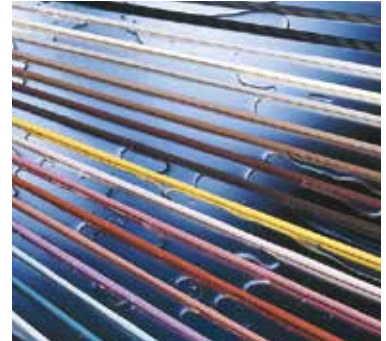


Mapesil AC

DESCRIPTION

Pure acetic silicone sealant, highly elastic and resistant to mould

Pure acetic silicone sealant, solvent-free and **mould-resistant** with **BioBlock®** technology, for compression and traction movements up to 25% of the width of joint. Available in all colours of **Mapei** grouts.



MOVEMENT ALLOWED	25%	WORKABILITY	10 minutes
MODULUS OF ELASTICITY AT 100% ELONGATION	0.35 N/mm ²	COLOURS	40 colours and transparent
SHORE A HARDNESS	20	EMICODE	EC1 Plus - very low emission
		CONSUMPTION	3.1 meters per 310 ml cartridge (10x10 mm section)
		PACKAGING	310 ml cartridges

AREAS OF USE



WIDE RANGE OF CERTIFICATIONS

European certification for use on façades, glazing, in healthcare settings and for pedestrian paving; CE marking mould- and chlorinated water-resistant.



PERFECT BOND



HIGH FLEXIBILITY

Low modulus of elasticity, ideal for sealing joints subjected to large deformations.



HIGH THERMAL AND CHEMICAL RESISTANCE

Withstands in continual use to temperatures from -40°C to +180°C.



MOULD-RESISTANT (BIOBLOCK®)

Excellent resistance to water. Mould-resistant.



SOLVENT-FREE

Pure acetic silicone sealant, solvent-free.



EXCELLENT DURABILITY

Remains elastic and highly adhesive, does not shrink, does not yellow and does not change colour.



WIDE RANGE OF COLOURS

40 colours coordinated with Mapei grouts and transparent.

WHERE TO USE

- Glass.
- Ceramics.
- Anodised aluminium.
- Sealing joints in ceramic and cement wall and floor coverings.
- Sealing joints between sanitary ware and ceramic tiles in kitchens, bathrooms and showers.
- Sealing expansion joints in swimming pools.
- Sealing glazing of door and window frames.

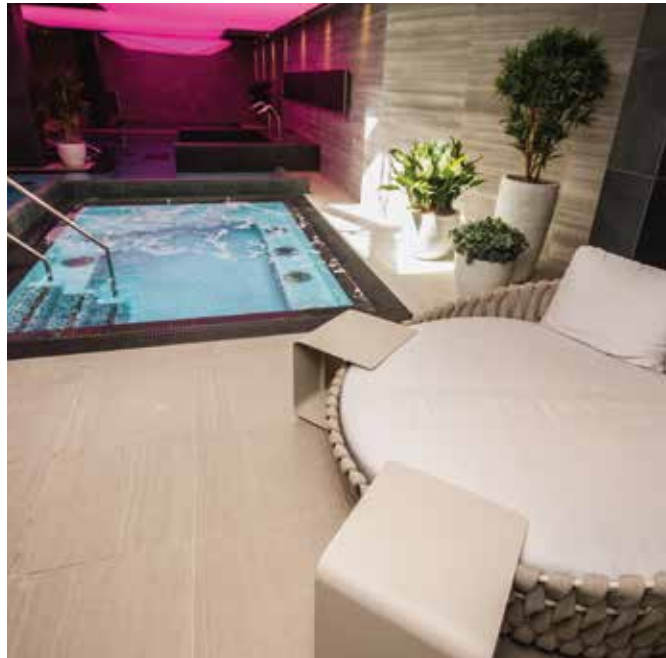
CERTIFICATIONS & TECHNOLOGIES



Avalon Park, Miskolctapolca, Hungary

Construction of a wide touristic and multifunctional complex with the use of six Mapei product lines.

