Ultratop System Effetto Terrazzo alla Veneziana

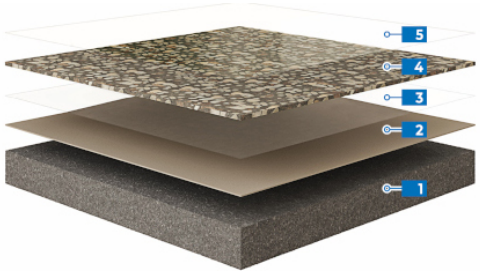
Ultra-fast setting cementitious system to create polished floors with a "Terrazzo alla Veneziana" effect

PRODUCTS USED:

Primer SN - **Quartz 0.5** - **Quartz 1.2** - **Mapefloor I 910** - **Ultratop** - **Ultratop Stucco** - **Mapecrete Stain Protection** or **Mapecrete U-Protector** - **Mapelux Opaca** or **Mapelux Lucida**

DESCRIPTION

ULTRATOP SYSTEM "terrazzo alla veneziana" effect is a system to create polished floors similar to the "*terrazzo alla veneziana*", by applying a 15 to 20 mm thick layer of natural aggregates and **ULTRATOP**, self-levelling, ultra-fast setting cementitious mortar inside civil environments, such as shopping centres, showrooms, schools, museums, theatres, shops, offices, apartments, etc.
The polishing cycle is carried out using the dry technique with special diamond-tipped tools.
ULTRATOP SYSTEM "terrazzo alla veneziana" effect floorings are left on view to form finished floors and may be used in the decorative sectors of buildings for civil use.



1. **Substrate: concrete**
2. **Primer SN + Quartz 0.5 + Broadcast Quartz 1.2**
3. **Mapefloor I 910**
4. **Mapefloor I 910 + Natural aggregates + Ultratop + Ultratop Stucco**
5. **Mapecrete Stain Protection** or **Mapecrete U-Protector**

WHERE TO USE

Decorative floorings inside civil buildings and for smoothing and levelling layers on new and old substrates to make them suitable for pedestrian traffic in apartments, offices, shops, show-rooms, restaurants, museums, theatres and shopping centres.
ULTRATOP SYSTEM "terrazzo alla veneziana" effect is used in:

- residential buildings, shops, restaurants, schools, museums, theatres and exhibition halls to make new polished floors with a "*terrazzo alla veneziana*" effect;

- pedestrian areas in shopping centres.

PERFORMANCE AND ADVANTAGES OF THE SYSTEM

- May be applied manually at a thickness of between 15 and 20 mm.
- Dries quickly, polishing operations may be carried out approximately 2 days after application.
- Guarantees perfectly flat, smooth, reflective surfaces.

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.

CONSUMPTION

Primer
PRIMER SN: 0.3-0.6 kg/m² per layer, according to the characteristics of the substrate
QUARTZ 0.5: 0.06-0.12 kg/m²

Full broadcast with
QUARTZ 1.2: 3-4 kg/m²

Natural aggregates:
approx. 10 kg/m² per cm of thickness

Binder for aggregates
MAPEFLOOR I 910: 1 kg per 20 kg of natural aggregates

Self-levelling mortar
ULTRATOP: 10 kg/m² per cm of thickness

Grout
ULTRATOP STUCCO: according to the micro porosities of the substrate

Finishing layer
MAPECRETE STAIN PROTECTION: 0.1-0.3 kg/m²
or, as an alternative,
MAPECRETE U- PROTECTOR: 0.05-0.40 kg/m²

Wax
MAPELUX OPACA: 50 g/m²
MAPELUX LUCIDA: 50 g/m²
The consumption figures for the primer are based on a shot-blasted surface.
Consumption increases when the primer is applied on rougher or highly porous surfaces.

PREPARATION OF THE SURFACE

1. Characteristics of the substrate
Before applying **ULTRATOP SYSTEM "terrazzo alla veneziana"** effect 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, 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 pull off strength of the substrate must be more than 1.5 N/mm^2.
- The compressive strength of the substrate must be more than 25 N/mm^2.

