

Primer 3296

Acrylic primer in water dispersion with strong penetrating action for consolidating porous surfaces and unsound screeds



WHERE TO USE

Primer 3296 is for consolidating and improving the characteristics of weak, crumbly or powdery surfaces. It is also suitable for outdoor use for consolidating the surface of concrete slabs, screeds, renders, bricks, sandstone, tuff, cement and lime-based decorative mortar.

Some application examples

- Preparation of screeds with a powdery surface before laying wooden flooring with vinyl adhesives.
- Anti-dust primer for cementitious surfaces.
- Primer for levelling and smoothing cement.
- Impregnation of cement based grouts with a powdery surface to reduce their porosity and absorbency (for indoor use).
- Consolidation of surfaces for cementitious renders, tuff and sandstone.
- Impregnation of existing internal brick walls and ceilings etc. to eliminate the dust.

TECHNICAL CHARACTERISTICS

Primer 3296 is an acrylic polymer-based water-dispersion primer, made up of very fine particles, which gives it its high penetration characteristics, even on surfaces with low porosity.

Primer 3296 consolidates surfaces and eliminates dust and powder on substrates, giving them good mechanical strength.

If it is used as a primer for self-levelling smoothing products, it reduces the formation of pinholes, prevents the product from drying too quickly, helps it to level off and improves its bonding properties to the substrate.

Primer 3296 is an odourless, non-irritating product in water dispersion, suitable for application in areas where there are people present or in the vicinity of habitations.

Substrates consolidated with **Primer 3296** are not damaged by climatic attack (rain, humidity, sunlight etc.), and the consolidation effect makes them even more long-lasting.

RECOMMENDATIONS

- Do not use **Primer 3296** on surfaces which are not absorbent.
- Do not use **Primer 3296** on damp surfaces or on surfaces subject to rising damp.
- Avoid the formation of a superficial film. The product must be completely absorbed by the substrate.

Primer 3296



TECHNICAL DATA (typical values)	
PRODUCT IDENTITY	
Consistency:	fluid liquid
Colour:	opalescent
Specific gravity (kg/l):	1.01
Dry solids content (%):	15
Brookfield Viscosity # 1, rpm 10 (mPa·s):	20
Storage:	12 months. Protect from frost
Hazard classification according to Directive EC 99/45:	none
Customs class:	3906 90 00
COMPOSITION AND PROPERTIES OF THE MIXTURE (T = +23°C, R.H. = 50%)	
Application temperature:	from +5°C to +35°C
Dilution:	none, 1:1, 1:2 with water depending on the absorption of the substrate
Waiting time before bonding:	2 hours
Drying time:	24 hours

- If wooden flooring is being laid after treatment with **Primer 3296**, use only vinyl adhesives (such as **Adesilex LC/R**). This product is not compatible with polyurethane adhesives.
- If a large amount is applied, verify the humidity of the support with a carbide hygrometer before proceeding with the successive phases of bonding or smoothing.
- Do not apply on anhydrite-based substrates.

APPLICATION PROCEDURE Preparation of the substrate

The substrate to be treated must be dry, clean and free of grease, oil, paint and other substances which impede the penetration of **Primer 3296**.

Application

- **For use as a primer for the preparation of screeds with a powdery surface before laying wooden flooring**

Dilute **Primer 3296** with water at a ratio of 1:1 or 1:2, according to the absorbency of the support material. Apply the mix on the surface to be treated with a large brush, a broom, a roller or by spray. Lay the flooring with vinyl adhesive (such as **Adesilex LC, LC/R** or **LC/RP**) after approximately 2 hours.

- **For use as a primer before laying self-levelling smoothing and thixotropic levelling mortars from the Mapei range**

Dilute **Primer 3296** with water at a ratio from 1:1 to 1:2 according to the absorbency of the substrate, and apply the mix on the surface to be treated with a roller or a flat brush. Apply the smoothing compound once the primer has set (after approximately 2 hours).

- **For consolidating surfaces of cementitious renders, tuff, sandstone and for fixing dust from existing brick walls and ceilings**

Apply **Primer 3296** on the surface to be treated with a manual garden sprayer, a roller or a brush. If the surface is particularly absorbent, several coats may be applied, at intervals of a few minutes between each coat. 2-3 coats are usually sufficient for complete saturation.

- **For impregnating cement joints to make them more resistant and to reduce their porosity and absorbency (for indoor use and for tiles with a glazed or non-absorbent surface)**

Apply neat **Primer 3296** directly on the joints with a brush. If the product makes the surface of the tiles dirty, wait until the product has penetrated into the joints (approximately 5-10 minutes), and clean the surface of the tiling with a damp sponge.

Cleaning

Clean tools and containers immediately after use with water. Dried traces may be removed with **Pulicol**.

CONSUMPTION

The consumption depends on the absorbency and porosity of the surface to be treated. It generally varies between 50 and 250 g/m².

PACKAGING

Available in 5 and 10 kg drums.

STORAGE

Unopened, **Primer 3296** may be stored for up to 12 months in a dry place. Protect from frost.

SAFETY INSTRUCTIONS FOR THE PREPARATION AND APPLICATION

Primer 3296 is not considered hazardous according to the current ruling laws of the classification of chemical preparations. It is recommended to take the precautions normally taken when handling chemical products. The safety data sheet is available upon request for professional users.

FOR PROFESSIONALS.

WARNING

While the indications and guidelines contained in this data sheet correspond to the company's knowledge and wide experience, they must be considered, under all circumstances, merely as an indication and subject to confirmation only after long-term, practical applications. Therefore, anybody who undertakes to use this product, must ensure beforehand that it is suitable for the intended application and, in all cases, the user is to be held responsible for any consequences deriving from its use.

**All relevant references
of the product are available
upon request**

Primer 3296



BUILDING THE FUTURE

MAPEI GROUP CERTIFIED MANAGEMENT SYSTEMS (Quality, Environment and Safety)



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Eco Prim Grip

Multi-purpose, ready-to-use bonding promoter primer with a very low emission of volatile organic compounds (VOC) for render, smoothing and levelling compounds and adhesives for ceramic tiles



WHERE TO USE

Multi-purpose, ready-to-use primer for internal and external floors and walls.

Eco Prim Grip may be used to improve the bond of all types of cement, gypsum and lime-based plasters on substrates made from concrete, brickwork, vibro-compressed concrete blocks, lightweight blocks and gypsum.

Eco Prim Grip is also suitable for improving the bond of adhesives for ceramics, smoothing and levelling compounds on non-absorbent surfaces, such as ceramic, terrazzo and natural stone floors.

Some application examples

- Application of render on concrete, brickwork, substrates, etc.
- Application of smoothing and levelling compounds on old ceramic, terrazzo and natural stone floors.
- Laying ceramic and natural stone floors directly on top of old ceramic floors.

TECHNICAL CHARACTERISTICS

Eco Prim Grip is a solvent-free, primer composed of synthetic resin in water dispersion and selected inert materials with excellent bond strength, resistance to water and ageing. It guarantees a rough keying surface ideal for render, smoothing and levelling compounds, thus ensuring an excellent bond on smooth substrates and substrates with low absorbency, reducing and evening out absorption of water of absorbent surfaces. Once dry, it guarantees

a tough bond of any cementitious render on various types of substrate: concrete, lightweight cellular cement blocks, bricks, stone, plasterboard, wood, ceramic, metal, render, gypsum, etc.

Eco Prim Grip is a ready-to-use grey latex which is easy to apply using either a roller or a brush.

Eco Prim Grip is non-flammable and has an extremely low emission level of volatile organic compounds (VOC). Therefore, the product is considered non-hazardous for those who use the product and final users of the environments where it is applied. It may also be stored without taking particular precautions.

RECOMMENDATIONS

- Apply at temperatures between +5°C and +35°C.
- Do not use **Eco Prim Grip** in the presence of rising damp or rising humidity, and on continuously immersed surfaces.
- **Eco Prim Grip** is ready-to-use, no dilution is required.
- Do not use as adhesion promoter for adhesives and levelling compounds on screeds and power-trowelled concrete. In such cases use **Eco Prim T**.

APPLICATION PROCEDURE

Preparation of the substrate

Substrates must be clean, dry, well-cured and free from oil, grease, cement laitance and loose parts.

Eco Prim Grip



Application of Eco Prim Grip on concrete by roller



Application of Eco Prim Grip on concrete by brush



Application of render on Eco Prim Grip

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Consistency:	creamy liquid
Colour:	grey
Density (g/cm ³):	1.48
pH:	8.5
Dry solids content (%):	70
EMICODE:	EC1 Plus - extremely low emission level

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

Application temperature range:	from +5°C to +35°C
Waiting time before applying render:	15-20 minutes (dependant on substrate's temperature and porosity)
Waiting time before applying smoothing compound:	30 minutes (dependant on substrate's temperature and porosity)

FINAL PERFORMANCE

Resistance to humidity:	excellent
Resistance to ageing:	excellent
Resistance to solvents and oils:	fair
Resistance to acids and alkalis:	fair
Resistance to temperatures:	excellent

There is no need to wet the surface before applying **Eco Prim Grip**.