Mapei adhesives for the installation of floor and wall coverings were used in the whole complex. These included **Ultralite S2** for thin, large-format porcelain tiles, **Keraflex Maxi S1** for natural stone on walls, floors and on the building's façades, and **Elastorapid** for the installation of mosaic in the swimming pools. **Kerapoxy CQ**, acid-resistant, bacteriostatic with **BioBlock®** technology, was used to grout the joints in the swimming pools and in the kitchen, while the two-component decorative grout **Kerapoxy Design** mixed with golden **MapeGlitter** were used for grouting the three-dimensional installations in the wellness area. The expansion joints were sealed with **Mapesil LM** in the areas where natural stone was installed and with **Mapesil AC** on surfaces covered with tiles.



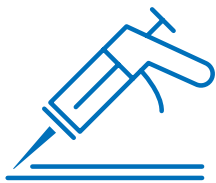
Sportzentrum Gstaad, Switzerland

Extension and renovation of the Gstaad sports centre, a building of the Seventies that is recognised as a historical monument.

Mapei was chosen for the substrate preparation and the installation of 3,000 m² of porcelain tiles and glass mosaics in swimming pools, showers, changing rooms and Turkish baths. All the areas exposed to water were waterproofed with **Mapelastic. Elastorapid**, highly deformable adhesive, was chosen for installing ceramics and mosaics in damp environments. For the grouts in environments subjected to washing with aggressive detergents, the epoxy grout **Kerapoxy CQ** was used in view of its antibacterial and acid-resistant properties. The joints were sealed with the pure acetic silicone **Mapesil AC** in view of its excellent resistance to water and to the formation of moulds thanks to **Mapei BioBlock®** technology.







Mapesil LM

DESCRIPTION

Neutral pure silicone sealant, highly flexible and mould-resistant for natural stones

Neutral pure silicone sealant, **mould-resistant** and solvent-free with **BioBlock®** technology for stones, for compression and traction movements up to 25% of the width of joint.



MOVEMENT ALLOWED

25%

MODULUS OF ELASTICITY AT 100% ELONGATION

0.35 N/mm²

SHORE A HARDNESS

21

WORKABILITY

15 minutes

COLOURS

9 colours and transparent

CONSUMPTION

3.1 meters per 310 ml cartridge (10x10 mm section)

PACKAGING

310 ml cartridges

AREAS OF USE



DOES NOT STAIN, IDEAL FOR SEALING STONE

No volatile plasticisers: particularly recommended for stones, marble, stone material and all materials sensitive to acids.



SUITABLE FOR EXTERIOR FAÇADES

Thanks to its low modulus of elasticity, it prevents the formation of stains and absorbs high rates of deformation in joints.



MOULD-RESISTANT

BioBlock® technology impedes the formation of mould on the surface of joints.



STABLE SEAL OVER THE YEARS

Excellent resistance to atmospheric agents and ageing, including when exposed to bad weather conditions, industrial surroundings, temperature changes and water.



SOLVENT-FREE, ODOURLESS

Neutral silicone, totally solvent-free, odourless.



WIDE RANGE OF CERTIFICATIONS

Suitable for stones and marble; European certification for use on façades, glazing, in healthcare centres and on pedestrian paving.



HIGHLY ADHESIVE

Bonds perfectly, including without primer, to most types of building material.



RANGE OF COLOURS

In 9 colours coordinated with the Mapei coloured grouts collection and transparent.

WHERE TO USE

- Stone (marble, granite, sandstone and quartz).
- All materials sensitive to acids and plasticising agents.
- Bricks, cellular concrete and varnished or enamelled wood.
- Non-absorbent substrates (glass, ceramics, clinker, enamelled surfaces, water and solvent-based varnishes, metals, etc.).
- Absorbent mineral substrates (concrete, render and fibre-cement).
- Sealing joints between pre-fabricated panels; window/door fittings and walls, different coating materials.