If all the above conditions are completed the **ULTRATOP SYSTEM "terrazzo alla veneziana"** effect may be applied on concrete industrial floors, conventional or polymer-modified cementitious screeds, controlled-shrinkage screeds such as those made using **MAPECEM PRONTO** or **TOPCEM PRONTO** , 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 U**LTRATOP SYSTEM "terrazzo alla veneziana"** effect.
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 tools, otherwise the substrate may be damaged.
Any defects present, such as holes, pitting and cracking, must be repaired beforehand using either **EPORIP** or **PRIMER SN**, eventually fillerised with quartz sand or made thixotropic with **ADDITIX PE** or using **MAPEFLOOR JA** or **MAPEFLOOR JA FAST**, according to the width and depth of the defects. To repair highly deteriorated areas, fill large hollows and depressions use **MAPEFLOOR EP19**, pre-dosed three component epoxy mortar. If it is necessary to consolidate the substrate use **PRIMER MF**, applied by roller in one or more coats, until the substrate is completely saturated. Ceramic, natural stone or cement tile floors must be perfectly stable and anchored to the substrate, undamaged, sound and clean, properly prepared by mechanical roughening treatment as diamond grinding.
Cementitious and/or ceramic or natural stone surfaces must be primed with **PRIMER SN** and, where necessary, reinforced with **RETE 320**, glass fiber mesh and fully sprinkled with **QUARTZ 1.2**. After applying **PRIMER SN** let it dry out for 12-24 hours, according to the surrounding temperature. Remove excess sand with a vacuum cleaner.

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.

A) Primer for concrete/ceramic/cementitious substrates/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.
While mixing, add around 20% by weight of **QUARTZ 0.5** to the mix as soon as it has been prepared and mix again for several minutes to form a smooth, even compound.
Apply an even layer of **PRIMER SN** on the surface with a metal trowel or smooth rake. Where required, embed **RETE 320** glass fibre mesh in the layer of the primer. Immediately after application, the fresh surface of **PRIMER SN** must be fully broadcast with **QUARTZ 1.2** to form a perfect bond with the next layer. Leave **PRIMER SN** to dry for 12–24 hours, according to the surrounding temperature. Remove excess sand with a vacuum cleaner.

B) Preparation and application of the mixture

The preparation of the mixture can be carried out in two alternative ways:

- B.1): **Preparation and application of the mix with natural aggregates /** MAPEFLOOR I 910 **+** ULTRATOP**.**
- B.2): **Preparation and application of the mixture with natural aggregates +** ULTRATOP**.**

B.1) Preparation and application of the mix with natural aggregates / MAPEFLOOR I 910 + ULTRATOP

Preparation and application of the natural aggregates/ Mapefloor I 910 mix
Apply a coat of **MAPEFLOOR I 910** (two-component epoxy binder) on the primed substrate with a short-haired roller to promote adhesion, while preparing a mix made from **MAPEFLOOR I 910** and natural aggregates with a particle size of at least 1 cm at a ratio of 1:20 by weight in a concrete mixer.
NOTE: This ratio may be used for aggregates with a particle size of 1 to 2 cm. For aggregates larger than 2 cm we recommend carrying out preliminary tests. Blend the components together for a few minutes and pour the mix onto the surface just after applying **MAPEFLOOR I 910** (spread the mix while **MAPEFLOOR I 910** is still fresh). Compact the mix immediately after spreading with a flat trowel or a power trowel. Leave it to harden for at least 24 hours (at +20/+23°C). Lower temperatures lead to longer hardening times.
Preparation and application of the ULTRATOP mortar
Pour a 25 kg bag of **ULTRATOP** into a container with 5.0-5.5 litres of clean water while mixing and keep mixing 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. Only prepare quantities of **ULTRATOP** which may be applied within 15 minutes at +23°C. The workability time varies according to the surrounding temperature and reduces as the temperature increases. 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. Spread the fresh **ULTRATOP** mix on the surface of the hardened natural aggregates, making sure that all the gaps between the aggregates are completely filled. Carry out this operation with the help of a spreader or smooth rubber rake to help the mortar penetrate into the prepared substrate.

