

# 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, with very low emission of volatile organic compounds and fully offset Greenhouse Gas Emissions



## CLASSIFICATION ACCORDING TO EN 13888-1

Ultracolor Plus is a cementitious (C) mortar for grouting (G) improved (2), with reduced water absorption (W), high resistance to abrasion (A), and fast-setting (F) in class CG2FWA.

## CO<sub>2</sub> FULLY OFFSET PRODUCTS

Ultracolor Plus is part of the CO<sub>2</sub> Fully Offset in the Entire Life Cycle line of products. CO<sub>2</sub> emissions measured throughout the life cycle of products from the Zero line in 2023 using Life Cycle Assessment (LCA) methodology, verified and certified with EPDs, have been offset through the acquisition of certified carbon credits in support of renewable energy and forestry protection projects. A commitment to the planet, to people and to biodiversity. For more details on how emissions are calculated and on climate mitigation projects financed through certified carbon credits, visit the webpage [zero.mapei.com](https://zero.mapei.com).

## WHERE TO USE

Internal and external grouting of floors and walls in all types of ceramic (double-fired, single-fired, clinker, 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 façades, balconies, terraces, and 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 impact **Ultracolor Plus** has on the environment throughout its entire life cycle has been measured using the LCA (Life Cycle Assessment) method and reported in EPD n° S-P-07051 and S-P-07044 (Environmental Product Declaration) in accordance with ISO 14025 standard, certified and published by The International EPD System.

**Ultracolor Plus** is a product with very low emission of volatile organic compounds (VOC), which safeguards the health and safety of installers and final users. It is certified as EC1 Plus by the German institute GEV.

**Ultracolor Plus** helps earn important LEED credits.

The formulation of **Ultracolor Plus** contains no Portland cement, making it a safe product for users.

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

BioBlock® and DropEffect®.

The BioBlock® 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 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;
- excellent resistance to abrasion compression and flexural strength even after freeze-thaw cycles, therefore optimal 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 that 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, high hygienic requirements, or sterile conditions are needed, 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 materials 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

Before grouting joints, wait until the adhesive or the mortar has completely hardened, and the waiting times indicated in the relative Technical Data Sheet have been respected.

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.

### Preparation of 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 3 minutes, then mix again briefly before use.

Use the mix within 30 minutes of preparation.

### Application

Fill the joints with the **Ultracolor Plus** mix using an appropriate Mapei trowel or rubber spreader without leaving any gaps or lippage. Remove excess of **Ultracolor Plus** from the surface of the tiles by passing the trowel or spreader diagonally to the joints while the grout is still wet.

### Finishing

When the grout loses its elasticity and becomes opaque, normally after 15–30 minutes, wash off any excess of **Ultracolor Plus** with a damp hard cellulose sponge (such as the Mapei Sponge) working diagonally to the joints. Rinse the sponge frequently in two different containers of water: one container to remove the grout from the sponge and a second container, with clean water, to rinse the sponge. This operation can 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 ScotchBrite® sponge: pass it over the joints to even out the surface.

This operation may also be carried out with a single disk rotary machine with a special Scotch-Brite® type felt disk.

If the joints are cleaned too soon (while the grout is still plastic) the grout could be dragged from the joints and leave gaps, which may then change colour more easily.

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.

If it is necessary to use a product to remove residues of grout at the moment of installation, it is recommended to use **UltraCare Keranet Easy** spray, suitable for removing excess grout from surfaces during installation.

For a correct use of **UltraCare** products range, please refer to the relevant Technical Data Sheets.



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



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



Cleaning and finishing the joints with a hard cellulose sponge



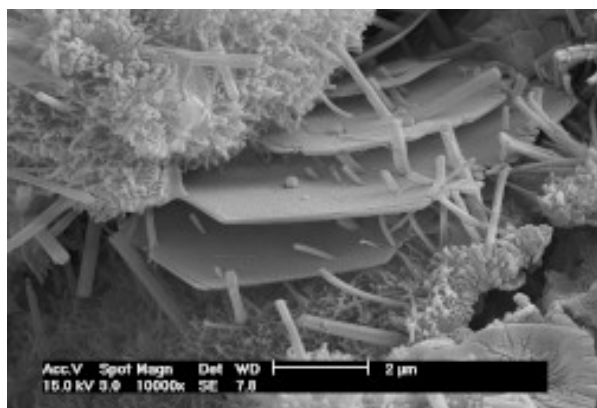
Spreading **Ultracolor Plus** on porcelain floor tiles with a rubber float



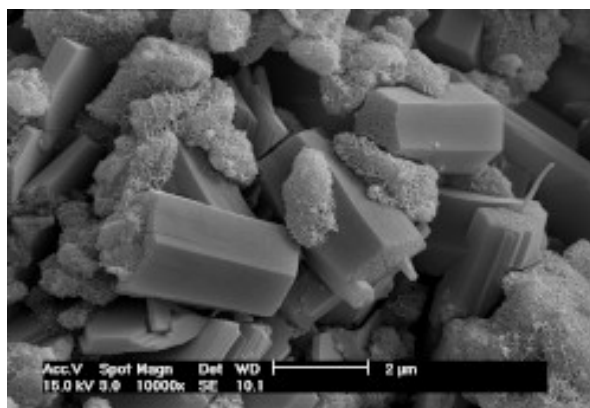
Cleaning and finishing the joints with a hard cellulose sponge



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

The floors are set to light foot traffic after approximately 3 hours.

