MAPEI

Ultracolor Plus

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

GEV-EMICODE EC 1 PLUS very low emission

EN 13888 CG2WA MAPEI CEMENTITIOUS GROUT

Fast Track Ready

BioBlock DropEffect

CLASSIFICATION ACCORDING TO EN 13888

Ultracolor Plus is a cementitious (C) 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 to 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 in swimming pools.

TECHNICAL CHARACTERISTICS

Ultracolor Plus is a mortar made up of a blend of special hydraulic binders, graded aggregates, special polymers, water repellent admixtures, organic molecules and pigments. The formulation of **Ultracolor Plus** contains no Portland cement, making it more user friendly.
Ultracolor Plus, technology is based on a special, self-hydrating hydraulic binder which guarantees colour uniformity. **Ultracolor Plus** contains two innovative technologies MAPEI research: BioBlock® and DropEffect®.
The BioBlock® technology consists of special organic molecules which, by distributing themselves evenly in 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 droplet-effect;
- uniform colour and free of staining since **Ultracolor Plus** does not produce efflorescence. From analysis carried out using an electronic microscope (SEM), it was noted 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 making it suitable for external applications.
- short waiting time before cleaning and easy finishing;
- ready for light foot traffic and for use after a short period of time, 3 hours.
- smooth, compact finished surface, with low water absorbency for easy cleaning;

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

- 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.
- Apply 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 Mapei epoxy resin based grout such as Kerapoxy
- 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 and where necessary to apply a protective treatment to the surface, to ensure the grout does not penetrate into the surface of the tiles.
- Certain types of tiles including natural stone with softer surfaces, soft glazed ceramics, glass tiles or those with metal décor or high gloss finish may become scratched or dulled when using **Ultracolor Plus** Grout. It is recommended that a trial area be carried out if there is any doubt.
- 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 of the selected tile adhesive are followed prior to grouting.
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 prior to grouting.

Preparing the mix

While stirring, pour **Ultracolor Plus** into a clean, rust-free container containing 21-23% 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 20-30 minutes of its preparation.

Applying the grout

Fill the joints with the **Ultracolor Plus** mix using a suitable grout float or rubber squeegee, without leaving any gaps or ridges.
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.
After the final cleaning operation, if the surface still has traces of cementitious residues, it may be cleaned down with an acidic cleaner (e.g. **UltraCare Keranet**), after the grout has completely cured.
To aid the cleaning off process after application **UltraCare Keranet Easy** spray, can be used. For the correct use of **UltraCare** products range please refer to the relevant Technical Data Sheets.

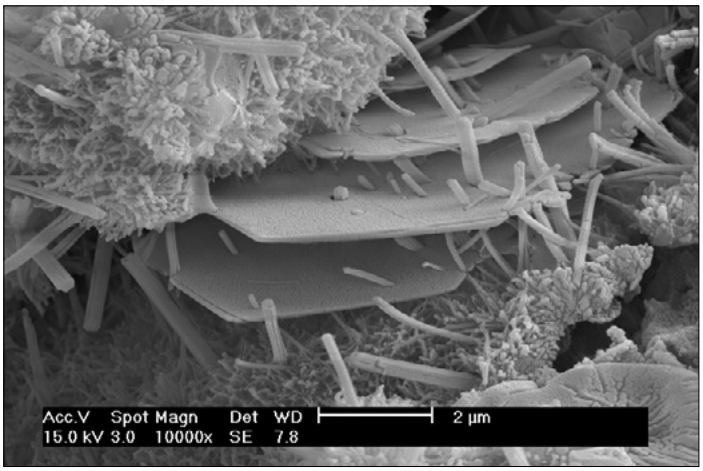
TECHNICAL DATA (typical values)

Conforms to standards:	**– European EN 13888 as CG2WA – ISO 13007-3 as CG2WAF**
PRODUCT IDENTITY	
Consistency:	fine powder
Colour:	40 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 21-23 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:	20-30 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

Spreading Ultracolor Plus on porcelain floor tiles with a rubber float

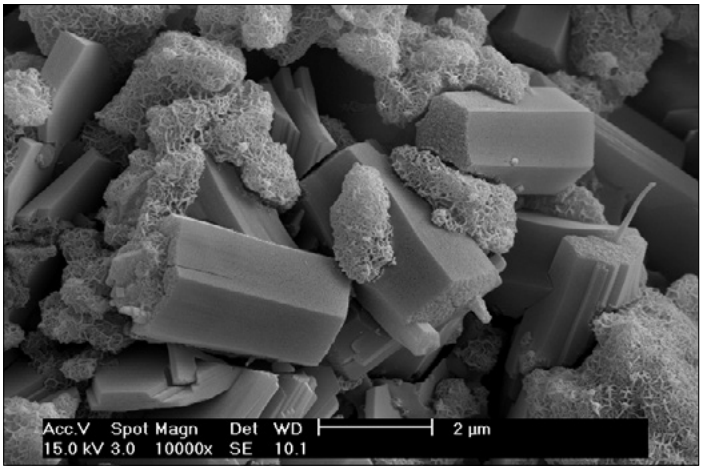
Cleaning and finishing the joints with a hard cellulose sponge

Flooring grouted with Ultracolor Plus



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



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

COLOURS AVAILABLE
Ultracolor Plus is available in 40 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.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION
Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website www.mapei.co.uk.

PRODUCT FOR PROFESSIONAL USE.

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.co.uk

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

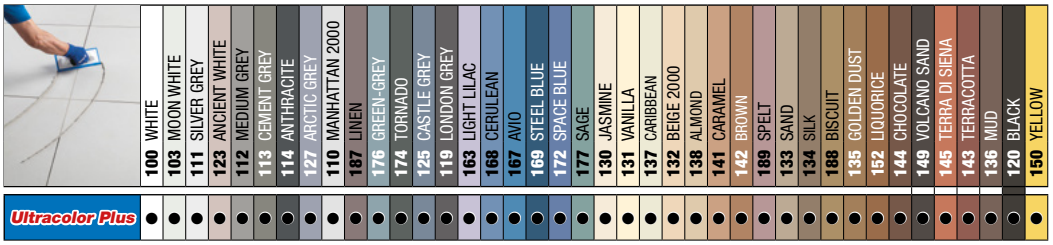
Size of tile (mm)	Width of joint (mm)				
	2	3	5	8	10
75x150x6	0.4	0.6	1.0	1.5	1.9
100x100x7	0.4	0.7	1.1	1.8	2.2
100x100x9	0.6	0.9	1.4	2.3	2.9
150x150x6	0.3	0.4	0.6	1.0	1.3
200x200x7	0.2	0.3	0.6	0.9	1.1
200x200x9	0.3	0.4	0.7	1.2	1.4
300x300x10	0.2	0.3	0.5	0.9	1.1
300x300x20	0.4	0.6	1.1	1.7	2.1
300x600x10	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 FOR THE COVERAGE CALCULATION:

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

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.



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

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

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.

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

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BUILDING THE FUTURE