

Ultratop® Loft Systems

Installation Manual

Introduction

MAPEI's *Ultratop Loft* systems are engineered to provide extremely durable yet visually pleasing surfaces for floors, walls and ceilings for interior use in residential and commercial buildings. These attractive surfaces are especially desirable for large public venues that feature heavy foot traffic, such as hotels, malls, museums, theaters and exhibition halls. The cementitious micro-toppings systems quickly resurface a wide variety of surfaces, providing best in-class quality and endurance. When used with MAPEI's *Ultratop Easycolor* liquid colorants and *Mapefloor™ Finish* coatings, these systems provide a combination of accelerated protection and aesthetic surface effects in a fluid, harmonious design between floors, walls and ceilings.





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MAPEI's *Ultratop Loft* family of products

Ultratop Loft F

Coarse-Textured, Cement-Based Micro-Topping

When a more heavily textured finish is required, *Ultratop Loft F* is a one-component, cement-based decorative topping that is troweled and applied in two layers 1/16" (1.5 mm) in thickness. It is specially formulated for abrasion resistance in designing non-uniform and non-homogeneous finishes with a broad range of coarse-textured finishing effects on interior decorative surfaces. *Ultratop Loft F* can be used on a wide variety of substrates and combines excellent versatility with easy application.



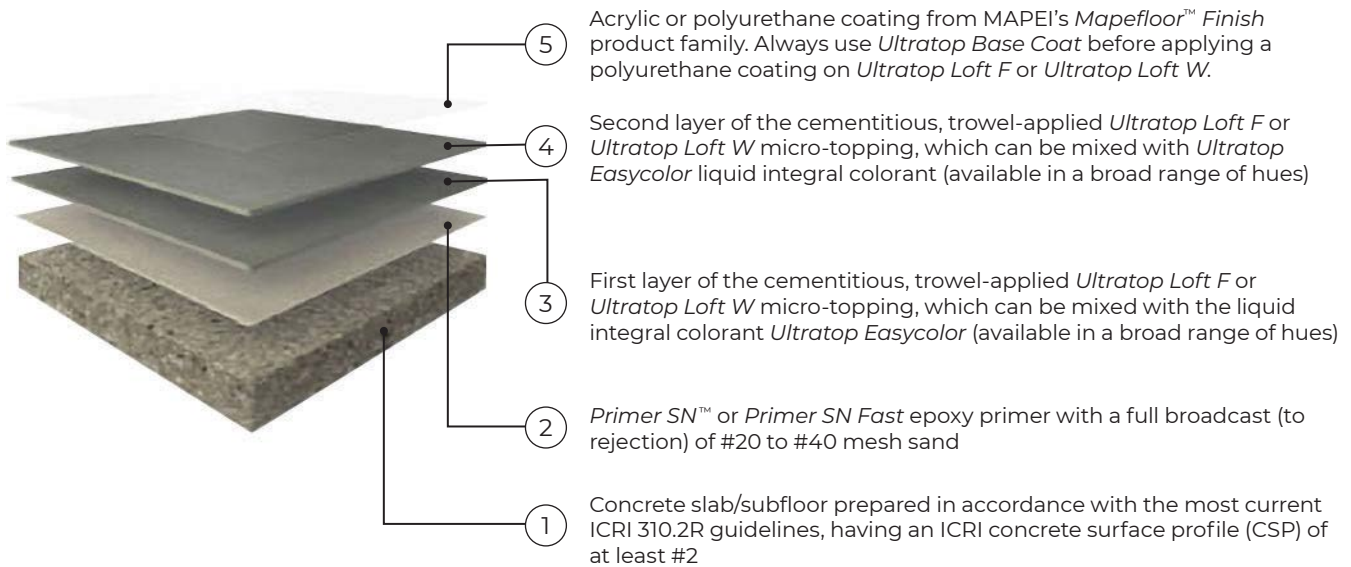
Ultratop Loft W

Fine-Textured, Cement-Based Micro-Topping

When a fine-textured finish is required, *Ultratop Loft W* is a one-component, cement-based decorative topping that is troweled and applied in two layers 1/16" (1.5 mm) in thickness. It is specially formulated for abrasion resistance in designing non-uniform and non-homogeneous finishes with a broad range of finishing effects on interior decorative surfaces. *Ultratop Loft W* can be used on a wide variety of substrates and combines excellent versatility with easy application.