## READY-FOR-USE

Surfaces grouted with **Ultracolor Plus** are ready for use after approximately 24 hours. Tanks and swimming pools can be filled after 48 hours.

## CLEANING

Clean tools and containers with plenty of water while **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<sup>2</sup>.

### Consumption according to the size of the tiles and the width of the joints (kg/m<sup>2</sup>)

Tile size (mm)	Joint width (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 APPLIED TO CALCULATE CONSUMPTION RATE:

$$\frac{(A + B)}{(A \times B)} \times C \times D \times 1,6 = \frac{\text{kg}}{\text{m}^2}$$

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

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

## PACKAGING

22 kg bags, 4x5 kg or 8x2 kg Alupack bags, depending on the colour.

## COLOURS

Ultracolor Plus is available in 40 colours of the MAPEI range (please refer to the colour samples).

Ultracolor Plus		
100	WHITE	
103	MOON WHITE	
111	SILVER GREY	

123	ANCIENT WHITE	
112	MEDIUM GREY	
113	CEMENT GREY	
114	ANTHRACITE	
127	ARCTIC GREY	
110	MANHATTAN 2000	
187	LINEN	
176	GREEN-GREY	
174	TORNADO	
125	CASTLE GREY	
119	LONDON GREY	
163	LIGHT LILAC	
168	CERULEAN	
167	AVIO	
169	STEEL BLUE	
172	SPACE BLUE	
177	SAGE	
130	JASMINE	
131	VANILLA	
137	CARIBBEAN	
132	BEIGE 2000	
138	ALMOND	
141	CARAMEL	
142	BROWN	
189	SPELT	
133	SAND	
134	SILK	

188	BISCUIT	
135	GOLDEN DUST	
152	LIQUORICE	
144	CHOCOLATE	
149	VOLCANO SAND	
145	TERRA DI SIENA	
143	TERRACOTTA	
136	MUD	
120	BLACK	
150	YELLOW	

Note: Due to the printing process involved, the colours shown are merely indicative.

## STORAGE

**Ultracolor Plus** can be stored for 12 months (for 22 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 SDS available from our website [www.mapei.com](http://www.mapei.com).

PRODUCT FOR PROFESSIONAL USE.

## TECHNICAL DATA (typical values)

In compliance with the following standards:

- European EN 13888-1 as CG2FWA
- ISO 13007-3 as CG2WAF

### PRODUCT IDENTITY

Consistency:	fine powder
Colour:	40 colours from the MAPEI coloured grouts range.
Bulk density:	1400 kg/m <sup>3</sup>
Dry solids content:	100%
EMICODE:	EC1 Plus – very low emission

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

Mixing ratio:	100 parts <b>Ultracolor Plus</b> with 20-26 parts water, depending on the colour
Consistency of mix:	fluid paste
Density of mix:	1980 kg/m <sup>3</sup>
pH of mix:	approx. 11

Pot life of mix:	20-30 minutes
Application temperature:	from +5°C to +35°C
Waiting time before grouting:	
– on walls bonded with normal adhesive:	4–8 hours
– on walls bonded with fast-setting adhesive:	1–2 hours
– on walls with mortar:	2–3 days
– on floors bonded with normal adhesive:	24 hours
– on floors bonded with fast-setting adhesive:	3–4 hours
– on floors with mortar:	7–10 days
Waiting time before finishing:	15-30 minutes
Set to light foot traffic:	approx. 3 hours
Ready for use:	24 hours (48 hours for tanks and swimming pools)

## FINAL PERFORMANCE

Flexural strength after 28 days (EN 12808-3):	9 N/mm <sup>2</sup>
Compressive strength after 28 days (EN 12808-3):	35 N/mm <sup>2</sup>
Flexural strength after freeze/thaw cycles (EN 12808-3):	9 N/mm <sup>2</sup>
Compressive strength after freeze/thaw cycles (EN 12808-3):	35 N/mm <sup>2</sup>
Resistance to abrasion (EN 12808-2):	700 (loss in mm <sup>3</sup> )
Shrinkage (EN 12808-4):	1.5 mm/m
Water absorption (EN 12808-5) after 30 minutes:	0.1 g
Water absorption (EN 12808-5) after 4 hours:	0,2 g
Resistance to solvents and oils:	excellent
Resistant to alkalis:	excellent
Resistance to acids:	good resistance to acids with pH > 3

## 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.*

**Please refer to the current version of the Technical Data Sheet, available from our website**

[www.mapei.com](http://www.mapei.com)



## LEGAL NOTICE

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*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](http://www.mapei.com).*

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