Application

Eco Prim Grip may be applied to the substrate with either a roller or by brush or roller. The render or smoothing and levelling compound may be applied once **Eco Prim Grip** is dry. The minimum waiting time is from 15 to 60 minutes according to the surrounding conditions and the absorption of the substrate. It's possible to apply a second coat of **Eco Prim Grip** from the application of the first coat after a long time.

Cleaning

While still fresh, **Eco Prim Grip** may be

removed easily from floors, walls and tools with water. Once dry, it must be removed with alcohol or **Pulicol 2000**.

CONSUMPTION

Consumption varies between 0.20 and 0.30 kg/m² according to the absorption of the substrate.

PACKAGING

Eco Prim Grip is available in 5 and 10 kg drums.

STORAGE

Eco Prim Grip remains stable for at least 12 months under normal conditions in its original, sealed packaging.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Eco Prim Grip is not considered dangerous according to the current regulations regarding the classification of mixtures. During use wear protective gloves and goggles and take the usual precautions for the handling chemicals. For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

WARNING

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Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

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This symbol is used to identify Mapei products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gesellschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.



Our Commitment To The Environment
More than 150 MAPEI products assist Project Designers and Contractors create innovative LEED (The Leadership in Energy and Environmental Design) certified projects, in compliance with the U.S. Green Building Council.

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



Application of Eco Prim Grip by roller on existing terrazzo flooring



Application of Eco Prim Grip by roller on existing porcelain tiles



Application of Ultraplan self-levelling smoothing compound on dry Eco Prim Grip on old floor

**Eco Prim
Grip**



BUILDING THE FUTURE



MAPEI



Mapelastastic AquaDefense



Ready-to-use, ultra-quick drying, flexible liquid membrane for internal and external waterproofing applications



WHERE TO USE

To form waterproofing layers before applying ceramic, stone and mosaic coatings in:

- balconies and terraces;
- bathrooms and shower cubicles;
- laundry rooms;
- saunas and damp environments in general.

Mapelastastic AquaDefense may be applied on:

- concrete;
- cementitious screeds and screeds made using special binders (**Topcem**, **Topcem Pronto**, **Mapecem** or **Mapecem Pronto**);
- plasterboard (for internal applications only);
- existing coatings in ceramic, terrazzo and stone;
- cementitious render.

ADVANTAGES

- **Mapelastastic AquaDefense** is supplied ready to use.
- **Mapelastastic AquaDefense** is a rapid product:
 - resists rainwater 1 hour after applying the first coat and 3 hours after applying the second coat.
 - ceramic may be bonded after 4 hours (at +23°C and 50% R.H. when applied on a dry screed with less than 3% residual moisture).
- **Mapelastastic AquaDefense** is elastic: at +23°C it has 3.2 mm crack-bridging capacity without reinforcement.

TECHNICAL CHARACTERISTICS

Mapelastastic AquaDefense is a totally solvent-free,

ready-to-use, ultra-quick drying, one-component light blue, synthetic resin based paste in water dispersion.

Mapelastastic AquaDefense is easy to apply using a long-haired roller, brush or trowel on horizontal, sloping and vertical surfaces. **Mapelastastic AquaDefense** dries very quickly to form a flexible membrane without a sticky surface. It is resistant to light pedestrian traffic after just 3 hours and forms an excellent grip with all types of adhesive for laying ceramic, stone material and mosaic of all kinds. The flexible nature of **Mapelastastic AquaDefense** helps it withstand normal movements caused by expansion and shrinkage of the substrate due to temperature variations and vibration.

Tiles laid on floors waterproofed with **Mapelastastic AquaDefense** by using C2F-class MAPEI adhesives (such as **Granirapid**, **Elastorapid**, etc.) and grouted with **Ultracolor Plus** may be opened to pedestrian traffic within 12 hours of starting the work.

Mapelastastic AquaDefense is resistant to water, lime-water (ph > 12), and detergents commonly used for cleaning residential environments.

RECOMMENDATIONS

- Do not apply **Mapelastastic AquaDefense** if the temperature is lower than +5°C.
- **Mapelastastic AquaDefense** must always be covered with ceramic, mosaic or stone.



Mapelastick AquaDefense



Impregnating Drain
Vertical fabric
with Mapelastick
AquaDefense



Application of
Mapeband on a
wall-floor fillet joint
with Mapelastick
AquaDefense



Application of the
first coat of Mapelastick
AquaDefense on
a screed

- Do not apply **Mapelastick AquaDefense** on cementitious substrates or on substrates with residual humidity higher than 3% and recurring rising damp.
- Do not apply **Mapelastick AquaDefense** on crumbly cementitious substrates, old floors which are not well bonded to the substrate or surface treatments which impede a good bond.
- Do not use **Mapelastick AquaDefense** to cover cracks.
- Protect the surface from rain for at least 1 hour after applying the first coat and 3 hours after applying the second coat (times refer to +23°C and 50% relative humidity of the air when the product is applied on dried screeds with a residual moisture lower than 3%).

APPLICATION PROCEDURE

Preparation of the substrate

Substrates must be well-cured, sound, clean, dry and free of oil, grease, cement laitance, old paint and any other substance which could compromise the bond.

Cementitious substrates must be stable and dry with no rising damp. Surface dust must be completely removed.

Smoothing and levelling layers may be applied using **Planitop Fast 330** or **Adesilex P4**.

On old ceramic floors with hollowed or empty tile joints, or whenever slopes on surfaces need to be levelled out before spreading on **Mapelastick AquaDefense**, we recommend applying a smoothing and levelling layer using **Adesilex P4**. Substrates in this condition must be thoroughly checked and all coatings, such as wax, water-repellent treatments, etc. must be removed from the surface with a suitable cleaning product and/or by abrasion.

Before applying **Mapelastick AquaDefense**, pay particular attention to expansion joints and fillet joints between horizontal and vertical surfaces. In such cases, apply **Mapeband** or **Mapeband PE 120** and suitable profiles bonded in place with **Mapelastick AquaDefense**.

To waterproof drains on terraces and balconies, use the special kits from the **Drain** range. Structural joints must be waterproofed with **Mapeband TPE** bonded to the substrate with **Adesilex PG4**.

Before applying **Mapelastick AquaDefense** on old ceramic and natural stone floors, use **Eco Prim Grip**.

APPLICATION OF THE PRODUCT

Mapelastick AquaDefense must be applied in two even, coats (approx. 0.4 mm per coat) with a long-haired roller, brush or trowel. Wait until the first coat is dry, making sure the product becomes darker with a matt finish, before applying the second coat diagonally to the first

(approximately 1 hour at +23°C and 50% relative humidity of the air and with substrates having residual humidity lower than 3%).

The final thickness of the two coats of **Mapelastick AquaDefense** must be at least 0.8 mm in order to create a robust, flexible and continuous film. Make sure there are no interruptions in the film caused by imperfections in the substrate.

If **Mapelastick AquaDefense** is applied to form an anti-fracture membrane on cracked substrates, we recommend inserting **Mapetex 50** reinforcement in to the first coat while it is still fresh.

Mapetex 50 must be pressed down with a bubble-breaker roller on the first coat of **Mapelastick AquaDefense** while it is still fresh.

Wait until the first coat is dry then apply the second coat in order to completely embed **Mapetex 50**.

Drying times may increase as **Mapetex 50** insertion increases the final thickness of the applied film.

In bathrooms, on balconies, in saunas and Turkish baths, a water-tightness test may be carried out 12 hours after applying the final coat of **Mapelastick AquaDefense**.

Ceramic, stone and mosaic tiles may be laid 4 hours after applying the second coat (at +23°C and 50% relative humidity of the air) using a C2-class MAPEI adhesive according to EN 12004 standards, to be selected according to the final use of the floor or coating. For example, on balconies use **Keraflex Maxi S1** (class C2TE S1). For quickly laying tiles use **Elastorapid** (class C2FTE S2) and for laying all types of mosaic use **Adesilex P10 + Isolastic** mixed with 50% of water (class C2TE S1). Grout tile joints with a special cementitious grout (such as **Ultracolor Plus** - class CG2WA, **Keracolor FF**, **Keracolor GG** mixed with **Fugolastic**) or epoxy grout (for example **Kerapoxy**, **Kerapoxy Design** or **Kerapoxy CQ** - class RG). Seal expansion joints with a special MAPEI sealant (such as **Mapesil AC**, **Mapesil LM** or **Mapeflex PU45** according to requirements).

Cleaning

Mapelastick AquaDefense may be removed easily from tools and surfaces while still fresh with water.

CONSUMPTION

1 kg/m² for two coats (1.3 kg/m² per mm of thickness).