CERTIFICATIONS & TECHNOLOGIES



University of Rome Tor Vergata, Italy

Construction of the new Rectorate and the new Faculty of Law.

The three new buildings with a trapezoid shape, were covered with travertine marble. **Keraflex Maxi S1** and **Ultracolor Plus** were used for installing the marble tiles on the façade and on the square, the joints were sealed with **Mapesil LM**, neutral silicon ideal for sealing natural stone and façade elements.





Mapeflex PU 45 FT

DESCRIPTION

One-component polyurethane hybrid sealant with a high modulus of elasticity

Rapid-hardening paintable polyurethane sealant and adhesive **with a high modulus of elasticity** for compression and traction movements up to 20% of the width of joint.



MOVEMENT ALLOWED	20%	COLOURS	White, 111 grey, 113 grey, brown, beige, black
MODULUS OF ELASTICITY AT 100% ELONGATION	0.80 N/mm ²	CONSUMPTION	3 meters per 300 ml cartridge 6 meters per 600 ml sausage (10x10 mm section)
SHORE A HARDNESS	38	PACKAGING	300 ml cartridges, 600 ml sausages
WORKABILITY	35 minutes		

AREAS OF USE



ONE SINGLE PRODUCT FOR SEALING AND BONDING



HIGH RESISTANCE TO TRAFFIC



SUCKER EFFECT
For bonding on vertical surfaces.



PAINTABLE



HIGHLY ADHESIVE EVEN WITHOUT PRIMER



RAPID-HARDENING
Quickly ready for use.



CERTIFIED PRODUCT
European certification for use on façades and on pedestrian paving.

WHERE TO USE

- Sealing expansion and distribution joints in **civil and industrial floors**.
 - Industrial floors subject to vehicular traffic, including heavy vehicles, or chemical attack by hydrocarbons.
 - Concrete floors for car-parks, supermarkets, shopping centres and warehouses.
 - Ceramic floors and walls, including in areas subject to intense traffic (supermarkets, industrial environments).
- Used as an adhesive for flexible bonding of construction features instead of using screws, nails and lightweight fittings.
- Compatible with all absorbent mineral substrates, metal surfaces, varnished surfaces, wood, stone, brickwork and glass.



CERTIFICATIONS & TECHNOLOGIES



Canalicchio Wine Cellar, Monatalcino, Italy

Tuscan winery

The interior floors were laid using the pre-blended mortar for screeds **Topcem Pronto**, on which the large format tiles were installed using the high-performance, deformable cementitious adhesive with low environmental impact **Keraflex Maxi S1 zero**. Thanks to its antibacterial and mechanical properties and its resistance to acids, the epoxy mortar **Kerapoxy CQ** was chosen for grouts. The joints were sealed with **Mapeflex PU 45 FT**, the sealant ideal for industrial floors subject to heavy traffic and to aggressive chemicals.





Mapeflex MS45

DESCRIPTION

One-component hybrid sealant with a high modulus of elasticity also for wet substrates

Paintable hybrid sealant and adhesive with a high modulus of elasticity **also for wet substrates**, for compression and traction movements up to 20% of the width of joint.



MOVEMENT ALLOWED	20%	COLOURS	White, 111 grey, 113 grey, brown, black
MODULUS OF ELASTICITY AT 100% ELONGATION	0.66 N/mm ²	EMICODE	EC1 Plus - very low emission
SHORE A HARDNESS	43	CONSUMPTION	3 meters per 300 ml cartridge 6 meters per 600 ml sausage (10x10 mm section)
WORKABILITY	35 minutes (+23°C - 50% R.H.)	PACKAGING	300 ml cartridges, 600 ml sausages

AREAS OF USE



ONE SINGLE PRODUCT FOR SEALING AND BONDING



ON DRY AND WET SURFACES

Suitable also for damp substrates. Does not blister, including at high moisture levels.



RAPID AND EASY TO APPLY

Easy to extrude and smooth over, including at low temperatures. Rapid-hardening.



VERSATILE

Bonds to the most widely used materials.



