SELECTION CHART OF GROUTS AND FLEXIBLE SEALANTS

NEW GROUT COLOUR COLLECTIONS
SET the MOOD
Personalize your space with the new Mapei grout colour collections
CEMENTITIOUS GROUTS

Mapei has a complete range of grouts for all types of internal and external ceramic, terracotta, stone and glass mosaic floors and walls. For example, cementitious grouts are particularly suitable for residential use such as bathrooms, kitchens, swimming pools, external façades, balconies and terraces, for commercial environments such as grouting tiles in supermarkets, restaurants, airports and public buildings and for floors in industrial environments.

Cementitious grout with a perfect uniform colour.

- For internal and external use
- Anti-efflorescence
- Water-repellent with DropEffect®
- Mould resistant with BioBlock® technology

- Available in 34 colours
- Very low emission level of volatile organic compounds (VOC)
- Classified CGZWA according to EN 13888

CEMENTITIOUS GROUTS

Ultracolor Plus

The safest joint. Mould proof

- High performance mortar for joints from 2 to 20 mm
- A Karenin imitation
- Anti-efflorescence and mould resistant (BioBlock®)
- Water-repellent (DropEffect®)
- Polymer-modified
- Available in 34 different colours
- For internal and external use
- For all types of ceramic, stone, glass mosaic and marble floors and walls
- For swimming pools

Keracolor FF

- High performance mortar for joints up to 6 mm
- Water-repellent (DropEffect®)
- Polymer-modified
- Available in 16 different colours
- For internal and external use
- For all types of ceramic, stone, glass mosaic and marble floors and walls
- For swimming pools

Keracolor SF

- High performance mortar for joints up to 3 mm
- Smooth, white, compact and super fine
- Polymer-modified
- Available in 15 different colours
- For internal and external use
- For all types of pre-polished ceramic, terracotta, glass mosaic, stone and marble floors and walls
- Ideal for grouting thin joints

Fugolastic

- Liquid polymeric admixture for Keracolor FF, Keracolor GG and Keracolor SF
- Not an irritant
- Anti-efflorescence and mould-resistant (BioBlock®)
- Water-repellent (DropEffect®)
- Polymer-modified
- Available in 34 different colours
- For internal and external use
- For all types of ceramic, stone, glass mosaic and marble floors and walls
- For swimming pools

Keranet

- Acid-based cleaning solution for ceramic tiles with cementitious joints available in powder and liquid form, supplied ready-to-use

Keracolor GG

- High performance mortar for joints from 4 to 15 mm
- Polymer-modified
- Available in 14 different colours
- For internal and external use
- For all types of ceramic, terracotta, natural brick and stone floors and walls
- For swimming pools

Fuga Fresca

- Acrylic resin-based paint in water dispersion to bring back the colour of joints between tiles
- Available in 34 different colours (all colours from the Keracolor and Ultracolor Plus range)
A special range of epoxy grouts developed specifically for the industrial sector.

- For internal and external use
- Very high strength and chemical resistance
- Very high resistance to alkanes and hydrocarbons
- Non-absorbent
- Very hygienic

Available in a wide range of colours
Very low emission level of volatile organic compounds (VOC)
Classified RG according to EN 13888
Suitable for surfaces in direct contact with foodstuff in compliance with the HACCP System - EC REG. 852/2004

EPOXY GROUTS

Thanks to their technical characteristics, the range of grouting materials for epoxy joints is particularly suitable when particular requirements for hygiene and resistance to aggressive chemicals are required.

They are used, therefore, in residential and commercial environments to guarantee a highly attractive and decorative finish and no absorption along with their good performance figures, and in all industrial environments where very high resistance to chemicals and high strength are required, together with resistance to acids and hydrocarbons, such as for floors in the foodstuffs industries (meat factories, oil mills, etc.).
Mapei has developed a range of paste products which, because of their nature, are particularly easy to use. The range includes a flexible polymer grout suitable for coatings on façades, including those applied on flexible substrates, and a highly thixotropic adhesive paste which bonds immediately with no slip.
Mapei has developed a range of specific products for rebuilding decorative stone surfaces which are ideal for use under various conditions, such as when they have to withstand heavy loads and intense traffic. Stone in its various forms 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 external surfaces, stairs and landings.