PACKAGING

7.5 kg and 15 kg rectangular cans.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Consistency:	paste
Colour:	light blue
Density (g/cm ³):	1.30
pH:	9.5
Dry solids content:	66
Brookfield Viscosity (mPa·s):	45,000 (spindle 6 - 10 rpm)

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

Minimum filming temperature:	+5°C
Recommended application temperature:	from +5°C to +35°C
Waiting time between first and second coat:	approximately 60 minutes (when dry to the touch)
Waiting time before laying coating:	3-4 hours
Complete drying of 1 mm thick layer:	12 hours

FINAL PERFORMANCE

	EN 14891 acceptance range	Performance figures for Mapelastac AquaDefense
Initial bond strength EN 14891-A.6.2 (N/mm ²):	> 0.5	1.7
Bond strength after immersion in water (EN 14891-A.6.3) (N/mm ²):	> 0.5	> 1.0
Bond strength after application of heat source (EN 14891-A.6.5) (N/mm ²):	> 0.5	> 1.8
Bond strength after freeze-thaw cycles (EN 14891-A.6.6) (N/mm ²):	> 0.5	> 0.9
Bond strength after immersion in basic water (solution saturated with lime) (EN 14891-A.6.9) (N/mm ²):	> 0.5	> 1.3
Bond strength after immersion in sodium hypochlorite solution (EN 14891-A.6.7) (N/mm ²):	> 0.5	> 1.2
Crack-bridging ability at +23°C (EN 14891-A.8.2) (mm):	> 0.75	3.2
Crack-bridging ability at -5°C (EN 14891-A.8.3) (mm):	> 0.75	1.6
Impermeability to water under pressure (EN 14891-A.7) (1500 kPa):	no penetration	no penetration



Application by roller of Mapelastac AquaDefense second coat



Application of Mapelastac AquaDefense by brush between floor and wall before applying Mapeband



Bonding tiles on Mapelastac AquaDefense

Bond values according to EN 14891 measured using **Mapelastac AquaDefense** and a C2-type cementitious adhesive according to EN 12004

Mapelastic AquaDefense



STORAGE

Mapelastic AquaDefense may be stored for up to 24 months in its original packaging in a dry place. Protect from freezing weather.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapelastic AquaDefense is not considered dangerous according to the current regulations regarding the classification of mixtures. It is however recommended to wear protective gloves and goggles and to take the usual precautions for handling chemicals. For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

WARNING

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beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

LEGAL NOTICE

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Mapeband SA

Self-adhesive butyl tape with alkali-resistant, non-woven fabric for elastic waterproofing systems



WHERE TO USE

Mapeband SA is a self-adhesive butyl rubber tape used to waterproof fillets between horizontal and vertical surfaces on terraces, balconies and in bathrooms and showers.

This tape is a complementary product for elastic waterproofing systems, such as those of **Mapelastic** and **Aquaflex Roof** ranges, or such as **Mapegum WPS**.

Some application examples

- Waterproofing corners and fillets between floors and walls on terraces, balconies and in bathrooms.
- Sealing different types of material (bitumen membranes, metal, ceramic and cementitious screeds).
- Sealing small, hard-to-reach fillets such as those between window and door fittings, ledges and substrates.

ADVANTAGES

- Quick application.
- Easy to install.
- Versatile.
- Alkali-resistant.
- Excellent adhesion to any type of substrate.

TECHNICAL CHARACTERISTICS

Mapeband SA is a self-adhesive tape made from butyl rubber with alkali-resistant, non-woven polypropylene fabric bonded on the outer surface that guarantees excellent adhesion for the waterproofing system to be applied over it.

Mapeband SA adheres to various types of non-absorbent substrates such as aluminium, copper, steel, plastic, bitumen waterproofing membranes, ceramic and to absorbent substrates such as concrete, masonry, aerated concrete, fibre-reinforced cement and render.

RECOMMENDATIONS

- Do not use **Mapeband SA** on damp substrates.
- Do not use **Mapeband SA** to seal areas subjected to water pressure.
- Use **Mapeband SA** in combination with waterproofing systems such as **Mapegum WPS** or **Aquaflex Roof** or with products from the **Mapelastic** range.
- If applied on ceramic, treat the surface with a coat of **Eco Prim Grip** primer before applying **Mapeband SA**.
- When applying the product on bitumen membranes, treat surfaces beforehand with a coat of **Primer for Aquaflex**.

Mapeband SA



Application of Mapeband SA on a screed



Application of Mapeband SA in difficult areas, such as under a doorstep



Application of Mapeband SA in corners

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Appearance:	butyl rubber with PP non-woven fabric
Colour:	grey
Width (mm):	100
Thickness (mm):	approx. 1.5
Density of layer of butyl rubber (g/cm ³) (ISO 10563):	approx. 1.4
EMICODE:	EC1 Plus - very low emission

APPLICATION DATA

Application temperature range:	from +5°C to +30°C
Service temperatures:	from -30°C to +80°C

FINAL PERFORMANCE

Peel adhesion at +90°, after 7 days at +23°C (N/mm):	
- concrete:	2.0
- copper:	2.0
- aluminium:	1.5
- steel:	2.2
- ceramic treated with Eco Prim Grip beforehand:	2.0
- Topcem Pronto:	1.8
- bituminous membrane treated with Primer for Aquaflex:	1.3

- Apply at a temperature between +5°C and +30°C.

APPLICATION PROCEDURE

Preparation of the substrate

Surfaces on which Mapeband SA is to be applied must be well-cured, sound, clean and dry and must be free of all traces of oil, grease, cement laitance and any other product or substance that could prevent the adhesive tape from adhering fully.

Mapeband SA may be applied on concrete, solid and perforated bricks and concrete blocks as long as they have no sharp corners or rough edges. If surfaces need to be skimmed, use a product from MAPEI's Planitop or Mapegrout ranges.

On crumbly or dusty screeds, consolidate the surface with MAPEI Primer 3296 before applying Mapeband SA. Consumption varies from 0.1 to 0.5 kg/m², depending on the absorption and porosity of the surface to be treated.

For existing ceramic floors, on the other hand, the surface must be treated with

MAPEI Eco Prim Grip before applying Mapeband SA.

If Mapeband SA needs to be applied on a bitumen membranes, it must be perfectly clean and treated with a coat of Primer for Aquaflex. Apply Mapeband SA when the primer is touch dry.

Application of the product

Unroll Mapeband SA, place it on a solid base and trim to the length required with a cutter.

Place Mapeband SA at the start of the fillet to be waterproofed and partially remove one of the two sides of the protective film. Press down on the tape from the centre towards the edges to help it adhere and to prevent creases forming and air bubbles remaining under the tape.

Remove the remaining protective film to complete application of the strip of Mapeband SA.

Joints between strips of tape must overlap by at least 5 cm.

Once all the tape has been applied, go over the entire surface with a rubber roller

to make sure it is well adhered.
To finish, waterproof the substrate with a product from the **Mapelast** range, **Mapegum WPS** or **Aquaflex Roof**.

PACKAGING

- Boxes containing one 25 m x 10 cm roll of tape.
- Box containing 10 squares 370 mm x 370 mm.

STORAGE

Store at a temperature of +20°C. Protect from dust, damp and heat.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapeband SA is an article referring to the current European regulations (Reg. 1906/2007/CE - REACH) does not require the preparation of the Safety Data Sheet. During use it is recommended to wear protective gloves and goggles and follow the safety requirements of the workplace.

PRODUCT FOR PROFESSIONAL USE.

WARNING

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ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.



Application of Mapeband SA around edges



This symbol is used to identify Mapei products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.

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





BUILDING THE FUTURE



Ultracolor Plus



High-performance, anti-efflorescence, non irritating quick-setting and drying polymer-modified mortar with water-repellent DropEffect® and mould-resistant BioBlock® technology for grouting joints from 2 to 20 mm wide

CLASSIFICATION ACCORDING TO EN 13888

Ultracolor Plus is a cementitious (C), non irritating mortar for grouting (G) improved (2), with reduced water absorption (W) and high resistance to abrasion (A), class CG2WA.

WHERE TO USE

Internal and external grouting of floors and walls in all types of ceramic (double-fired, single-fired, klinker, porcelain, etc.), terracotta, stone material (natural stone, marble, granite, agglomerates, etc.), and glass and marble mosaic.

Some application examples

- Grouting floors and walls in areas subject to intense traffic (airports, shopping centres, restaurants, bars, etc.).
- Grouting floors and walls in residential areas (hotels, private houses, etc.).
- Grouting floors and walls on façades, balconies, terraces and on swimming pools.

TECHNICAL CHARACTERISTICS

Ultracolor Plus is a mortar formulated not to be irritant made up of a blend of special hydraulic binders, graded aggregates, special polymers, water repellent admixtures, organic molecules and pigments.

With **Ultracolor Plus**, the **Ultracolor** technology is based on a special, self-hydrating hydraulic binder which guarantees perfect colour uniformity, by two innovative technologies which are the result of MAPEI research: BioBlock® and DropEffect®.