***Ultratop Loft* floor system for horizontal slabs**



Products featured in the system:

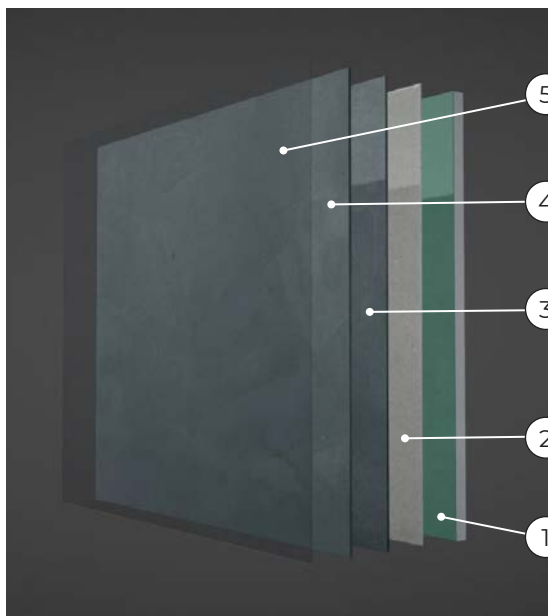
- **Ultratop Easycolor:** *Ultratop Loft F* and *Ultratop Loft W* can be mixed with clear water or colored with an *Ultratop Easycolor's* liquid integral color. Colors can be selected from the *Ultratop Loft* color chart based on the desired design. Note that, due to the limitations of the printing processes for the brochure's color chart, these colors should be taken as merely indicative of the shades of the actual product. Control physical samples and project mockups are mandatory.
- **Primer LT™:** Always use *Primer LT* between layers of *Ultratop Loft F* or *Ultratop Loft W*. Use a light sander machine with sandpaper of #200 to #1400 grit to prepare *Ultratop's* surface based on the design needed.
- **Sealers and basecoat:** The sealer must be selected based on the specified system to achieve the desired finish. Always use *Ultratop Base Coat* before applying *Mapefloor Finish 58 W* polyurethane coating on *Ultratop Loft F* or *Ultratop Loft W*. *Mapefloor Finish 630* acrylic protective coating can be applied without the use of a basecoat.
- **Epoxy primers:** Mechanically profile and prepare concrete substrates by engineer-approved methods in accordance with the most current ICRI 310.2R guidelines to obtain a concrete surface profile (CSP) of #2 to #3. Always prime the prepared surface with MAPEI's *Primer SN* or *Primer SN Fast*. Apply the primer with a squeegee and then back-roll to ensure a uniform application at a thickness of 9 to 12 wet mils. While the epoxy primer is still wet, follow immediately with a full sand broadcast (to rejection) with #20 to #40 mesh sand. After *Primer SN* has cured, use a mechanical sander and vacuum up the excess sand.

Where required, prime horizontal concrete and ceramic surfaces with *Primer SN* reinforced with MAPEI's *Mapenet™ 150* fiberglass mesh as well as a full sand broadcast (to rejection) of #20 to #40 mesh sand. *Mapenet 150* must be embedded in the epoxy primer. Consult MAPEI's Technical Services Department for Concrete Restoration Systems (CRS) for installation recommendations.

System's product options for horizontal floors:

Primers	Cementitious Micro-Toppings	Coatings and Basecoat	Liquid Integral Color
<p>Primer SN Two-component, filled, epoxy primer</p> <p>Primer SN Fast Fast-setting, two-component, fillerized, epoxy primer</p>	<p>Ultratop Loft F (natural and white) Coarse-textured, trowel-applied, cementitious micro-topping</p> <p>Ultratop Loft W (natural and white) Fine-textured, trowel-applied, cementitious micro-topping</p>	<p>Mapefloor Finish 630 Two-component, water-based, acrylic protective coating</p> <p>Mapefloor Finish 58 W Two-component, water-based, matte, polyurethane coating</p> <p>Ultratop Base Coat One-component, acrylic agent basecoat</p>	<p>Ultratop Easycolor Concentrated, liquid pigment solution available in 55 colors to create a broad range of hues</p>

Ultratop Loft wall system for vertical surfaces and ceilings



5 Acrylic or polyurethane coating from MAPEI's *Mapefloor Finish* product family. Always use *Ultratop Base Coat* before applying a polyurethane coating on *Ultratop Loft F* or *Ultratop Loft W*.