B.2) Preparation and application of natural aggregates + ULTRATOP

In the case that the granulometry of the chosen aggregates is less than 1 cm or for specific demands, it is still possible to create the **ULTRATOP SYSTEM "terrazzo alla veneziana"** effect flooring by pouring **ULTRATOP** and the natural aggregates into a concrete mixer in the ratio of 1:1 by weight and adding approximately 10% of water on the total weight of the mixture. Blend the mixture in a cement mixer for a few minutes to homogeneously disperse the various components together. Spread the mixture with the aid of a thickened rake and a metal trowel on the suitably prepared and primed substrate, as described in paragraph **A)**. In order to carry out the subsequent dry grinding/polishing operations in an easy and fast way and to guarantee a good result of the work, it is advisable to spread the mixture on the surface evenly, without creating hollows or various defects (holes, discontinuities or a marked surface roughness).

C) Polishing and grouting the floor

2 days after applying the mixture (as described in point **B.1)** or, as an alternative, in point **B.2)**, the surface may be dry-polished using a polishing machine with diamond-tipped disks until a smooth, shiny reflective surface is formed. After the first "roughing" pass which exposes the surface porosity, clean the surface of the floor with a damp sponge and grout with **ULTRATOP STUCCO** in the same colour as **ULTRATOP**. Wait until **ULTRATOP STUCCO** is completely dry (approximately 12 hours) before carrying out the final polishing cycle with special polishing equipment.

D) Finishing coat

On the polished surface (complete treatment), carry out the finishing treatment by applying **MAPECRETE STAIN PROTECTION**, a specific hydro-oil repellent and anti-stain treatment. **MAPECRETE STAIN PROTECTION** is spread directly on the smooth surface of **ULTRATOP SYSTEM "terrazzo alla veneziana"** effect in several coats up to saturation by spraying with an airless spray system until it is completely absorbed by the flooring with the help of a microfiber cloth or a wax mop.
As an alternative to **MAPECRETE STAIN PROTECTION**, **MAPECRETE U-PROTECTOR** can be advantageously used. This formulation forms a microfilm which confers the surface a high anti-stain and water-repellent protection. For the application of **MAPECRETE U-PROTECTOR**, refer to the relative technical data sheet.
If the polishing treatment is not complete but partial (the surface is not completely smooth but still with a moderate roughness), it is possible to apply the finish using products from the **MAPEFLOOR FINISH** range. The choice of the most appropriate finishing product will be evaluated according to the aesthetic appearance or the required wear resistance. In this regard refer to MAPEI Technical Assistance.

E) Waxing the surface

In order to make routine cleaning and maintenance operations easier, it is possible to apply an even coat of **MAPELUX OPACA** or **MAPELUX LUCIDA** special metal-filled, double-reticulation, high-strength wax over the entire surface of the floor.

NOTE: 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 m² which must be reduced to 25-30 m² on heated floors. Seal the joints with **MAPEFLEX PU 45 FT** one-component, thixotropic, quick-hardening polyurethane sealant and adhesive with a high modulus of elasticity for sealing expansion and distribution joints. Insert **MAPEFOAM** closed-cell polyethylene foam cord in the joint beforehand to obtain the required depth and avoid the sealant sticking to the base of the joint.

5. Hardening and step-on times

The coating made from **ULTRATOP** and natural aggregates is ready for use after carrying out the dry polishing treatment, approximately 2 days after applying **ULTRATOP** in normal climatic conditions (+23°C - 50% R.H.). 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 "terrazzo alla veneziana"** effect 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.

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 Assistance Department at MAPEI S.p.A.

TECHNICAL DATA

TECHNICAL DATA (at +23°C)	
Compressive strength (Ultratop + natural aggregates - ratio 1:1 by weight) (EN 13892-2) (N/mm²):	after 7 days ≥ 50 after 28 days ≥ 55
Flexural strength (Ultratop + natural aggregates - ratio 1:1) (EN 13892-2 by weight) (N/mm²):	after 7 days ≥ 9 after 28 days ≥ 10
Böhme abrasion test (Ultratop + natural aggregates - ratio 1:1 by weight) (EN 13892-2) (cm³/50 cm²):	9
Colours available (Ultratop):	light grey, white, beige, red, anthracite and standard

Application of Mapefloor I 910 as adhesion promoter

Application of the Mapefloor I 910/natural aggregates mixture

Application of Ultratop on the hardened surface of the Mapefloor 910/natural aggregates mixture

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4004-11-2022-I-en