



# Ultratop<sup>®</sup> PC

## High-Performance, Polishable Concrete Topping



### DESCRIPTION

*Ultratop PC* is a high-flow, quick-setting, self-leveling, cementitious topping optimized for polishing. Suitable for both interior and exterior use, *Ultratop PC* is designed to be applied at 3/8" to 2" (10 mm to 5 cm) thick and cures quickly for fast-track resurfacing and polishing of concrete floors. *Ultratop PC* is suitable for applications including high-end residential units, retail stores, warehouses, schools, kitchens, airport hangars and loading docks. *Ultratop PC* is engineered to provide a thin resurfacing material that is extremely dense, hard and durable so that it is capable of holding a brilliant polish.

### FEATURES AND BENEFITS

- Very fluid self-leveler; easily installed from 3/8" to 2" (10 mm to 5 cm) neat in a single lift and up to 5" (12,5 cm) extended
- Polishable in as soon as 24 hours under normal conditions
- Suitable for both new (28-day cured) and existing concrete, for interior and exterior floors
- Polished topping maximizes the brilliance of natural gray concrete floors.
- Will accept light vehicular and foot traffic in commercial, light industrial and residential applications
- Suitable for areas of constant water exposure

### WHERE TO USE

- Suitable for retail stores, mall corridors and entrances, exterior walkways, showroom floors, restaurant floors, hotel lobbies and schools
- For applications where a unique, creative floor is desired
- For industrial warehouse floors and airports subject to foot and light vehicular traffic

### LIMITATIONS

- Do not install in chemical environments requiring chemically resistant industrial toppings.
- Use *Ultratop PC* at a minimum thickness of 1/2" (12 mm) when dealing with rolling dynamic loads such as pallet trucks, forklifts and other rubber-wheeled vehicles.
- Use only between the temperatures of 50°F and 95°F (10°C and 35°C). In cooler conditions, follow cold-weather application guidelines from the American Concrete Institute, and for temperatures above 85°F (29°C), follow ACI hot-weather application guidelines to ensure a successful installation.
- Always provide for expansion and control joints where specified by an engineer. Do not bridge expansion or control joints. Where control or expansion joints do exist in the substrate, provide for them in the system.
- *Ultratop PC* is intended for foot traffic, rubber-wheeled forklift traffic and similar uses. Indentations, gouging and similar damage can be caused by steel-wheeled and small-wheeled (high point-loading) as well as other hard-wheeled traffic, or dragging sharp or heavy metal objects over the floor. *Ultratop PC* is not suitable for such excessive service conditions, heavy manufacturing, or chemical or industrial applications.

Note: To ensure installation success, test a small area for compatibility, bond strength and performance.

### SUITABLE SUBSTRATES

- Properly prepared, sound, dimensionally stable, fully cured concrete at least 28 days old

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

## SURFACE PREPARATION

- All substrates must be structurally sound and stable.
- Thoroughly clean the surface of any substance that could interfere with the bond of the installation material, including dirt, paint, tar, asphalt, wax, oil, grease, latex compounds, sealers, curing compounds, form-release agents, laitance, loose toppings, foreign substances and adhesive residue.
- Mechanically profile concrete surfaces and prepare by shotblasting, sandblasting, scarifying or other engineer-approved methods. Reference International Concrete Repair Institute (ICRI) concrete surface profile (CSP) #3 to #5 standards for acceptable profile height for interior applications, and ICRI CSP #5 to #7 standards for exterior applications.
- Ensure that concrete substrate and ambient room temperatures are between 50°F and 95°F (10°C and 35°C) before application. Temperatures must be maintained within this range for at least 72 hours after the installation of *Ultratop PC*.
- All existing expansion joints, isolation joints, construction joints and control joints, as well as any moving cracks, must be honored up through the topping.
- For interior applications, always prime the prepared surface with MAPEI's *Planibond® EBA* with a brush or roller before the application of *Ultratop PC* at a thickness of 15 to 20 wet mils (0,38 to 0,51 mm). Follow immediately with a full sand broadcast (to rejection) with #16 mesh sand. After *Planibond EBA* becomes tack-free, vacuum up the excess sand and wait 24 hours to place *Ultratop PC* as described in the "Product Application" section.
- For exterior applications, mechanically prepare the concrete surface to an ICRI CSP standard of #5 to #7. Concrete substrate should be saturated surface-dry (SSD) before installation of *Ultratop PC*.