4 Second layer of the cementitious, trowel-applied *Ultratop Loft F* or *Ultratop Loft W* micro-topping, which can be mixed with *Ultratop Easycolor* liquid integral colorant (available in a broad range of hues)

3 First layer of the cementitious, trowel-applied *Ultratop Loft F* or *Ultratop Loft W* micro-topping, which can be mixed with *Ultratop Easycolor* liquid integral colorant (available in a broad range of hues)

2 *Primer Grip White* synthetic resin-based primer to enhance adhesion to existing ceramic tile and other difficult-to-bond-to substrates in vertical applications. Or *Primer LT* acrylic primer that enhances adhesion to absorbent substrates in vertical applications only.

1 Vertical surfaces such as existing ceramics or cementitious substrates



Products featured in the system:

- **Primers:** Non-absorbent vertical surfaces, such as existing ceramics and difficult-to-bond-to substrates, must be primed with *Primer Grip White*. Absorbent vertical surfaces can be primed with *Primer LT*.
- **Ultratop Easycolor:** *Ultratop Loft F* and *Ultratop Loft W* can be mixed with clear water or colored with an *Ultratop Easycolor*'s liquid integral color. Colors can be selected from the *Ultratop Loft* color chart based on the desired design. Note that, due to the limitations of the printing processes for the brochure's color chart, these colors should be taken as merely indicative of the shades of the actual product. Control physical samples and project mockups are mandatory.
- **Primer LT:** Always use *Primer LT* between layers of *Ultratop Loft F* or *Ultratop Loft W*. Use a light sander machine with sandpaper of #200 to #1400 grit to prepare the surface based on the design needed.
- **Sealers and basecoat:** The sealer must be selected based on the specified system to achieve the desired finish. Always use *Ultratop Base Coat* before applying *Mapefloor Finish 58 W* polyurethane coating on *Ultratop Loft F* or *Ultratop Loft W*. *Mapefloor Finish 630* acrylic protective coating can be applied without the use of a basecoat.

Where required, vertical concrete and ceramic surfaces can be reinforced with MAPEI's *Mapenet 150* fiberglass mesh embedded in the first layer of *Ultratop Loft F* or *Ultratop Loft W*.

Consult MAPEI's Technical Services Department for Concrete Restoration Systems (CRS) for installation recommendations.

System's product options for vertical surfaces:

Primers	Cementitious Micro-Toppings	Coatings and Basecoat	Liquid Integral Color
<p>Primer LT Water-based, acrylic primer for absorbent substrates</p> <p>Primer Grip White Synthetic, resin-based primer for difficult-to-bond-to substrates</p>	<p>Ultratop Loft F (natural and white) Coarse-textured, trowel-applied, cementitious micro-topping</p> <p>Ultratop Loft W (natural and white) Fine-textured, trowel applied, cementitious micro-topping</p>	<p>Mapefloor Finish 630 Two-component, water-based, acrylic protective coating</p> <p>Mapefloor Finish 58 W Two-component, water-based, matte, polyurethane coating</p> <p>Ultratop Base Coat One-component, acrylic agent basecoat</p>	<p>Ultratop Easycolor Concentrated, liquid pigment solution available in 55 colors to create a broad range of hues</p>

Product Options for *Ultratop Loft* Systems

Epoxy primers for floors



Primer SN [NA]

Primer SN is a two-component, filled, epoxy primer specifically designed to enhance adhesion of cement-based decorative and multilayer flooring, such as MAPEI's *Mapefloor*™ products, *Ultratop*® products, *PlaniLevel*™ products and *Planitop*® EL.



Primer SN Fast [NA]

Primer SN Fast is a fast-setting, two-component, fillerized, epoxy primer specifically designed to enhance adhesion of multilayer flooring systems, such as MAPEI's *Mapefloor*™ polyurethane and epoxy systems as well as urethane cement screeds.



Primers for vertical surfaces



Primer Grip™ White [NA]

Primer Grip White is a ready-to-use, low-VOC, synthetic resin-based primer with bond-promoting silica aggregates suspended in dispersion. It enhances the performance and adhesion of MAPEI's *Ultratop Loft* toppings to existing ceramic tile and other difficult-to-bond-to substrates in vertical applications. Suitable for a wide variety of substrates, *Primer Grip White* combines excellent versatility with an easy, low-odor application.