The BioBlock® technology consists in special organic molecules which, by distributing themselves evenly in



Ultracolor Plus



Spreading Ultracolor Plus on wood-effect porcelain floor tiles with a rubber float



Cleaning the joints with a Scotch-Brite® pad (when the product is semi hardened)



Cleaning and finishing the joints with a hard cellulose sponge

the micro-structure of the joints, block the formation of micro-organisms that cause mould damage.

The DropEffect® technology, with a synergic effect, reduces the absorption of surface water.

When it is mixed with water in the proportions recommended and correctly applied, **Ultracolor Plus** forms a grouting mortar with the following characteristics:

- water-repellent and droplet-effect;
- uniform colour and free of staining since **Ultracolor Plus** does not produce efflorescence. From an analysis carried out using an electronic microscope (SEM), note that, compared with a Portland cement-based binder in a normal cementitious grouting mortar, the special cements in **Ultracolor Plus** do not generate the calcium hydroxide (hydrolysis lime) crystals during the hydration process, which cause efflorescence;
- colours resistant to ultra-violet rays and atmospheric agents;
- short waiting time before cleaning and easy finishing;
- ready for light foot traffic and for use after a short period of time;
- smooth, compact finished surface, with low water absorbency for easy cleaning;
- shrinkage compensated, therefore free from cracks;
- optimum resistance to abrasion, compression and flexural strength, even after freeze/thaw cycles, and therefore optimum durability;
- good resistance to acids with pH > 3.

RECOMMENDATIONS

- **Ultracolor Plus** does not contain Portland cement and must not be mixed with gypsum or other hydraulic binders; never add water to the mix once it has started to set.
- Never mix **Ultracolor Plus** with salty or dirty water.
- Use the product at temperatures between +5°C and +35°C.
- Carry out grouting only on substrates which are sufficiently dry or have been waterproofed, to avoid a whitish film forming on the surface.
- In order to avoid an uneven colour finish, we do not recommend sprinkling **Ultracolor Plus** powder onto the filled grout joints.
- When resistance to acids or, where extreme cleanliness or sterile conditions are required, use a suitable acid-resistant epoxy grout.
- Expansion and movement joints on walls and floors must never be filled with **Ultracolor Plus**. Use a suitable flexible sealant from the MAPEI range.
- The surface of certain tiles or stone material may have micro-porosity or a rough surface. We recommend carrying out a preliminary test to check how easy it is to clean the surface where necessary to apply a protective treatment to the surface, to ensure the grout does not penetrate into the surface porosity of the tiles.
- If an acid-based cleaner is used to clean the joint, we recommend testing the

product beforehand to check the resistance of the colour. Always make sure that the joints are thoroughly rinsed down to avoid leaving traces of acid in the joints.

APPLICATION PROCEDURE

Preparing the joints

Grouting may take place when the adhesive is completely set. Make sure that the waiting times indicated in the technical data sheets are followed.

The joints must be clean, free of dust and empty down to at least 2/3 of the thickness of the tiles. Any adhesive or mortar which has seeped into the joints while laying the tiles must be removed while still fresh. With very absorbent tiles, high temperatures or windy conditions, dampen the joints with clean water.

Preparing the mix

While stirring, pour **Ultracolor Plus** into a clean, rust-free container containing 20-26% by weight of clean water.

Mix the grout with a low-speed mixer to avoid air entrainment, until a smooth paste is obtained.

Let the mix stand for 2-3 minutes, and stir again briefly before use.

Use the mix within 20-25 minutes of its preparation.

Applying the grout

Fill the joints with the **Ultracolor Plus** mix using a special MAPEI grout float or rubber squeegee, without leaving any gaps or steps. Remove any excess of **Ultracolor Plus** from the surface, by moving the float or the rubber squeegee diagonally to the joints while the mix is still fresh.

Finishing

When the mix loses its plasticity and becomes opaque, which usually takes place after 15-30 minutes, clean off the excess **Ultracolor Plus** with a hard cellulose, damp sponge (e.g. a MAPEI sponge), working in a diagonal direction to the joints. Rinse the sponge frequently, using two different containers of water: one to remove the excess mix from the sponge, and the other, containing clean water, to rinse the sponge. This operation may also be carried out with a machine with a sponge belt.

It is possible to finish the surface also when the mix is partially set, after 50-60 minutes, with a damp Scotch-Brite® sponge: pass it over the joints to even out the surface. This operation may be also carried out with a single disk rotary machine with special Scotch-Brite® type felt disk. If the cleaning operation is carried out too soon (the mix is still too plastic), some of the mix may be removed from the joints, which may change their colour.

If grouting is carried out in extremely hot, dry or windy weather, we recommend that the joints filled with **Ultracolor Plus** are dampened after a few hours.

Damp curing of **Ultracolor Plus** improves its final characteristics in all cases.

Final cleaning of the powdery film of **Ultracolor Plus** from the surface may be carried out with a clean, dry cloth.

TECHNICAL DATA (typical values)

Conforms to standards:

– European EN 13888 as CG2WA
– ISO 13007-3 as CG2WAF

PRODUCT IDENTITY

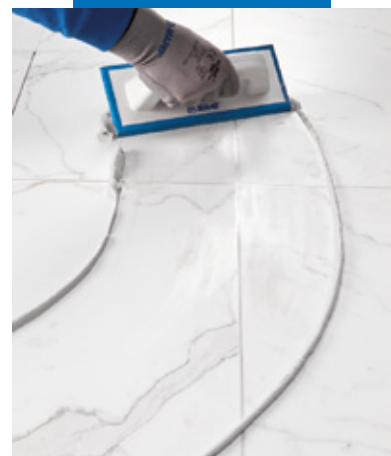
Consistency:	fine powder
Colour:	34 colours from the MAPEI range
Bulk density (kg/m ³):	1,400
Dry solids content (%):	100
EMICODE:	EC1 Plus - very low emission

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

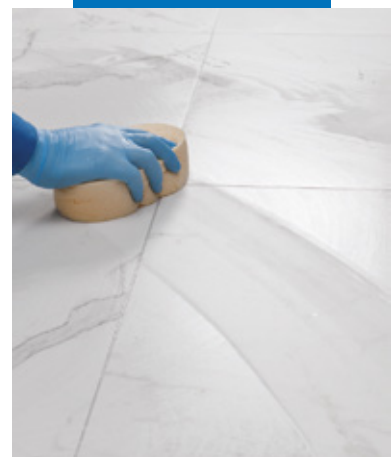
Mixing ratio:	100 parts Ultracolor Plus with 20-26 parts water, dependent on the colour
Consistency of the mix:	fluid paste
Density of mix (kg/m ³):	1,980
pH of mix:	approx. 11
Pot life of mix:	20-25 minutes
Application temperature range:	from +5°C to +35°C
Grouting after installation: – on walls bonded with normal adhesive: – on walls bonded with fast-setting adhesive: – on walls with mortar: – on floors bonded with normal adhesive: – on floors bonded with fast-setting adhesive: – on floors with mortar:	4-8 hours 1-2 hours 2-3 days 24 hours 3-4 hours 7-10 days
Waiting time for finishing:	15-30 minutes
Set to light foot traffic:	approx. 3 hours
Ready for use:	24 hours (48 hours for basins and swimming pools)

FINAL PERFORMANCES

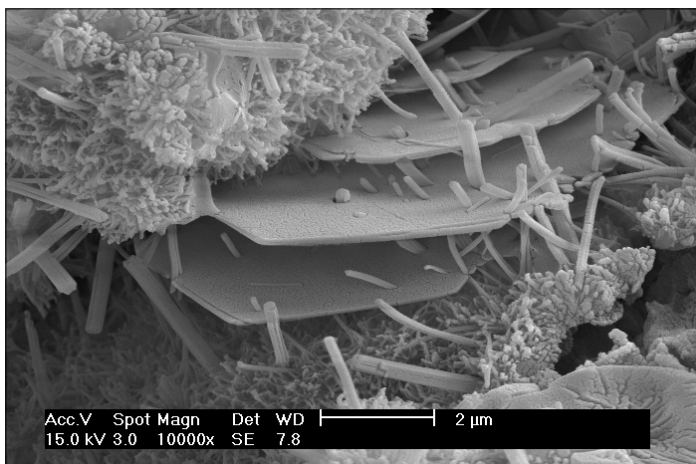
Flexural strength after 28 days (N/mm ²) (EN 12808-3):	9
Compressive strength after 28 days (N/mm ²) (EN 12808-3):	35
Flexural strength after freeze/thaw cycles (N/mm ²) (EN 12808-3):	9
Compressive strength after freeze/thaw cycles (N/mm ²) (EN 12808-3):	35
Abrasion resistance (EN 12808-2):	700 (loss in mm ³)
Shrinkage (mm/m) (EN 12808-4):	1.5
Water absorption (g) (EN 12808-5) after 30 minutes:	0.1
Water absorption (g) (EN 12808-5) after 4 hours:	0.2
Resistance to solvents and oil:	excellent
Resistance to alkalis:	excellent
Resistance to acids:	good resistance to acids with pH > 3