Choose Mapestone.
Time will prove you right.

Mapestone Joint
For pervious elastic paving
Main characteristics:
- Highly pervious
- Allows opening to vehicular traffic in short times
- Resistant to freeze-thaw cycles, de-icing salts and sea-salt
- Sound reducing

SOLUTIONS FOR DECORATIVE STONE SURFACES

Mapestone System
For monolithic paving
Main characteristics:
- High resistance to wear and tear from public transport and commercial vehicles
- Resistant to freeze-thaw cycles, de-icing salts and sea-salt
- Less maintenance
- Flooring rapidly put into service

Keracolor PPN
- Fast setting, quick-setting mastics for grouting vintage floors with joints from 3 to 30 mm.
- Very low water absorption
- High mechanical strength.
- Ideal for stone floors subjected to heavy loads and extreme traffic, such as courtyards in commercial centres, car parks, pedestrian crossings, roundabouts, and road surfaces.

 having a higher level of elasticity and drainage

Mapestone Joint Cleaner
- Adhesive cleaning solution for architectural stone surfaces from Mapestone Joint.
- Suitable for post-installation cleaning operations and to remove traces and accidental spillages of Mapestone Joint from surfaces.

Mapestone PFS 2
- Pre-blended, polymer-modified mortar for grouting decorative stone floors.
- Low modulus of elasticity (20 MPa).
- Resistant to frost, de-icing salts, and sea-salt (XF3, XF4 and XS3).
- Suitable for installing decorative stone floors made from blocks, slabs, cobblestones, tiles, or bricks.
- Suitable for creating piazzas, roads, pavements, car parks, pedestrian crossings, roundabouts, and speed bumps.

Mapestone PFS PCC 2
- Ready-to-use mortar for installing decorative stone floors.
- High compressive strength (> 60 MPa after 28 days).
- Resistant to frost, de-icing salts, and sea-salt (XF3, XF4, and XS3).
- High resistance to abrasion.
- Ideal for installing decorative stone floors made from slabs, blocks, and sea-salt (XF3, XF4, and XS3).
- Suitable for creating piazzas, roads, pavements, car parks, pedestrian crossings, roundabouts, and speed bumps.

Mapestone PFS 2 Visco
- Low viscosity ready-mixed mortar for grouting decorative stone floors.
- High compressive strength (> 50 MPa after 28 days).
- Resistant to frost, de-icing salts, and sea-salt (XF3, XF4, and XS3).
- High resistance to abrasion.
- Ideal for installing decorative stone floors made from slabs and tiles.
- Suitable for creating piazzas, roads, pavements, car parks, pedestrian crossings, roundabouts, and speed bumps.

Mapestone TFB 60
- Ready-to-use mortar for installing decorative stone floors.
- High compressive strength (> 60 MPa after 28 days).
- Resistant to frost, de-icing salts, and sea-salt (XF3, XF4, and XS3).
- High resistance to abrasion.
- Suitable for installing decorative stone floors made from small blocks, smalleri bricks, cobblestones, slabs, or blocks.
- Suitable for creating piazzas, roads, pavements, car parks, pedestrian crossings, roundabouts, and speed bumps.

Mapestone Joint
- Polyurethane binder for grouting architectural stone surfaces.
- Gives stone surfaces a higher level of elasticity and drainage.
- Resistant to freezing weather and de-icing salts.
- High sound-absorbing capacity.
- Ideal for filling grout lines in architectural stone, such as small blocks, slabs, cobblestones, and tiles.
- Ideal for pedestrian areas subjected to heavy loads and intense traffic, such as piazzas, roads, pavements, pedestrian crossings, roundabouts, and speed bumps.

Mapestone Scraper
- Adhesive cleaning solution for architectural stone surfaces made from Mapestone Joint.
- Suitable for post-installation cleaning operations and to remove traces and accidental spillages of Mapestone Joint from surfaces.

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Mapei has a complete range of sealants developed through constant research with the aim of introducing high quality products on the market to make application easy, quick and guaranteed. Only a few of the products from the range are presented in this document, and their characteristics make them suitable for specific applications for ceramic, natural and glass floor finishes. In particular, several one and two-component, silicone and polyurethane sealants will be presented.