Primer LT [NA]

Primer LT is a low-VOC, water-based acrylic primer that enhances the performance and adhesion between layers of *Ultratop Loft* toppings for walls and floors. *Primer LT* combines excellent versatility with easy, low-odor applications for indoor use.



Cementitious micro-toppings



Ultratop Loft F [NA]

Ultratop Loft F is a one-component, cement-based decorative topping that is troweled and applied in two layers 1/16" (1.5 mm) in thickness. It is specially formulated for abrasion resistance in designing non-uniform and non-homogeneous finishes with a broad range of coarse-textured finishing effects on indoor decorative surfaces. *Ultratop Loft F* can be used on a wide variety of substrates and combines excellent versatility with easy application.



Ultratop Loft W [NA]

Ultratop Loft W is a one-component, cement-based decorative topping that is troweled and applied in two layers 1/16" (1.5 mm) in thickness. It is specially formulated for abrasion resistance in designing non-uniform and non-homogeneous finishes with a broad range of finishing effects on interior decorative surfaces. *Ultratop Loft W* can be used on a wide variety of substrates and combines excellent versatility with easy application.



Liquid integral color



Ultratop Easycolor [NA]

Ultratop Easycolor is a one-component, concentrated, liquid pigment solution available in a broad range of hues. It is specially formulated to color MAPEI's trowel-applied, cementitious micro-toppings *Ultratop Loft F* and *Ultratop Loft W*.



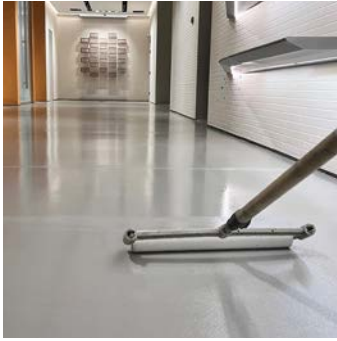
Coatings and basecoat



Ultratop Base Coat [NA]

Ultratop Base Coat one-component, acrylic agent in water dispersion is used as a basecoat before applying a *Mapefloor Finish* topcoat over *Ultratop* and *Ultratop Loft* products. *Ultratop Base Coat* used with *Mapefloor Finish* provides a high-performance finish.





Mapefloor Finish 58 W [NA]

Mapefloor Finish 58 W is a two-component, aliphatic polyurethane coating in water dispersion with a clear, matte finish. *Mapefloor Finish 58 W* provides a high-performance finish on general-service resinous flooring products and *Ultratop*® systems.



Mapefloor Finish 630 [NA]

Mapefloor Finish 630 is a two-component, protective, acrylic filming agent in a water dispersion for floors made from concrete and *Ultratop*® systems. *Mapefloor Finish 630* provides a high-performance finish on *Ultratop* systems.



Installation Procedure for *Ultratop Loft* Systems

Surface Preparation

All substrates must be structurally sound, stable, dry, clean, and free of any substance or condition that may reduce or prevent proper adhesion.

Mechanically prepare and clean all surfaces of any substance that could interfere with the bond of the installation material, including paint, asphalt, wax, oil, sealers, curing compounds, and poorly bonded or incompatible adhesives. Do not use acid as a surface-preparation method.

Because the thickness for *Ultratop Loft* systems is between 1/16" to 1/8" (1.5 to 3 mm) overall, the levelness of the substrate must meet high demands. Consult MAPEI's CRS Technical Services Department for recommendations regarding filling compounds if needed.

Horizontal surfaces

Mechanically profile and prepare concrete substrates by engineer-approved methods in accordance with the most current ICRI 310.2R guidelines to obtain a concrete surface profile (CSP) of #2 to #3.

On flooring applications, always prime the prepared surface with MAPEI's *Primer SN*. Apply the primer with a squeegee and then back-roll it to ensure a uniform application at a thickness of 9 to 12 wet mils. While *Primer SN* is still wet, follow immediately with a full sand broadcast (to rejection) with #20 to #40 mesh sand. After the *Primer SN* has cured for at least 16 hours, use a mechanical sander and vacuum up the excess sand. Alternative primers such as MAPEI's fast-setting *Primer SN Fast* can be used in accordance with their Technical Data Sheets.

All existing construction, control and expansion joints must be honored throughout the micro-topping system by installing a suitable joint filler in control joints or a suitable sealant in isolation joints. Saw-cuts and all moving cracks must be repaired with suitable epoxy injection material. *Ultratop Loft F* or *Ultratop Loft W* must not be installed over any joints or any cracks if they are not properly honored or repaired. Otherwise, the control joints or cracks will cause the *Ultratop Loft* system to show cracks or reflective patterns after *Ultratop Loft F* or *Ultratop Loft W* has been installed.