Spreading Ultracolor Plus on marble-effect porcelain floor tiles with a rubber float

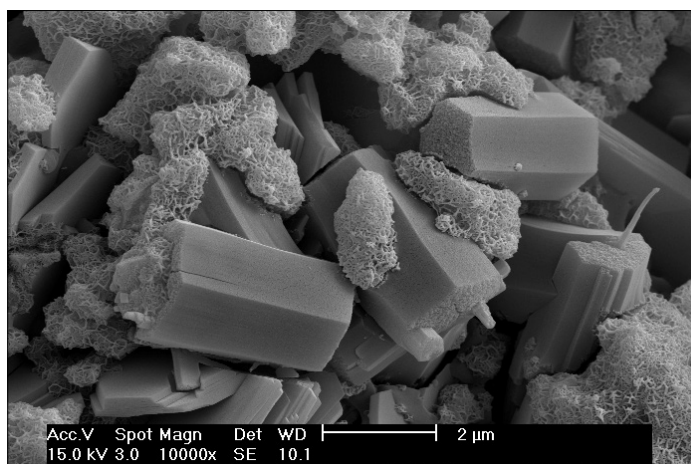


Cleaning and finishing the joints with a hard cellulose sponge



Hydration of a Portland cement-based binder in a traditional grouting mortar

Hydration of Ultracolor Plus special cement-based binder. Note the absence of lamellar crystals of Portlandite (calcium hydroxide), which is the cause of whitish efflorescence



After the final cleaning operation, if the surface still has traces of **Ultracolor Plus** due to incorrect application, it may be cleaned down with an acidic cleaner (e.g. **Keranet**), by following the relevant instructions, at least 24 hours after grouting the joints. Only use **Keranet** on surfaces which are resistant to acid, and never use it on marble or limestone material.

SET TO LIGHT FOOT TRAFFIC

Floors are ready for light foot traffic after approx. 3 hours.

READY FOR USE

Surfaces grouted with **Ultracolor Plus** may be put into service after 24 hours. Basins and swimming pools may be filled up 48 hours after grouting.

Cleaning

Tools and containers may be cleaned using plenty of water whilst **Ultracolor Plus** is still fresh.

CONSUMPTION

The consumption of **Ultracolor Plus** varies according to the size of the joints and the size and thickness of the tiles. The table illustrates a number of examples of the consumption in kg/m².

PACKAGING

23 kg bags, and 4x5 kg or 8x2 kg alupack boxes dependent on the colour.

COLOURS AVAILABLE

Ultracolor Plus is available in 34 colours of the MAPEI range (please refer to the colour samples).

STORAGE

Ultracolor Plus may be stored for 12 months (for 23 kg bags) and 24 months (for 2 and 5 kg bags) in its original packaging in a dry place.

However, after a certain amount of time, the setting time may extend but without modifying the final characteristics of the product.

The product complies with the conditions of Annex XVII to Regulation (EC) N° 1907/2006 (REACH) - item 47.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Ultracolor Plus is not hazardous according to the current regulation regarding the classification of mixtures. The product contains special hydraulic binders which, in contact with sweat or other body fluids, may produce a slightly irritating alkali reaction. During use, wear protective gloves and goggles and take the usual precautions for handling chemicals.

For further and complete information about the safe use of our product please refer to the latest version of our Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

CONSUMPTION TABLE ACCORDING TO THE SIZE OF THE TILES AND WIDTH OF THE JOINTS (kg/m²)

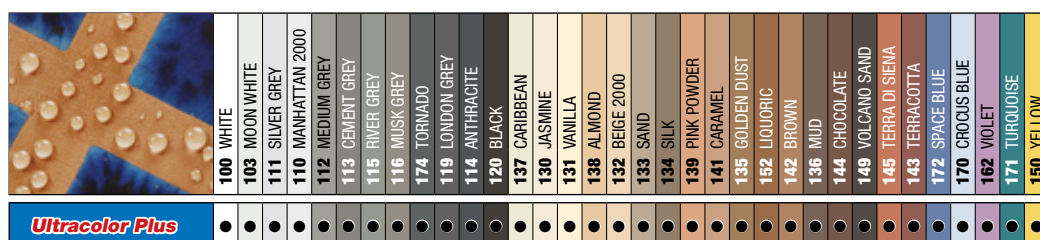
Size of the tile (mm)	Width of the joint (mm)				
	2	3	5	8	10
75x150x6	0.4	0.6	1.0	1.5	1.9
100x100x7	0.4	0.7	1.1	1.8	2.2
100x100x9	0.6	0.9	1.4	2.3	2.9
150x150x6	0.3	0.4	0.6	1.0	1.3
200x200x7	0.2	0.3	0.6	0.9	1.1
200x200x9	0.3	0.4	0.7	1.2	1.4
300x300x10	0.2	0.3	0.5	0.9	1.1
300x300x20	0.4	0.6	1.1	1.7	2.1
300x600x10	0.2	0.2	0.4	0.6	0.8
400x400x10	0.2	0.2	0.4	0.6	0.8
500x500x10	0.1	0.2	0.3	0.5	0.6
600x600x10	0.1	0.2	0.3	0.4	0.5
750x750x10	0.1	0.1	0.2	0.3	0.4
100x600x9	0.3	0.5	0.8	1.3	1.7
150x600x9	0.2	0.4	0.6	1.0	1.2
150x900x9	0.2	0.3	0.6	0.9	1.1
150x1200x10	0.2	0.4	0.6	1.0	1.2
225x450x9	0.2	0.3	0.5	0.8	1.0
225x900x9	0.2	0.2	0.4	0.6	0.8
250x900x9	0.1	0.2	0.4	0.6	0.7
250x1200x10	0.2	0.2	0.4	0.6	0.8
600x600x5	0.1	0.1	0.1	0.2	0.3
600x600x3			0.1	0.1	0.2
1000x500x5		0.1	0.1	0.2	0.2
1000x500x3			0.1	0.1	0.1
1000x1000x5			0.1	0.1	0.2
1000x1000x3				0.1	0.1
3000x1000x5			0.1	0.1	0.1
3000x1000x3				0.1	0.1

FORMULA TO CALCULATE CONSUMPTION:

$$\frac{(A + B)}{(A \times B)} \times C \times D \times 1.6 = \frac{\text{kg}}{\text{m}^2}$$

- A = length of tile (in mm)
- B = width of tile (in mm)
- C = thickness of tile (in mm)
- D = width of joint (in mm)

To calculate consumption rates for tiles with different sizes and joints with different widths to those used in the table for reference purposes please refer to the "Product Calculator" available on our website at www.mapei.com



N.B.: Due to the printing processes involved, the colours should be taken as merely indicative of the shades of the actual product

Ultracolor Plus



WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement

or replace requirements per the TDS in force at the time of the MAPEI product installation.

The most up-to-date TDS can be downloaded from our website www.mapei.com.

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.



This symbol is used to identify Mapei products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gesellschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.

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



BUILDING THE FUTURE



Two-component acid-resistant epoxy grout (available in 20 colours) for joints of at least 3 mm. Can also be used as an adhesive

CLASSIFICATION IN COMPLIANCE WITH EN 13888

Kerapoxy is a reaction resin (R) grout (G) classified as RG.

CLASSIFICATION IN COMPLIANCE WITH EN 12004

Kerapoxy is an improved (2) reaction resin adhesive (R) and slip resistant (T) classified as R2T.

Conformity of Kerapoxy is declared in ITT certificate n° 25040322/Gi (TUM) issued by the Technische Universität München laboratory (Germany) and in ITT certificates n° 2008-B-2748/7.1, 2008-B-2748/8.1 and 2008-B-2748/9.1 issued by the Institute MPA Dresden (Germany).

WHERE TO USE

Indoor and outdoor grouting of ceramic tile and natural stone floors and walls. Also suitable for acid-resistant bonding and rapid setting of ceramic tiles, stone materials, fibre-cement, concrete and any other building material on all types of substrates normally used in construction.

Kerapoxy allows you to create floors, walls and worktops, etc. in compliance with the HACCP system and the requirements of EC Regulation No. 852/2004 regarding hygiene and foodstuffs.

Some application examples

- Grouting floors and walls in the food industry (dairies, abattoirs, breweries, wine-cellars, conserved-food plants, etc.), shops and areas where hygiene is required (ice-cream shops, butchers, fish vendors, etc.).



Kerapoxy



Grouting of single fired tile wall with a float



Finishing of single fired tile wall with a Scotch-Brite® pad



Finishing of single fired tile wall with a sponge

- Grouting industrial floors and walls (electrical industries, tanneries, battery rooms, paper-mills, etc.), where high mechanical resistance and resistance to acid attack is required.
- Grouting swimming pools; particularly suitable for basins containing salt or thermal water.
- Grouting tanks containing aggressive chemicals (purification plants, etc.).
- Grouting ceramic tiles on laboratory benches, kitchen work surfaces, etc.
- Acid-resistant bonding of tiles (used as an adhesive in compliance with class R2T specification according to EN 12004 standard).
- Bonding marble doorsteps and window-sills.
- Bonding tiles in plastic reinforced by fibre glass swimming pools.
- Bonding special pieces of tiles.