**ELASTIC SEALANTS**

- Easy to use
- High performance
- Quick to apply
- Wide range of colours
- Granted results
- Certified according to the most severe international standards
- With very low emission level of volatile organic compounds (VOC)
Kerapoxy CQ

The high-performance, multifunctional, easy-to-use epoxy grout with a bacteriostatic agent.

Easy-to-use, anti-acid, easy-to-clean, with a bacteriostatic agent and BioBlock® technology, ideal for grouting the joints of ceramic tiles and mosaics.

With a bacteriostatic agent and Mapei BioBlock® technology, this grout avoids the formation of micro-organisms and moulds on the joints’ surface, making the tiled surfaces hygienic and healthy, as certified by the University of Modena (Italy) according to ISO 22196:2007 standard.

The BioBlock® technology blocks the formation and growth of micro-organism in damp environments.

Available in 19 colours!

MAPEI TILE JOINTS:
THE BEST CHOICE, WHATEVER THE ENVIRONMENT

What are tile joints for?

It is very important that tiles are installed with large joints between each tile, especially with large formats and tiles installed on external surfaces, for the following reasons:

Any difference in the dimensions of the tiles has less influence. This is confirmed by the maximum permitted step between tiles according to Technical Report CEN/TR13548 (“General rules for the design and installation of ceramic tiling”). According to this Technical Report, the maximum acceptable step between tiles is 1 mm for joints up to 6 mm wide and 2 mm for joints wider than 6 mm. It is clear, therefore, that as the width of the joint increases, any steps between tiles have less of an impact.

They considerably reduce the modulus of elasticity and, therefore, the stiffness of the tiling. While the stiffness of tiling installed by butting the tiles together is comparable to that of a stiff, seamless surface as if it were a single tile, when tiles are installed with “open” joints, each of the tiles which form the tiled surface is a single element and, within certain limits, has a certain degree of movement. This characteristic helps the tiling withstand stresses induced by the different degrees of movement between the various layers that make up the system, and provides efficient protection against the risk of tiles lifting or becoming detached from the floor. This reduces, the risk of compressive forces being generated in the tiling due to small movements in the floor or dimensional instability in the substrate, thus provoking detachment and/or cracking of the tiling.

They allow the amount of filler, or grout, in the joints to be calibrated correctly. This leads to a number of advantages, such as the durability of the grout and its aesthetic, mechanical and functional characteristics.

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

Tile joints: the detail that makes all the difference!
International standards

Up until the 1990’s, the situation of international standards covering products for the installation of ceramic tiles and natural stone were extremely complicated and non-uniform. Each European and non-European country had its own set of standards issued by national institutes representing each country. This situation obviously posed serious problems for companies with a vocation for international commerce, such as Mapei. Certifying each product in different countries represented a considerable cost for such companies, and dedicated research teams were required to reproduce the various national test conditions required in our laboratories. Also, there were so many contradictions between the various standards that it would have been necessary to adapt the formulations and products in order to satisfy the minimum requirements for each single country. And what is more, at the beginning of the 1980’s, many national standards were obsolete and no longer relevant to the latest application techniques and the new types of covering materials which were taking a foothold during that period. In order to address this situation, in 1989 CEN, the European Standards Committee, formed a dedicated technical group with the aim of developing a series of standards for tiling adhesives and grouts. Mapei has always taken an extremely proactive and propositional position within this group over the years, taking on the role of Chairman. Up until now the technical group has met a total of 44 times, and in 2001 issued Euronorm EN 2004 regarding the specifications and requirements for tiling adhesives, and in 2002 Euronorm EN 13888 which establishes the specifications and requirements for grouts. Revisions of these standards were published in 2007 and 2009. The European approach was used as a model to create a group within the ISO (International Standard Organisation) 189 committee, dedicated to the standardisation of ceramic tiles. Mapei also played a key role in this activity, with the manager of Mapei Corporation Research & Development, acting as group coordinator. In this case, the group has published the ISO 13007 standard which is divided into 4 parts:

- **ISO 13007 - 1**: terms, definitions and specifications for adhesives
- **ISO 13007 - 2**: test methods to determine the characteristics of adhesives
- **ISO 13007 - 3**: terms, definitions and specifications for grouts
- **ISO 13007 - 4**: test methods to establish the properties of grouts

ISO 13007 - 1 and ISO 13007 - 3 were published in December 2004, ISO 13007 - 2 and ISO 13007 - 4 were published in September 2005. The ISO standards were then approved and published by various national institutes.