Damaged concrete slabs can also be prepared with *Primer SN* reinforced with MAPEI's *Mapenet 150* glass fiber mesh and fully sand-broadcast (to rejection) with #20 to #40 mesh sand. If *Primer SN* reinforced with *Mapenet 150* is used, all existing construction, control and expansion joints must be honored as well.



If the installation is on a ceramic floor, use *Primer SN* reinforced with *Mapenet 150* and fully sand-broadcast (to rejection) with #20 to #40 mesh sand. Ceramic floors must be structurally sound, stable and bonded to the slab. Do not acid-etch tiles before applying *Primer SN*; rather, shotblast the ceramic floor to properly prepare the tiles for the primer.

MAPEI cannot be responsible for problems that arise from existing cracks, new cracks or joints that may develop after *Ultratop Loft F* has been installed.

Vertical surfaces and ceilings

Non-absorbent vertical surfaces such as existing ceramics and difficult-to-bond-to substrates must be primed with *Primer Grip White*. Absorbent vertical surfaces can be primed with *Primer LT*. *Ultratop Loft F* and *Ultratop Loft W* can be applied once *Primer Grip White* or *Primer LT* dries. The minimum waiting time is 60 minutes, depending upon the surrounding conditions and substrate porosity.

MAPEI cannot be responsible for problems that arise from existing cracks, new cracks or joints that may develop after *Ultratop Loft F* or *Ultratop Loft W* has been installed.

Mixing

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details. Before use, stir the products to ensure that settling has not occurred during shipment or storage.

Based on the high yield of the mixed product, MAPEI recommends mixing *Ultratop Loft F* or *Ultratop Loft W* in separate 11-lb. (5-kg) batches.

Mixing with water

1. Into a clean mixing container, pour the required amount of cool, clean, potable water.
2. Add *Ultratop Loft F* or *Ultratop Loft W* powder while slowly stirring. Mix water and *Ultratop Loft F* or *Ultratop Loft W* powder with 32% to 35% by weight of clean water.
3. Mix with a low-speed mixing drill (at 300 to 450 rpm) and a helix-style mixing paddle.
4. The mixing ratio must remain consistent.

Mixing with *Ultratop Easycolor*

Ultratop Easycolor is a one-component, concentrated liquid pigment specially formulated to color *Ultratop Loft F* and *Ultratop Loft W*. A 1.59-U.S.-qt. (1.5-L) unit of *Ultratop Easycolor* is formulated to color the powder in a 11-lb. (5-kg) bag of *Ultratop Loft F* or *Ultratop Loft W*.



1. Into a clean mixing container, pour one unit of *Ultratop Easycolor* for every 11 lbs. (5 kg) of *Ultratop Loft F* or *Ultratop Loft W*.
2. Add *Ultratop Loft F* or *Ultratop Loft W* powder while slowly stirring. Mix *Ultratop Easycolor* and the powder with a low-speed mixing drill (at 300 to 450 rpm) and a helix-style mixing paddle.
3. Clean water at a rate of up to 4% by weight may also be added to the mix, based on the workability needed for the contractor's installation technique.
4. If water is added to the mix, the water percentage ratio must remain consistent.

Product Application

1. Before installation, prevent drafts by closing all doors and windows and turning off HVAC systems. Protect installation areas from direct sunlight.
2. Make sure that the substrate and ambient room temperatures are between 40°F and 95°F (4°C and 35°C) before application. Temperatures must be maintained within this range for at least 48 hours after the installation of the *Ultratop Loft* system.
3. For horizontal application, test the concrete substrate using a calcium chloride test (ASTM F1869) to ensure that the moisture vapor emission rate (MVER) is below 5 lbs. per 1,000 sq. ft. (2.27 kg per 92.9 m²) per 24 hours. Consult *Primer SN*'s Technical Data Sheet for more recommendations on moisture rates and epoxy primer application.
4. For best results, work as a team to provide a continuous troweled application of wet material to achieve the desired range of aesthetic surface effects.



