MAPEI®

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 ISO 13007

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), fast setting (F), class CG2WAF.

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 to be non-irritating, 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®.

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

Ultracolor Plus

Spreading Ultracolor Plus on a wall with a rubber trowel

Cleaning the joints with Scotch-Brite® (when the product is partially set)

Cleaning and finishing the tile joints with a 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 befoehand to check the resistance of the colour. Always make sure that the joints are thorougly 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

Before mixing the grout with water, dry-blend the product to avoid color variations in the finished grout, which may arise from pigment settling during transport. If two or more bags are to be used, all of the contents should be dry-blended together.
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

TECHNICAL DATA (typical values)

Conforms to standards:	**– European EN 13888 such as CG2WA – ISO 13007-3 such as CG2WAF**
PRODUCT IDENTITY	
Consistency:	fine powder
Colour:	34 colours from the MAPEI range
Bulk density (kg/m³):	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/m³):	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/mm²) (EN 12808-3):	9
Compressive strength after 28 days (N/mm²) (EN 12808-3):	35
Flexural strength after freeze/thaw cycles (N/mm²) (EN 12808-3):	9
Compressive strength after freeze/thaw cycles (N/mm²) (EN 12808-3):	35
Abrasion resistance (EN 12808-2):	700 (loss in mm³)
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

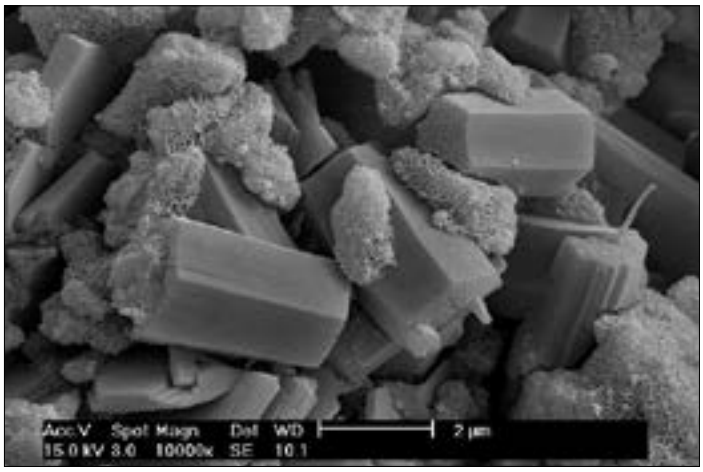
Wall covering in porcelain tiles grouted with Ultracolor Plus

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)

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



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.
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/m^2.

PACKAGING
4x5 kg or 8x2 kg alupack boxes dependent on the colour.

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

STORAGE
Ultracolor Plus may be stored for 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.

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.

Cleaning and finishing the joints with a hard cellulose sponge

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

Cleaning and finishing the joints with a hard cellulose sponge

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

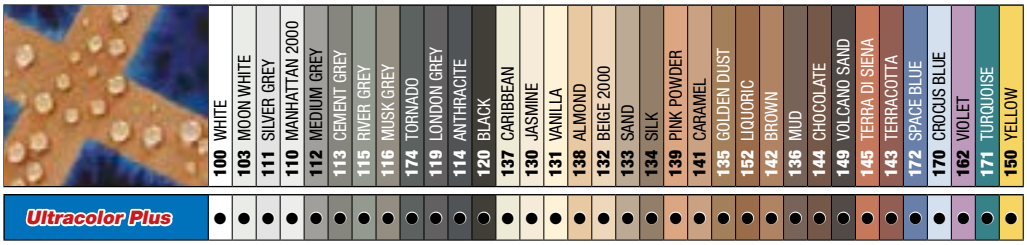
Size of the tile (mm)	Width of the joint (mm)				
	2	3	5	8	10
75x150x6	0.4	0.6	1.0	1.5	1.9
100x100x7	0.4	0.7	1.1	1.8	2.2
100x100x9	0.6	0.9	1.4	2.3	2.9
150x150x6	0.3	0.4	0.6	1.0	1.3
200x200x7	0.2	0.3	0.6	0.9	1.1
200x200x9	0.3	0.4	0.7	1.2	1.4
300x300x10	0.2	0.3	0.5	0.9	1.1
300x300x20	0.4	0.6	1.1	1.7	2.1
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:

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

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

Wood-effect porcelain floor tiles grouted with Ultracolor Plus

Example of a glass mosaic-chip coating grouted with Ultracolor Plus in a shower cubicle

Ultracolor Plus

EXAMPLES OF GROUTS ON WOOD-EFFECT TILES

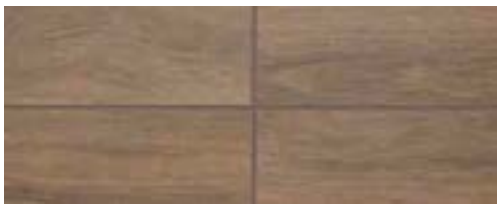
130 JASMINE

133 SAND

134 SILK

135 GOLDEN DUST

142 BROWN



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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.au

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GEV-EMICODE EC 1 PLUS very low emission

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.

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