PAINTABLE



HIGHLY ADHESIVE EVEN WITHOUT PRIMER

Forms a strong bond, including on compact or absorbent substrates.



HIGH RESISTANCE TO TRAFFIC



SAFE FOR INSTALLERS

Solvent-free and with very low emission of volatile organic compounds.



CERTIFIED PRODUCT

European certification for use on façades on pedestrian paving; certified EC1 Plus – very low emission of VOC; CE marking.

WHERE TO USE

- Sealing expansion and distribution joints in **traditional and ventilated façades; residential and industrial floors** also subjected to intense vehicle traffic.
- Used as an adhesive for flexible bonding of construction features instead of using screws, nails and lightweight fittings.
- Compatible with a wide range of materials:** cement, brickwork, steel, copper, aluminium, pre-painted surfaces, glass, gypsum, wood, ceramic and clinker, insulating materials and many types of plastic.
- Suitable also for **wet substrates**.

CERTIFICATIONS & TECHNOLOGIES



Prague Subway, Czech Republic

Construction of four new subway stations.

Mapei products were used for installing ceramic tiles in the new Prague subway. The extremely large format tiles 3x1 m were bonded with the highly deformable adhesive **Ultraflex S2 Mono**.

For 60x60 and 150x75 cm tiles, the cementitious adhesives **Keraflex Extra S1**, **Keraflex Maxi S1** and **Keraquick** were used. All the joints were grouted with the cementitious mortar **Keracolor FF**, while the expansion joints between the large format tiles were sealed with hybrid sealant **Mapeflex MS45**.





Mapeflex E-PU 21 SL

DESCRIPTION

Two-component, high-strength, castable epoxy-polyurethane sealant with high modulus of elasticity

Two-component, **high-strength, castable epoxy-polyurethane sealant with high modulus of elasticity** for compression and traction movements up to 10% of the width of joint.



MOVEMENT ALLOWED	10%	COLOURS	113 grey, colourless for custom colouring with Mapecolor Paste
ELONGATION AT BREAK	90%	CONSUMPTION	0.145 kg/metre (joint section 10 x 10 mm)
SHORE A HARDNESS	60	PACKAGING	5 kg bucket (A+B)
WORKABILITY	40 minutes		

AREAS OF USE



HIGH MECHANICAL STRENGTH

Withstands high mechanical stress due to pedestrian and vehicular traffic.



HIGH THERMAL AND CHEMICAL RESISTANCE

Withstands weathering, temperature variation and chemicals. Withstands in continual use at temperatures between -30°C and +80°C.



EASY TO APPLY

Fluid consistency, castable within 40 minutes.



WITH HIGH MODULUS OF ELASTICITY

Suitable for sealing joints subject to small movements up to 10% of the width of joint.



BONDS PERFECTLY



SOLVENT-FREE

Epoxy-polyurethane, solvent-free sealant.



EXCELLENT DURABILITY

Even after several years of exposure to exterior stress, it remains elastic and highly adhesive. It does not shrink or yellow and its colour remains unchanged.



CUSTOMISED RANGE OF COLOURS

Available also in the colourless version to be coloured according to the needs of the customer with the coloured pastes **Mapecolor Paste**.

WHERE TO USE

- Sealing horizontal joints, in exterior and interior also use subject to **high mechanical stress**.
- Abrasion resistant sealing of joints in **industrial floors and subject to heavy traffic**, both in interior and exterior.
- Sealing joints where a castable, resistant to mechanical stress and to **chemicals, water and vapor proof** product is required.
- Sealing expansion and contraction joints in commercial, residential and industrial floors and in **architectural paving**.
- Sealing joints in ceramic floors subject to heavy traffic, both pedestrian and vehicular, such as **supermarkets, warehouses, production areas, sidewalks, walkways, arcades and squares**.



For further information about the application of the products always refer to the relevant technical data sheets available on the website www.mapei.it.

The MAPEI Technical Service Department is available to identify the most suitable solution for your specific application.

EVERYTHING'S OK WITH MAPEI

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