The advantages deriving from using products on site which comply with ISO standards are obvious and immediate. Firstly, the classifications defined by the standards offer a clear identification of the properties of products so they may then be selected according to their specific application and prevent them being replaced by other products with inferior characteristics. Also, the practice of classifying products has undoubtedly led to more transparency regarding the quality of products available on the market. Classification requirements and their relative testing methods were chosen using simplicity and repeatability as their main criteria. They must also represent characteristics which really reflect the most critical application aspects of the product.

Cementitious grouts

EN 13888

Cementitious grouts in this standard are defined as CG and are divided into two main classes, CG1 and CG2. These are the normal and improved classes respectively, and are followed by special classes: A for products with high abrasion resistance and W for products with low water absorption. A typical class CG1 grout may be considered sufficient for installing ceramic or porcelain tiling not subject to excessive variations in temperature and humidity in residential and commercial environments. For areas subject to prolonged periods of high humidity and thermal shock or intense traffic, on the other hand, conditions typically found in high-intensity commercial and industrial environments, a class CG2 grout is recommended. Even though the standard does not distinguish between normal-setting and rapid-setting grout, it is recommended to use the latter type when surfaces need to be put back into service quickly, for example in retail, airports, public areas, swimming pools, etc.

Class A is required when the area is subject to intense foot or trolley traffic when in service such as in supermarkets, or if there is a continuous flow of water, typical of fountains. W class products, on the other hand, are recommended when the installation is subjected to continuous immersion in water, such as tiling in fountains and swimming pools. In the test carried out as prescribed in the standard, the sample is subjected to a continuous, constant flow of spheres of abrasive material. At the end of the test, the loss in weight is measured. To measure the risk of cracking due to hydraulic shrinkage in the product, the test prescribed in the standard measures the amount of movement in a 4 x 4 x 16 cm test sample cured for 28 days. A product with adequate dimensional stability (that is, very little hydraulic shrinkage) may also be used to tile surfaces where the width of the joints varies. Testing is carried out after 28 days and includes compressive and flexural strength tests, which are carried out on samples measuring 4 x 4 x 16 cm (Figure 4).

Appropriate products may even be employed without any particular problem for tiled surfaces subject to particularly heavy traffic. Excessive water absorption by the grout may have a disastrous effect on the entire tiled surface if it is subjected to constant immersion in water and tiles become detached. The standard prescribes a test in which the amount of water a product absorbs is estimated by measuring capillary lift. Samples are cured for 28 days, partially immersed in water and their increase in weight is measured after being immersed for 30 minutes and 4 hours (Figure 5). Products with low water absorption may be successfully used even in critical situations, such as mosaic tiles in swimming pools.

Grouts made by Mapei, such as Keracolor FF for joints up to 6 mm wide, Keracolor GF for joints from 4 to 15 mm wide and Ultracolor Plus for joints from 2 to 20 mm wide, are all part of the improved class of grouts CG2WA and, as such, are guaranteed when used in particularly critical site conditions, such as those described above. Ultracolor Plus is also a fast setting grout, ideal for applications which need to be put back into service quickly with a approximate set to foot traffic time of 3 hours.

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DROPEFFECT®

Amongst the added characteristics of Mapei grouts, which are not covered by current standards and which guarantee that they are colour-fast and easy to clean, there is the so-called DROPEFFECT® technology which allows grouted joints to be created which are particularly water repellent. Thanks to this technology, 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.

BIOBLOCK®

In damp environments, BIOBLOCK® technology inhibits the formation and proliferation of various types of mould on the surface of grouted joints, which not only cause an unsightly finish, but also have a negative effect on pollution levels in internal environments and inevitable consequences on the health of final users.

