

# Ultratop System “natural effect”

**SELF-LEVELLING, ULTRA-FAST SETTING CEMENTITIOUS SYSTEM APPLIED AT A THICKNESS FROM 5 TO 40 mm TO CREATE ABRASION-RESISTANT FLOORS**

## **Products used:**

**Primer SN or Primer LT**

**Ultratop**

**Finishing from the Mapefloor Finish range\***

**Mapelux Opaca or Mapelux Lucida**

\* Contact the MAPEI Technical Services Department for advice on the most suitable finishing.

## **DESCRIPTION**

**ULTRATOP SYSTEM** is a self-levelling, ultra-fast setting cementitious system which may be applied on concrete, ceramic and natural stone surfaces to create floors with high resistance to abrasion and high mechanical strength inside civil and industrial buildings.

**ULTRATOP SYSTEM** floorings are left on view as finished floors and may be used in a wide variety of applications in the decorative sectors of buildings for civil use.

## **CLASSIFICATION ACCORDING TO EN 13813**

Self-levelling floors of **ULTRATOP** applied as specified in the attached system Technical Data Sheet are classified as CT - C40 - F10 - A9 - A2<sub>II</sub>-s1 in compliance with EN 13813 Standards.

## **WHERE TO USE**

Floorings subject to medium traffic inside civil and industrial buildings and for smoothing and levelling new and old substrates and make them suitable for pedestrian and wheeled traffic in industrial warehouses, shopping centres, offices, shops and exhibition halls.

## **ULTRATOP SYSTEM**

**“natural effect”** is used in:

- shopping centres, supermarkets, shops, exhibition halls, areas subject to pedestrian traffic and warehouses subject to goods traffic;
- production and storage areas in chemical, foodstuffs, textile and tanning works which must be protected with epoxy paint or coatings.

## **PERFORMANCE AND ADVANTAGES OF THE SYSTEM**

- May be applied manually or with a worm-screw rendering machine with a mixing hopper at a thickness from 5 to 40 mm.
- Guarantees a perfectly flat surface.
- Set to foot traffic after 3-4 hours.
- Fast-drying, successive finishing operations may be carried out a short time after application.
- Controlled-shrinkage hardening.
- Good resistance to abrasion without further coatings.

## **COLOURS AVAILABLE**

**ULTRATOP** is available in the following colours: light grey, white, beige, red,

anthracite and standard (beige to light brown).

Floors made using **ULTRATOP** may have an uneven colour, typical of cementitious products.

## **YIELD**

*Primer:*

### **PRIMER SN**

0.3-0.6 kg/m<sup>2</sup> per layer according to the characteristics of the substrate

### **PRIMER LT**

0.1-0.2 kg/m<sup>2</sup>

*Self-levelling mortar:*

### **ULTRATOP**

16.5-17.5 kg/m<sup>2</sup> per cm of thickness



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## Finishing layer:

According to the chosen finishing from the **MAPEFLOOR FINISH** range.

## Waxing:

**MAPELUX OPACA** 50 g/m<sup>2</sup>

**MAPELUX LUCIDA** 50 g/m<sup>2</sup>

The consumption figures for the primer consider application on a shot-blasted surface.

Consumption increases if the primer is applied on rougher or highly porous surfaces.

## PREPARATION OF THE SURFACE

### 1. Characteristics of the substrate

Before applying **ULTRATOP SYSTEM** the substrate on which the flooring is to be applied must be carefully analysed. To obtain a good finish, the following must be checked:

- That there are no materials which could potentially prevent the bond of the successive layers, such as:
  - cement laitance;
  - dust or detached or loose portions;
  - protective wax, curing products, paraffin or efflorescence;
  - oil stains or layers of resin;
  - traces of paint or chemical products.

Any other kind of pollutant which may compromise the bond of the coating must be removed before applying the product. If the substrate is polluted by such elements, it **MUST** be prepared by carrying out a special preparation cycle. If required, contact the Technical Services Department for advice on the most suitable preparation cycle.