5. *Ultratop Loft F* and *Ultratop Loft W* remain workable for about 20 minutes at 50°F to 95°F (10°C to 35°C). Lower temperatures lead to longer processing times, and higher temperatures lead to shorter processing times.
6. Use a trowel to apply one or more coats of *Ultratop Loft F* or *Ultratop Loft W*, scratching it to a thin layer on the surface. The total thickness should be between 1/16" to 1/8" (1.5 to 3 mm). Always use *Primer LT* between layers of *Ultratop Loft F* or *Ultratop Loft W*.
7. Move the trowel in short, irregular movements to achieve the required pattern.
8. Sand the surface of *Ultratop Loft F* or *Ultratop Loft W* between each coat. We recommend using a single-head sanding machine for this operation with 80- to 200-grit sandpaper, depending on the level of finish required. Each coat must be completely dry before sanding.
9. Apply a single coat of *Primer LT* with a 3/8" (10 mm) nap roller between layers of *Ultratop Loft F* or *Ultratop Loft W*. Ensure that the surface receives a complete, thin film of *Primer LT*.
10. Before applying the sealer, a single layer of MAPEI's *Ultratop Base Coat* must be applied to ensure the proper bonding of the sealer.
11. Within 24 hours, a suitable MAPEI sealer can be used, selected on the basis of the project request to achieve the desired finish.
 - *Mapefloor Finish 58 W* for a two-component, clear, matte, aliphatic polyurethane coating
 - *Mapefloor Finish 630* for a two-component, clear, protective acrylic coating

Limitations

- Installing any cement-based micro-topping requires a high degree of experience and craftsmanship. Consider this product to be for professional use only. Contact MAPEI's CRS Technical Services Department for *Ultratop* Systems Preferred Contractors.
- Do not bridge unrepaired cracks or expansion, isolation or control joints. Cementitious micro-topping products such as *Ultratop Loft F* or *Ultratop Loft W* may not be capable of restraining movement from the substrate, and reflective cracks may appear due to vibration or substrate flexure.
- *Ultratop Loft F* and *Ultratop Loft W* are not warranted without the use of *Primer SN* or *Primer SN Fast* with a properly graded sand broadcast.
- Do not use for installations subject to water immersion, such as pools.
- Do not install over any substrates containing asbestos.
- Do not install over wood floors, linoleum or lightweight underlayment subfloors.
- *Ultratop Loft F* and *Ultratop Loft W* must be sealed for stain protection. The MAPEI sealer can be selected based on the project request to achieve the desired finish.

Innovative Research & Development

Worldwide, a considerable number of MAPEI employees are involved in the development of new technologies and product innovations, keeping our customers at the forefront of the construction industry. The company has taken the additional initiative of focusing its R&D efforts on environmentally sustainable solutions.

To remain on the cutting edge of innovation, MAPEI reinvests revenues into researching and developing new products and technologies. This corporate priority has produced such innovations as:

- EasyGlide Technology™, which offers extreme ease of application, yielding a buttery consistency that reduces fatigue during installation.
- *Ultrabond ECO*® product formulations beginning in the 1980s with extremely low emissions of volatile organic compounds (VOCs) for improved indoor air quality.
- FastTrack Ready™ products, which reduce the required steps of an installation and/or perform more quickly than current methods.
- High-Transfer Technology™ products, which offer superior mortar-wetting properties to promote improved mortar transfer between the tile and the substrate. This technology helps to deliver ultimate coverage to maximize bond strength performance and is ideal for lippage-control system applications.

Quality control and efficient manufacturing

In North America, most MAPEI facilities have been certified to ISO 9001 quality management and ISO 14001 environmental management standards. Our products are produced according to exacting standards, strictly adhering to process and procedural guidelines with documented compliance. This rigid production format is vigilantly followed to ensure that every product is produced uniformly from batch to batch.

Powerful, efficient and sustainable manufacturing

Cutting-edge production technology is used in MAPEI's production facilities, where the entire manufacturing process is optimized by continual quality control, from raw materials to final packaging.

MAPEI's production statistics are impressive: 86 production facilities in 35 countries on five continents. Along with the 27,900 tons of finished products that are manufactured at our production facilities every day, we receive just as many tons of raw materials to keep our sites supplied around the world.

MAPEI's production efforts are reflected through optimization of logistics costs, proximity to our customers, and a guarantee of maximum efficiency of production processes while respecting the environment.



SCS Global Services' Indoor Advantage Gold certification signifies that select products' VOC emissions have been tested and comply with California Department of Health (CDPH) Standard Method v1.2-2017.



— MAPEI USA • MAPEI Caribe —

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