ANTI-EFFLORESCENCE

Ultracolor Plus also has characteristics which guarantee against the formation of efflorescence, one of the most unsightly defects on ceramic tiling, which forms on both internal and external façades. Figure 6 shows the surface of a product with efflorescence. The classic white streaks are typical of formulas based on the use of Portland cement as a binder. If a thin section of the joint is analysed through a microscope, the type of chemical which forms the efflorescence may be identified on the surface of the product due to the reaction between carbon dioxide contained in the atmosphere and calcium hydroxide produced by hydration of the cement, represented by the thin white superficial line (Figure 7).

Further experimental support into the morphologic and chemical study of the efflorescence may be made using an electronic scansion microscope, an instrument which can produce highly magnified images (up to 800,000x magnification) of the surface of the product and assess the exact chemical composition of the surface. Figure 8 shows the images taken using this technique, which are then used to observe how the efflorescence is made up of numerous groups of flat crystals which, upon analysis, are formed by calcium carbonate. The binder in Ultracolor Plus does not contain Portland cement, that is, the source of carbonate, which makes the product completely immune from the formation of efflorescence.

Ultracolor Plus is an ideal product for colour stability. The aesthetic stability guaranteed by this product obviously does not compromise the characteristics described in the standards, as confirmed by its G2WA classification status. Overall, Ultracolor Plus is a grout which offers the highest performance on site, prevents problems due to mechanical and thermal stresses, anti-aesthetic effects due to instability of the colour and is nowadays a product with unique characteristics which has no rival on the market.

Epoxy grouts

EN 13888

From a standards point of view the issue related to epoxy grouts is relatively simple since the standard specifies only one class (RG), and all epoxy grouting mortars which meet the minimum requirements are in this class.

Specifications for reactive sealants

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Requirement</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistance to abrasion</td>
<td>≤ 250 mm²</td>
<td>EN 12808-2</td>
</tr>
<tr>
<td>Flexural strength after dry storage</td>
<td>≥ 30 N/mm²</td>
<td>EN 12808-3</td>
</tr>
<tr>
<td>Compressive strength after dry storage</td>
<td>≥ 45 N/mm²</td>
<td>EN 12808-3</td>
</tr>
<tr>
<td>Shrinkage</td>
<td>≤ 15 mm/m</td>
<td>EN 12808-4</td>
</tr>
<tr>
<td>Water absorption after 240 mins.</td>
<td>≤ 0.1 g</td>
<td>EN 12808-5</td>
</tr>
</tbody>
</table>

Because the values are so high, Euronorm EN 13888 does not have any other sub-classes. All Mapei epoxy grouts are classified RG because they meet all the aforementioned requirements.

Epoxy grouts 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 and in the residential sector in areas such as bathrooms, kitchens, laundry rooms, etc. where total cleanability of the joints is important.

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.

Colour

There are no national or international standards which cover this issue related to the aspect of the grout, even if it is one of the main characteristics to take into consideration to meet a client’s requirements.

Mapei grouts (cementitious and epoxy) are available in a wide variety of colours (more than 50) if we consider the various colour ranges to satisfy even the most demanding client. And if we also consider the addition of MapeiGlitter coloured metallic glitter, available in 22 different colours, to Kerapoxy Design (two-component, anti-acid, translucent, decorative epoxy mortar for grouting glass mosaic, ceramic tiles and stone with a highly attractive finish), the number of possible colour combinations are even higher.

The durability and uniformity in colour of Mapei grouts is guaranteed by their special formulation and the use of pigments which remain stable if subjected to UV rays or other atmospheric phenomena. All our products undergo accelerated ageing tests using a weatherometer (Figure 9-10), a very useful instrument used to assess the reaction of products exposed to various weather cycles, such as sunlight, rain (including acid rain) and temperature variations.

Before being marketed, all Mapei grouts are subjected to rigorous quality control tests in compliance with the ISO 9001 system, certification awarded to the company in 1994. A special instrument called 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 (Figures 11 and 12).
LIVING COMFORT: VOC

Numerous factors can have an effect on the quality of the air inside our homes: human behaviour, ventilation, products used in the home such as detergents, furniture and even building products all give off volatile organic compounds (VOC) which have an influence on the air in confined spaces.