- The level of humidity in the substrate must be no higher than 4% and a suitable vapour barrier must be installed.
- The tear strength of the substrate must be more than 1.5 N/mm<sup>2</sup>.

If all the above conditions are respected, **ULTRATOP SYSTEM “natural effect”** may be applied on concrete industrial floors, conventional or polymer-modified cementitious screeds, controlled-shrinkage screeds such as those made using **MAPECEM** or **TOPCEM** and old cement and ceramic tiles, if prepared correctly.

### 2. Preparation of the substrate

It is very important that the surface is prepared correctly to guarantee correct installation and get the best performance from **ULTRATOP SYSTEM**.

The most suitable method to prepare the surface is by shot-blasting or milling. All dust must then be removed with a vacuum cleaner. Do not use chemical preparation methods, such as acid rinsing, or aggressive percussion

## TECHNICAL DATA (at +23°C)

<b>Workability time:</b>	15 minutes	
<b>Setting time:</b>	80 minutes	
<b>Set to foot traffic:</b>	3-4 hours	
<b>Colours available:</b>	light grey, white, beige, red, anthracite and standard	
<b>Compressive strength (EN 13892-2) (N/mm<sup>2</sup>):</b>	after 7 days ≥ 30	after 28 days ≥ 40
<b>Flexural strength (EN 13892-2) (N/mm<sup>2</sup>):</b>	after 7 days ≥ 9	after 28 days ≥ 11
<b>Taber Abrasion resistance (H 22 disk - 500 g - 200 revs), expressed as loss in weight (ASTM D 4060): (g):</b>	after 7 days 0.7	after 28 days 0.6
<b>Resistance to abrasion according to EN 13813:2002 Böhme abrasion test (EN 13892-3) (cm<sup>3</sup>/50 cm<sup>2</sup>):</b>	after 28 days 9	
<b>Castor chair test (EN 425) (type W, n. of cycles 25,000):</b>	delamination: cracks:	No No

tools, otherwise the substrate may be damaged.

Any defects present, such as cracks, must be repaired beforehand using either **EPORIP** or **EPOJET**, according to the width and depth of the defects.

If the floor is in a particularly poor condition or if there are holes or pitting, use **MAPEGROUT SV** as it is or mixed with **MORTAR GRAVEL**. Before applying **ULTRATOP**, cementitious and/or ceramic or natural stone surfaces must be primed with **PRIMER SN**, and where necessary, reinforced with **MESH 320** glass fibre mesh and sprinkled with **QUARTZ 1.2**. After applying **PRIMER SN** let it dry out for 12-24 hours, according to the surrounding temperature. Before casting **ULTRATOP**, remove excess sand with a vacuum cleaner.

As an alternative to **PRIMER SN**, absorbent concrete substrates may be primed with 1-2 coats of **PRIMER LT** diluted with water at a ratio of 1:1 by weight. Let **PRIMER LT** dry (from 2 to 5 hours, depending on the temperature and the humidity of the environment), before applying **ULTRATOP**.

### 3. Preliminary checks before application

Make sure that all the checks indicated in point 1 “Characteristics of the substrate” have been carried out, and that all the operations indicated in point 2 “Preparation of the substrate” have been carried out correctly.

The surrounding temperature must be between +5°C and +35°C.

### 4. Preparation and application of the products

Carefully follow the preparation instructions indicated in the Technical Data Sheet for each single product which forms the complete cycle.

#### • Primer for concrete/ceramic/natural stone surfaces (PRIMER SN)

Pour component B into component A and mix well with a low-speed drill with a spiral mixing attachment to form a smooth, homogenous blend.

Apply an even layer of **PRIMER SN** on the surface with a metal trowel or smooth rake. Where required, embed **MESH 320** glass fibre mesh in the layer of the primer. Immediately after application, the fresh surface of **PRIMER SN** must be sprinkled with **QUARTZ 1.2** to form a perfect bond with the next layer. Leave **PRIMER SN** dry for 12-24 hours, according to the surrounding temperature. Before casting **ULTRATOP**, remove excess sand with a vacuum cleaner.