TECHNICAL CHARACTERISTICS

Kerapoxy is a two-component, epoxy-resin-based product with silica sand and special components, with excellent resistance to acids and excellent cleanability.

This is a product with very low emission of volatile organic compounds and is classified Emicode EC1 R Plus by GEV when used for grouting.

The following features are obtained when used correctly:

- Excellent mechanical and chemical resistance, therefore excellent durability.
- A smooth final surface with low water absorption, therefore easy to clean; ensures hygiene.
- Easy workability and finishing.
- Becomes very hard and is highly resistant to heavy traffic.
- No shrinkage, therefore absence of cracks and fissures.
- Uniform colours that are resistant to ultra-violet rays and atmospheric agents.
- Excellent bonding.

RECOMMENDATIONS

- Because of the tessera's reduced thickness, **Kerapoxy** can also be used for grouting glass mosaics with joints less than 3 mm.
- When grouting ceramic tiled floors and walls subject to oleic acid attack (e.g. ham and sausage industries, oil-mills, etc.) and aromatic hydrocarbon, **Kerapoxy IEG** can be used (available in 113 or 130 reference colour of MAPEI range).
- For flexible expansion joints or joints subject to movement use an elastic sealant from the MAPEI line (e.g. **Mapesil AC**, **Mapesil LM**, **Mapeflex PU45 FT** or **Mapeflex PU21**).
- **Kerapoxy** does not ensure perfect adhesion when used for grouting tiles with wet edges or contaminated with cement, dust, oil, grease, etc.
- Unglazed klinker tiles should be grouted with the same colour tone **Kerapoxy**. All other colours should be used only with glazed tiles.
- Do not use **Kerapoxy** for grouting terracotta tiles because they are difficult to clean.

- Make preliminary sample tests before grouting porcelain tiles with a contrasting colour of **Kerapoxy** (e.g. black on white).
- Always carry out preliminary tests before grouting stone or ground porcelain with a porous or rough surface.
- Do not add water or any solvents to **Kerapoxy** to make it more fluid.
- Use the product in temperatures between +12°C and +30°C.
- The quantities are already in the correct proportions, therefore mistakes should not be made. Do not guess the quantities when mixing the two components. A wrong catalysis ratio could impair the hardening process.
- When removing already cured **Kerapoxy** from the joints, use a hot air industrial drier. Remove hardened **Kerapoxy** from the tiles with **Pulicol 2000**.
- When grouting large floor surface areas, it is recommended to use **Kerapoxy P**, available in grey 113 of MAPEI range (other colours are available upon request for quantities higher than 300 kg) because it is very fluid and easy to apply.

APPLICATION PROCEDURE

Preparing the joints

The joints must be dry, clean, free of dust and emptied at least 2/3 of the tile thickness.

The excess adhesive or mortar should be removed while still fresh.

Before grouting, make sure that the installation mortar or the adhesive has set and released most of its moisture.

Kerapoxy is not affected by the moisture on the surface; the joints should not be wet during work.

Preparing the mix

Pour all the hardener (component B), into a bucket containing component A and mix well until a smooth paste is obtained. For perfect mixing and avoiding overheating of the mixture, which could reduce working time, a low speed electric stirrer should be used. Use the paste within 45 minutes from mixing.

Applying the grout

Spread **Kerapoxy** with the appropriate MAPEI float, making sure the joints are completely filled. Use the same float, but on edge, to remove excess grout.

Finishing

After grouting with **Kerapoxy**, floors and walls should be cleaned immediately, before the product dries.

Wet the surface thoroughly and emulsify with an abrasive pad for cleaning joints (such as Scotch-Brite® or MAPEI tile-joint cleaning kit), making sure not to wash-out the joints. When cleaning walls, the cleaning pad should be fully soaked with water. The excess liquid can be removed with a hard cellulose sponge (e.g. MAPEI sponge), and should be replaced when too full of resin. Use the same type of sponge for the final tooling of the grout. It is very important that once the finishing process has ended, no traces of **Kerapoxy**

CHEMICAL RESISTANCE OF CERAMIC TILING GROUTED WITH KERAPOXY*

PRODUCT				USE	
Group	Name	Concentration %	Laboratory benches	INDUSTRIAL FLOORING	
				Permanently used (+20°C)	Sporadically used (+20°C)
Acids	Acetic acid	2.5	+	+	+
		5	+	(+)	+
		10	-	-	-
	Hydrochloric acid	37	+	+	+
	Chromic acid	20	-	-	-
	Citric acid	10	+	(+)	+
	Formic acid	2.5	+	+	+
		10	-	-	-
	Lactic acid	2.5	+	+	+
		5	+	(+)	+
		10	(+)	-	(+)
	Nitric acid	25	+	(+)	+
		50	-	-	-
	Pure oleic acid		-	-	-
	Phosphoric acid	50	+	+	+
		75	(+)	-	(+)
	Sulphuric acid	1.5	+	+	+
		50	+	(+)	+
	96	-	-	-	
Tannic acid	10	+	+	+	
Tartaric acid	10	+	+	+	
Oxalic acid	10	+	+	+	
Alkalis	Ammonia in solution	25	+	+	+
	Caustic soda	50	+	+	+
	Sodium hypochlorite in solution:				
	active chlorine	6.4 g/l	+	(+)	+
	active chlorine	162 g/l	-	-	-
	Potassium permanganate	5	+	(+)	+
		10	(+)	-	(+)
Potassium hydroxide	50	+	+	+	
Sodium bisulphite	10	+	+	+	
Saturated solutions at +20°C	Sodium hyposulphite		+	+	+
	Calcium chloride		+	+	+
	Ferric chloride		+	+	+
	Sodium chloride		+	+	+
	Sodium chromate		+	+	+
	Sugar		+	+	+
	Aluminium sulphate		+	+	+
Oils and fuels	Petrol, fuels		+	(+)	+
	Turpentine		+	+	+
	Diesel fuel		+	+	+
	Tar oil		+	(+)	(+)
	Olive oil		(+)	(+)	+
	Light fuel oil		+	+	+
	Petrol		+	+	+
Solvents	Acetone		-	-	-
	Ethylene glycol		+	+	+
	Glycerine		+	+	+
	Methylene glycol acetate		-	-	-
	Perchloroethylene		-	-	-
	Carbon tetrachloride		(+)	-	(+)
	Ethyl alcohol		+	(+)	+
	Trichloroethylene		-	-	-
	Chloroform		-	-	-
	Methylene chloride		-	-	-
	Tetrahydrofurane		-	-	-
	Toluene		-	-	-
	Carbon sulphide		(+)	-	(+)
	White spirit		+	+	+
	Benzene		-	-	-
	Trichloroethane		-	-	-
	Xylene		-	-	-
	Mercuric chloride (HgCl ₂)	5	+	+	+
	Hydrogen peroxide	1	+	+	+
	10	+	+	+	
	25	+	(+)	+	

Legend: + excellent resistance

(+) good resistance

- poor resistance

* Evaluated in compliance with EN 12808-1 standards

TECHNICAL DATA (typical values)

In compliance with:

- European EN 12004 as R2T
- ISO 13007-1 as R2T
- European EN 13888 as RG
- ISO 13007-3 as RG

PRODUCT IDENTITY

	component A	component B
Consistency:	thick paste	dense liquid
Colour:	20 colours available	
Density (g/cm³):	1.64	0.97
Dry solids content (%):	100	100
Brookfield viscosity (mPa·s)	3,500,000	900
EMICODE (as a grout):	EC1 R Plus - very low emission	

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

Mix ratio:	component A : component B = 9 : 1
Consistency of mix:	thick paste
Density of mix (kg/m³):	1,550
Pot life:	45 minutes
Application temperature:	from +12°C to +30°C
Open time (as an adhesive):	30 minutes
Adjustability time (as an adhesive):	60 minutes
Set to light foot traffic:	24 hours
Ready for use:	4 days

FINAL PERFORMANCE

Shear adhesion strength according to EN 12003 (N/mm²):	
- initial:	25
- after water immersion:	23
- after thermal shock:	25
Flexural strength (EN 12808-3) (N/mm²):	31
Compressive strength (EN 12808-3) (N/mm²):	55
Resistance to abrasion (EN 12808-2):	147 (loss in mm ³)
Water absorption (EN 12808-5) (g):	0.05
Resistance to moisture:	excellent
Resistance to ageing:	excellent
Resistance to solvents and oils:	very good (see table)
Resistance to acids and alkalis:	excellent (see table)
Temperature in use:	from -20°C to +100°C



Finishing a porcelain tiled floor with single-brushed power float or rubber squeegee