Mapei has developed a series of solvent-free products with low emission of volatile organic compounds (VOC) enabling them to guarantee good air quality inside buildings for the well-being of both those who use and apply the products and those who use the buildings. For more than 20 years, Mapei’s R&D analysis laboratory has been evaluating VOC emissions of Mapei products using techniques prescribed by current national and international norms and standards.

Since 2005, products with very low emission of volatile organic compounds have been certified EMICODE ECI and EMICODE ECP plus (very low emission of volatile organic compounds - PLUS). Both marks are awarded by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an association that checks emission levels of flooring products, adhesives and various materials used in the building industry, of which we are a member. Mapei is also proud to announce the other voluntary labels it applies to its products to comply with the various requirements of local markets, as well as with obligatory requirements currently enforced in Germany, France, Belgium and, since 2017, in Italy.

TRANSPARENCY: EPD

An Environmental Product Declaration (EPD) is a report prepared according to international standards (such as ISO 14025 and EN 15804) that documents the effects a product has on the environment throughout its entire life cycle, by measuring these effects according to standardised LCA (Life Cycle Assessment) methods.

In the construction sector, EPDs help architects, design engineers and other buyers have a better understanding of a product’s characteristics in terms of sustainability and its impact on the environment.

Mapei does much more than evaluating its impact. Since 2012 we have offset more than 50,000 tonnes of CO₂ associated with the production of Keraflex Maxi S1 zero in Italy through the acquisition of certified carbon credits. In 2017 credits were acquired for a reforestation project for an area of more than 21,000 Hectares in Uruguay that had been previously deforested and left to deteriorate.

Which makes Keraflex Maxi S1 zero the first and only fully offset adhesive for ceramic.

LEED

In 1998, the US GBC (United States Green Building Council) introduced the first LEED (Leadership in Environment) standard and Green Building Rating System as guidance on the design and construction of sustainable buildings. And it has now become the most widely adopted green building protocol in the world.

LEED v4 is the new version of the American protocol Mapei products help earn important credits in the Materials and Resources (MR) and Internal Environmental Quality (EQ) categories.

MR (Building Product Disclosure and Optimization – Environmental Product Declarations)

The use of products and materials with information on their life-cycle is required: specific product EPDs and category EPDs are both accepted, but each one counts differently.

EQ Credit - [Low-Emitting Materials] Includes both emissions of volatile organic compounds (VOC) into the air inside buildings and the total VOC content of the materials.
MAPEI and Sustainability: Making green easy

QUALITÀ CERTIFICATA

CE MARKING
All MAPEI adhesives have been awarded CE marking in compliance with Euronorm EN 12004 annex ZA, as prescribed by the current European Directive 89/106/EEC.

EMICODE EC1R PLUS
Certification for “products with very low emission of volatile organic compounds” issued by GEV (association which monitors emissions from construction materials).

Other labels

LEED
LEED is a voluntary system for the design, construction and management of sustainable buildings. LEED indicates the requirements for constructing environmentally sustainable buildings in terms of energy and the consumption of natural resources involved in the construction process.

EN 12004
EN 13888
ISO 13007-1
ISO 13007-3
All MAPEI mortars for installing and grouting ceramic tiles and stone conform to Euronorms EN 12004 and the international standards ISO 13007-1.

BIOBLOCK
This MAPEI technology impedes the formation and proliferation of various types of mould in damp conditions, and helps create a more hygienic, healthy environment for final users.

DROPPEFFECT
MAPEI technology based on the use of special hydrophobising additives, which allows surfaces to be created that are characterised by high water repellence, their tendency to attract less dirt and excellent durability.