#### • Primer for cementitious substrates (PRIMER LT)

Apply **PRIMER LT** previously diluted with water at a ratio of 1:1 by weight. Spread on **PRIMER LT** in an even coat using a roller or a brush. Wait until the product has dried off before applying **ULTRATOP** (normally 2-5 hours

according to the temperature and humidity of the surrounding). In case of particularly absorbent surfaces, make sure the porosity has been completely sealed after applying **PRIMER LT**. If the porosity is not completely sealed, air bubbles may form on the **ULTRATOP** surface.

- **Spreading on the smoothing and levelling mortar (ULTRATOP)**  
Pour a 25 kg bag of **ULTRATOP** into a container with 5-5.5 litres of clean water while mixing and keep mixing mix with a low-speed electric mixer to form a smooth, lump-free, self-levelling blend. Let it stand for 2-3 minutes and mix the blend again before application. Spread on **ULTRATOP** in a single layer from 5 to 40 mm thick with a metal trowel or rake. If larger quantities of the product are required for medium to large surfaces, we recommend mixing the product in a vertical mixer. When preparing the product in a mixer, the amount of water required for blending the product is the same as for manual mixing. Keep mixing the product until it is completely blended before spreading it on the surface. **ULTRATOP** must be blended in a mixer when it is to be cast with a rendering machine. This is the only technique which guarantees a continuous supply of the product during casting.

**N.B.** The amount of **ULTRATOP** to be prepared each time must be applied within 15 minutes at +23°C. Workability time varies according to the surrounding temperature and reduces as the temperature increases. When applying the product, follow the pattern of the expansion joints in the substrate. On particularly large surfaces, form distribution joints at least every 50 m<sup>2</sup>, which must be reduced to 25-30 m<sup>2</sup> on heated floors. Seal the joints with **MAPEFLEX PU45 FT** rapid-hardening, paintable, polyurethane sealant and adhesive with a high modulus of elasticity for movements up to 20%. Insert **MAPEFOAM** closed-cell polyethylene foam cord in the joint beforehand to obtain the required depth and avoid the sealant sticking to the bottom of the joint.

- **Finishing layer**  
Approximately 3 days after application, the surface of **ULTRATOP** must be protected and made non-absorbent using one of the products of the



**MAPEFLOOR FINISH** range. To choose the most suitable product, in compliance with the required aesthetic and performing characteristics, please consult the Technical Services Department.

- **Waxing**  
In order to make routine cleaning and maintenance operations easier, we recommend applying an even coat of **MAPELUX OPACA** or **MAPELUX LUCIDA** special metal-filled, high resistance, cross bond floor wax over the entire surface of the floor.
- 5. Hardening and step-on times**  
At +23°C **ULTRATOP** sets to foot traffic after 3-4 hours, and since in all cases it will later be treated, at least 5 days must be considered before it may be used. Lower temperatures lead to longer hardening and step-on times.

**CLEANING AND MAINTENANCE**  
Regular cleaning and maintenance operations increase the life of the treated floor, improves its appearance and reduces its capacity to collect dirt. Floors created using **ULTRATOP SYSTEM**

are generally easy to wash with neutral detergents, or with alkali detergents diluted at a concentration of from 5 to 10% in water.

**MAPEFLOOR MAINTENANCE KIT** is available for maintenance operations, and includes **MAPELUX LUCIDA** metal-filled wax, **MAPEFLOOR WAX REMOVER** and **MAPEFLOOR CLEANER ED** detergent for daily cleaning operations. Our Technical Services Department is available for any information required.

**NOTE**

Recommendations regarding safe handling of the products are contained in the Safety Data Sheet for each single component in the cycle. However, the use of protective gloves and goggles is recommended when mixing and applying the products.

*If the cycle is applied on different surfaces to those mentioned above, or in climatic conditions and/or final uses not mentioned above, please contact the Technical Services Department at MAPEI S.p.A.*