Grouting a ceramic tile floor with wood inlays with a trowel



Finishing a ceramic tile floor with wood inlays with a sponge

CONSUMPTION RATES ACCORDING TO THE SIZE OF THE TILES AND THE WIDTH OF THE JOINTS (kg/m²)

Size of tile (mm)	Width of joint (mm)			
	3	5	8	10
75x150x6	0.6	1.0	1.5	1.9
100x100x7	0.7	1.1	1.8	2.2
100x100x9	0.9	1.4	2.3	2.9
150x150x6	0.4	0.6	1.0	1.3
200x200x7	0.3	0.6	0.9	1.1
200x200x9	0.4	0.7	1.2	1.4
300x300x10	0.3	0.5	0.9	1.1
300x300x20	0.6	1.1	1.7	2.1
300x600x10	0.2	0.4	0.6	0.8
400x400x10	0.2	0.4	0.6	0.8
500x500x10	0.2	0.3	0.5	0.6
600x600x10	0.2	0.3	0.4	0.5
750x750x10	0.1	0.2	0.3	0.4
100x600x9	0.5	0.8	1.3	1.7
150x600x9	0.4	0.6	1.0	1.2
150x900x9	0.3	0.6	0.9	1.1
150x1200x10	0.4	0.6	1.0	1.2
225x450x9	0.3	0.5	0.8	1.0
225x900x9	0.2	0.4	0.6	0.8
250x900x9	0.2	0.4	0.6	0.7
250x1200x10	0.2	0.4	0.6	0.8
600x600x5	0.1	0.1	0.2	0.3
600x600x3		0.1	0.1	0.2
1000x500x5	0.1	0.1	0.2	0.2
1000x500x3		0.1	0.1	0.1
1000x1000x5		0.1	0.1	0.2
1000x1000x3			0.1	0.1
3000x1000x5		0.1	0.1	0.1
3000x1000x3			0.1	0.1

FORMULA FOR THE COVERAGE CALCULATION:

$$\frac{(A + B)}{(A \times B)} \times C \times D \times 1.6 = \frac{\text{kg}}{\text{m}^2}$$

- A = length of tile (mm)
- B = width of tile (mm)
- C = thickness of tile (mm)
- D = width of joint (mm)

For sizes not covered by the table, our website www.mapei.com has a calculator available to estimate consumption rates according to the size of the tiles and the width of the joints.

are left on the tile surface because it will be very difficult to remove. It is therefore necessary to frequently rinse the sponge with clean water during the cleaning process.

When finishing large floor surface areas, use a rotary, disc-type power float with Scotch-Brite® abrasive pads, well saturated with water. All excess liquid can be removed with a rubber squeegee.

The final cleaning cycle may be carried out using **Kerapoxy Cleaner** (special cleaning solution for epoxy grout). **Kerapoxy Cleaner** may also be used to remove thin residues of grout several hours after application. In such cases, the product must be left to react for longer (15-20 mins.).

The efficiency of **Kerapoxy Cleaner** depends on the amount of resin residues and how much time has passed since application. Cleaning must always be carried out while "fresh" as described above.

APPLICATION PROCEDURE AS AN ADHESIVE

After mixing the two components as described above, spread the adhesive with a notched trowel. Apply the tile under firm pressure to ensure good contact. After setting, bonding becomes extremely strong and resistant to chemical agents.

SET TO LIGHT FOOT TRAFFIC

At +20°C, floors are set to light foot traffic after 24 hours.

READY FOR USE

4 days. Surfaces can also undergo chemical attack after 4 days.

Cleaning

Clean tools and containers with plenty of water before **Kerapoxy** hardens. When **Kerapoxy** has hardened, removal is only possible by mechanical means or with **Pulicol 2000**.

CONSUMPTION

Consumption of **Kerapoxy** varies depending on the width of the joints, the size and thickness of the tiles. The table shows consumption in kg/m². When **Kerapoxy** is used as an adhesive, consumption is 2-4 kg/m².

PACKAGING

Kerapoxy is supplied, with mixing proportions carefully measured, in drums containing component A and bottles of component B to be mixed when using the product.

The total weight of the units is: 10, 5 and 2 kg in total.



An example of a grouted battery room



An example of grouted ornamental stones



An example of a bonded and grouted kitchen worktop

Kerapoxy

	WHITE	SILVER GREY	MANHATTAN 2000	MEDIUM GREY	CEMENT GREY	ANTHRACITE	BLACK	JASMINE	VANILLA	BEIGE 2000	CARAMEL	BROWN	CHOCOLATE	TERRA DI SIENA	TERRACOTTA	SPACE BLUE	CROCUS BLUE	VIOLET	TURQUOISE	YELLOW
Kerapoxy	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

N.B.: Due to the printing processes involved, the colours should be taken as merely indicative of the shades of the actual product

COLOURS

Kerapoxy is available in 20 colours from the “MAPEI Coloured Grouts” range.

STORAGE

Kerapoxy can be stored 24 months in a dry place in original packaging. Store component A at a temperature of at least +10°C to avoid crystallisation which, however, can be reversed by warming.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Kerapoxy part A is irritant for skin and eyes. Both part A and B may cause sensitisation if they come in contact with the skin of predisposed subjects. **Kerapoxy** part B is corrosive and may cause burns.

Kerapoxy part B contains low weight epoxy resins which can cause sensitization if cross-contamination with other epoxy compounds occurs. During use, wear protective gloves and goggles and take the usual precautions when handling chemicals. In case of contact with eyes or skin, wash immediately with plenty of water and seek medical attention. Furthermore, **Kerapoxy**, part A and B are dangerous for the environment. Do not dispose of the product in the environment. For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT ONLY FOR PROFESSIONAL USE.

WARNING

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this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

LEGAL NOTICE

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This symbol is used to identify Mapei products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.



Our Commitment To The Environment
MAPEI products assist Project Designers and Contractors create innovative LEED (The Leadership in Energy and Environmental Design) certified projects, in compliance with the U.S. Green Building Council.

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



An example of a grouted brewery floor



An example of a grouted wine cellar floor



BUILDING THE FUTURE



Mapesil AC

**Pure, mould-resistant,
acetic, silicone sealant
available in 34 colours
and transparent**

WHERE TO USE

Mapesil AC is an acetic-crosslinking silicone sealant suitable for sealing glass, ceramic and anodised aluminium. After first having used a bonding enhancer, **Primer FD** can also be used on concrete, wood, metal, painted surfaces, plastic and rubber.

Mapesil AC is used for:

- Sealing expansion joints of $\pm 25\%$ expansion of the initial size.
- Forming a perfectly elastic gasket between different elements in building, mechanical engineering, ship-building, automobile, manufacturing, etc.

Some application examples

- Sealing joints in wall and floor coverings of ceramic and cement, provided they are not subject to heavy abrasion.
- Sealing joints between sinks or sanitary ware and ceramic tiles in kitchens, bathrooms and showers with colours coordinated with the grouts.
- Sealing expansion joints in swimming pools.
- Assembling compositions of glass tiles and artistic stained glass windows.
- Sealing glazing of door and window frames.
- Sealing air ducts, water pipes.
- Sealing portholes, windows, glazed frames.
- Sealing tanks, service pipes and boilers.
- Sealing materials of different thermal exposure coefficient.
- Adhesive and sealant for general use.

TECHNICAL CHARACTERISTICS

Mapesil AC is a one-component, acetic crosslinking, solvent-free silicone sealant, available coloured or transparent. It is a thixotropic paste which is easily trowellable both horizontally and vertically. It crosslinks following exposure to atmospheric humidity at ambient temperatures, and forms an elastic product with following properties:



Mapesil AC

- excellent durability. Seals remain unchanged even after many years exposure to climatic extremes, industrial pollution, sudden temperature changes and immersion in water;
- high elasticity;
- excellent bonding to glass, ceramic and anodised aluminium;
- mildew resistant;
- waterproof and permeable to vapour;
- resistant to chemical agents;
- flexible down to -40°C and resistant to temperatures at $+180^{\circ}\text{C}$;
- easily workable;
- in compliance with ISO 11600 norm, it is classified as F-25-LM.
- in compliance with numerous international standards.
- in compliance with EN 15651-1, EN 15651-2, EN 15651-3 and CE-marking.

RECOMMENDATIONS

- Do not use **Mapesil AC** for joints in exterior between ceramic tiles and light-coloured natural stone because dirt could accumulate by the joints. Use **Mapesil LM**.
- For sealing surfaces sensitive to acids such as lime stone, use a neutral silicone sealant (e.g. **Mapesil LM**).
- The use of **Mapesil AC** is not recommended on highly plasticised material or on bituminous surfaces because of the release of substances that reduce bonding and penetrate into the sealant, altering the colour and resistance.
- The resistance of **Mapesil AC** to chemical agents is generally excellent; however, due to the numerous products and working conditions to which **Mapesil AC** can be applied, it is always advisable to do a sample test in cases of doubt.
- Do not use **Mapesil AC** to seal aquariums.
- For sealing floor joints subject to heavy traffic, use a polyurethane (e.g. **Mapeflex PU 45 FT**) or epoxy-polyurethane (e.g. **Mapeflex PU20**) sealant.