CERTIFICATION OF GROUTS AND FLEXIBLE SEALANTS

Fix & GROUT BRICK
EN 12004
D2T

FLEXCOLOR

KERACOLOR FF
CC2WA
EC1 R PLUS

KERACOLOR GG
CC2WA
EC1 R PLUS

KERACOLOR PPN
CC2WA

KERACOLOR SF
CC2WA
EC1 R PLUS

KERAPoxy
EN 12004
R2T
R2
RG
EC1 R PLUS

ULTRACOLOR PLUS
CC2WA
EC1 PLUS

MAPEFLEX PU20

MAPEFLEX PU21

MAPEFLEX PU30
EN 15651

MAPEFLEX PU40
EN 15651

MAPEFLEX PU 45 FT
EN 15651

MAPESIL AC
EN 15651
EC1 PLUS

MAPESIL LM
EN 15651
EC1 PLUS

MAPEI and Sustainability: Making green easy

Apart from meeting the requirements of national standards, the fillers for tile sealants and elastic joints also comply with certification applied locally in the various countries.
### SELECTION CHART

#### TYPE OF COATING MATERIAL

<table>
<thead>
<tr>
<th>Material</th>
<th>Notes</th>
<th>WHERE TO USE</th>
</tr>
</thead>
</table>

### CONSUMPTION TABLE

#### Dimensioni piastrelle (mm) [Tile Sizes (mm)]

<table>
<thead>
<tr>
<th>Dimensioni piastrelle (mm)</th>
<th>Larghezza fuga (mm)</th>
<th>Ultracolor Plus kg/m²</th>
<th>Keracolor SF kg/m²</th>
<th>Keracolor FF kg/m²</th>
<th>Keracolor GG kg/m²</th>
<th>Kerapoxy Kerapoxy Design kg/m²</th>
<th>Kerapoxy Kerapoxy IEG kg/m²</th>
<th>Flexcolor kg/m²</th>
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</thead>
<tbody>
<tr>
<td>75x150x6</td>
<td>2</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>100x100x7</td>
<td>2</td>
<td>0.4</td>
<td>0.4</td>
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<td>0.6</td>
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<tr>
<td>100x200x9</td>
<td>2</td>
<td>0.6</td>
<td>0.5</td>
<td>0.5</td>
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#### Notes:
- **■** = fit for use
- **●** = particularly recommended by Mapei
- **•** = with FUCOLASTIC

A = tile length
B = tile width
C = tile thickness
D = joint width
K = function of the mix density

\[
K = \frac{A B C}{Ax B CD} \times 1000 \text{ kg/m}^2
\]

The sizes of the joints shown in the table are for indication purposes only. For other sizes of joint and tile please refer to the product calculator to estimate consumption rates at www.mapei.it.

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### CEMENTITIOUS GROUTS

- ULTRACOLOR PLUS (fughe da 2 a 20 mm)
- KERACOLOR SF (fughe fino a 6 mm)
- KERACOLOR FF (fughe fino a 6 mm)
- KERACOLOR GG (fughe da 4 a 15 mm)

### EPOXY GROUTS

- KERAPoxy (fughe da 2 mm)
- KERAPoxy Design (fughe fino a 4 mm)
- KERAPoxy P (fughe fino a 4 mm)
- KERAPoxy IEG (fughe da 4 a 15 mm)

### READY-TO-USE Paste PRODUCT

- FLEXCOLOR
- FIX & GROUT BRICK

### SOLUTIONS FOR ARCHITECTURAL STONE FLOORING

- KERACOLOR PFM
- MAPESTONE PS 2
- MAPESTONE PS 60
- MAPESTONE JON

### FLEXIBLE SEALANTS

- MAPESEAL AC
- MAPESEAL LM
- MAPEFLEX PU40
- MAPEFLEX PU90
- MAPEFLEX PU20
- MAPEFLEX PU200 SL
- MAPEFLEX PU200 65 FT

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N.B. always carry out preliminary tests before grouting stone or porcelain with a porous or rough surface.

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**GROUT**

**ELASTIC SEALANTS**
COLOURING: THE CHOICE

A range of high-quality, highly-functional products rich in colour for internal and external use. Solvent-free, with very low emission level of volatile organic compounds (VOC) and certified in compliance with the most strict international standards. Suitable for all types and formats of floors and walls: ceramic tiles, terracotta, stone material, mosaics and metal. Available as cementitious, grouting paste and epoxy grout.

Mapei Coloured Grouts. The choice that completes every project. From Mapei, world leader in the production of grouts and adhesives.

Mapei is with you: let's take a deeper look together at www.mapei.it

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