APPLICATION PROCEDURE

Preparing and calculating joints size

All the surfaces to receive the sealant must be dry, solid and free from dust and loose particles, oils, grease, wax, old paint and rust.

In order that the seal can carry out its function, provision must be made for it to elongate and compress freely.

During application it is therefore necessary that:

- it adheres only to the side of the walls of the joint and not to the base of the joint;
- the joint is sized so that the estimated maximum extension is not greater than 25% of the initial width (calculated at $+20^{\circ}\text{C}$);
- when the width of the joint is 10 mm, the thickness must be equal to the width; for widths between 11 and 20 mm the thickness must always be equal to 10 mm; for widths greater than the thickness must be equal to half the width.

To control the depth of the joint and to prevent **Mapesil AC** from adhering to the base, the bottom of the joint should be filled with a sized **Mapefoam**, a polyethylene cord.

Application of Primer FD

Where the use of **Primer FD** is necessary, it must be applied with a small brush onto the appropriate areas of the joints and left to dry for several minutes to allow the solvent to evaporate. Then apply **Mapesil AC**.

Application of Mapesil AC

Mapesil AC is packed in cartridges of 310 ml; to use, cut the cartridge above the end of the thread and screw on the nozzle, which should be cut at 45° to produce a hole corresponding to the size of the joint. Insert the cartridge into the gun and extrude the sealant.

The surface of **Mapesil AC** must be finished

off with a damp tool, preferably moistened with soapy water, before a superficial film has formed.

Crosslinking

When exposed to air and humidity, **Mapesil AC** crosslinks and becomes elastic. The speed at which **Mapesil AC** crosslinks depends only slightly on temperature, but is fundamentally linked to humidity in the atmosphere.

The graph shows the cross linking at $+23^{\circ}\text{C}$ and 50% humidity in the atmosphere.

Cleaning

To clean partially cross-linked **Mapesil AC** from tools and contaminated surfaces, common solvents may be used (e.g. ethyl acetate, petrol, toluene). Once cross-linking is complete, silicone rubber can only be cleaned mechanically.

COVERAGE

Mapesil AC:

Coverage of **Mapesil AC** varies depending on the width of the joints. Some examples of coverage for end joints and triangular joints are shown in the chart.

Primer FD:

100 g/m².

PACKAGING

Mapesil AC: 310 ml cartridges.

Primer FD:

0.9 kg and 0.2 kg bottles.

COLOURS

Mapesil AC is available in 34 colours from the "MAPEI COLOURED GROUTS" range plus transparent.

STORAGE

Mapesil AC can be stored 24 months in a dry cool place in original cartridges.

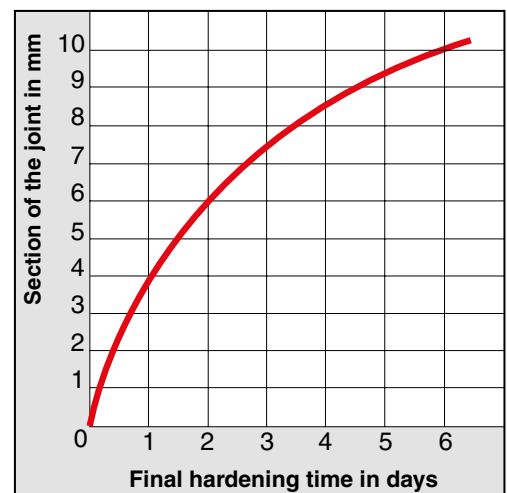
Primer FD, when stored in a cool and dry place (at a temperature not higher than $+25^{\circ}\text{C}$) has a storage life of 6 months.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapesil AC is not considered dangerous according to current norms regarding the classification of mixtures. During use, wear protective gloves and goggles and take the usual precautions for handling chemicals.

For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

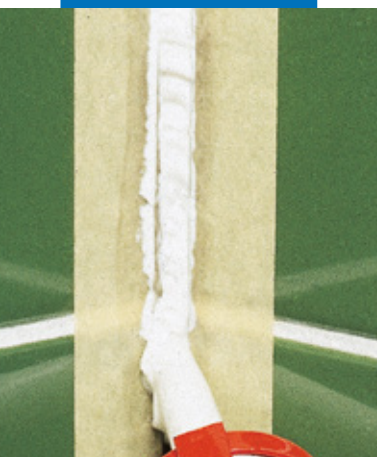
PRODUCT FOR PROFESSIONAL USE.



Cutting the nozzle according to the size of the joints



Application of Primer FD



Application of Mapesil AC

MAPESIL AC - TECHNICAL DATA (typical values)

In compliance with: EN 15651-1
EN 15651-2
EN 15651-3

PRODUCT IDENTITY

Type:	thixotropic paste
Colour:	transparent + 34 colours
Density (g/cm ³):	1.03 (transparent colour)
Dry solids content (%):	100
EMICODE:	EC1 Plus - very low emission

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

Application temperature range:	from +5°C to +50°C
Extrusion speed from a 3.5 mm nozzle at a pressure of 0.5 N/mm ² (g/minute):	120
Time for formation of skin (minutes):	10
Shrinkage during vulcanisation (%):	3.5
Speed of vulcanisation (mm):	4 in 1 day - 10 in 7 days

FINAL PERFORMANCES

EN 15651-1: sealant for façade joints in interior and exterior, even with cold temperature:	F-EXT-INT-CC
Class:	25 LM
EN 15651-2: sealant for glazing, even with cold temperature:	G-CC
Class:	G 25 LM
EN 15651-3: sealant for sanitary fittings:	S
Class:	XS 1
Tensile strength – according to ISO 37 (N/mm ²):	1.6
Elongation at breaking point – according to ISO 37 (%):	800
Tear strength (ISO 34-1, Die C) (N/mm):	4
Shore-A-Hardness (ISO 868):	20
Density at +25°C (ISO 1183-1 A) (g/cm ³):	1.02
Modulus of elongation measured according to ISO 8339 METHOD A (N/mm ²):	
– at 25% elongation:	0.20
– at 50% elongation:	0.27
– at 100% elongation:	0.35
Maximum movement allowed (%):	25
Resistance to water:	excellent
Resistance to ageing:	excellent
Resistance to atmospheric agents:	excellent
Resistance to chemical agents, acids and dilute alkali:	good
Resistance to soap and detergents:	excellent
Resistance to solvents:	limited
Resistance to temperature:	from –40°C to +180°C

PRIMER FD - TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Consistency:	transparent liquid
Color:	yellowish
Density (g/cm ³):	0.92
Brookfield viscosity (mPa·s):	1-2 (rotor 1 - rpm 100)



Smoothing the joint with soapy water and a small brush



Sealing ceramic tile floor with Mapesil AC



Sealing sanitary ware

Mapesil AC



COVERAGE TABLE (linear metres per cartridge)	
END JOINT	
Joint size in mm (a x b)	Linear metres per cartridge
5x5	12
10x5	6
10x10	3
15x10	2
20x10	1.5
25x10	1.25
30x15	0.7
40x20	0.4

TRIANGULAR JOINT	
Joint size in mm (l ₁ x l ₂)	Linear metres per cartridge
5x5	25
10x10	6
10x15	3
10x20	1.5

Primer FD is easily inflammable. It is recommended storing it away from naked flames and sparks, to avoid smoking, to prevent the build up of electrostatic energy and to work in well ventilated areas.

Furthermore, it is irritant for the eyes and skin, it may cause drowsiness and dizziness, it is harmful if swallowed or inhaled, and it may cause irreversible damage if used for lengthy periods.

During use, wear protective gloves to prevent dry, chapped skin, and protective gloves, and take the usual precautions for handling chemicals.

If the product comes in contact with the eyes or skin, wash immediately with plenty of clean water and seek medical attention. Wear

a suitable device to protect the respiratory system. Do not use in presence of pregnant women. For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

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This symbol is used to identify Mapei products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gesellschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.



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	100	WHITE		103	MOON WHITE		110	MANHATTAN 2000		111	SILVER GREY		112	MEDIUM GREY		113	CEMENT GREY		115	RIVER GREY		116	AMISK GREY		119	LONDON GREY		114	ANTHRACITE		120	BLACK		137	CARIBBEAN		130	JASMINE		131	VANILLA		138	ALMOND		132	BEIGE 2000		133	SAND		134	SILK		139	PINK POWDER		135	GOLDEN DUST		152	LOLORICE		136	MUD		141	CARAMEL		142	BROWN		143	TERRACOTTA		144	CHOCOLATE		145	TERRA DI SIBERIA		149	VOLCANO SAND		150	YELLOW		162	VIOLET		170	CROCUS BLUE		171	TURQUOISE		172	SPACE BLUE		174	TORNADO		999	TRANSPARENT
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BUILDING THE FUTURE

Sealing U-profile glass

Sealing aluminium window frame with Mapesil AC