## MIXING

Note: Choose all appropriate safety equipment before use. Refer to the Safety Data Sheet for more information.

- Into a clean mixing container, pour the required amount of cool, clean potable water. Add *Ultratop PC* powder while slowly stirring. Mix water and *Ultratop PC* powder at a ratio of 0.96 U.S. gal. (3,63 L) of water per 50-lb. (22,7-kg) bag of *Ultratop PC*. The mixing ratio must remain consistent. Do not overwater the material.

### Barrel mixing:

- Using the appropriate mixing ratio above, mix with a low-speed drill (at about 650 rpm) with an "egg-beater" mixing paddle. Mix to a homogenous, lump-free consistency, for about 3 minutes. Do not overmix. Overmixing or moving the mixer up and down during the mixing process could trap air, which could shorten the pot life or cause pinholing during the application and curing.

### Pump mixing:

- *Ultratop PC* can be mechanically mixed, using the mixing ratio above, with a continuous mixer and pump (with at least 100 ft. [30,5 m] of hose) or a batch mixer and pump (with at least 50 ft. [15,2 m] of hose). Mixer and pump must be in good working condition. Periodic cleaning of pumping equipment is required per the manufacturer's instructions. Be sure to pressure-test rotor and stator for proper mixing. Use a mesh-screen "sock" at the end of the hose to catch any foreign material that could enter the hopper of the mixer. Apply to a small test area before general application to ensure a successful installation.

### Use of integral colors:

Integral colors may be used at the discretion of the owner/installer. However, extreme caution must be exercised to ensure that the type and amount of color does not alter and/or decrease the performance of *Ultratop PC*. A test pour should be conducted to ensure that performance characteristics – such as set time, flow, water ratio, ease of finishing and curing – are not significantly altered.

## PRODUCT APPLICATION

1. Read all installation instructions thoroughly before installation.
2. Make sure that concrete substrate and ambient room temperature are between 50°F and 95°F (10°C and 35°C) before application. Temperatures must be maintained within this range for at least 72 hours after the installation of *Ultratop PC*. In cooler conditions, follow ACI cold-weather application guidelines to ensure a successful installation, and for temperatures above 85°F (29°C), follow ACI hot-weather application guidelines.
3. Set the width of the pour at a distance that is ideal for maintaining a continuous flow and wet edge throughout placement. Pour or pump *Ultratop PC* onto the properly prepared and primed concrete floor in a ribbon pattern and spread with a gauge rake. After achieving the desired depth, smooth with a smoother or spiked roller to obtain an even surface. To avoid air entrapment, do not overwork the material.
4. Use a porcupine or spiked roller to blend material between pours. Stage work so that no more than 5 minutes elapse between subsequent pours into the wet edge.
5. *Ultratop PC* has a flow time of about 15 minutes at 73°F (23°C), is self-leveling and can be applied from 3/8" to 2" (10 mm to 5 cm) in a single application. Please note that temperature and humidity will affect working time, flowability and setting time. Apply enough material to adequately cover all high spots.
6. For installations from 2" to 5" (5 to 12,5 cm), extend *Ultratop PC* up to 50% by weight, or up to 25 lbs. (11,3 kg) per 50-lb. (22,7-kg) bag with washed, well-graded pea gravel measuring 1/8" to 1/2" (3 to 12 mm). Contact MAPEI's Technical Services Department for complete instructions when installing at greater thicknesses.

## Product Performance Properties

Laboratory Tests	Results
Compressive strength – ASTM C109 (CAN/CSA-A5) at 73°F (23°C) and 50% relative humidity	
4 hours	> 2,900 psi (20 MPa)
1 day	> 5,075 psi (35 MPa)
28 days	> 7,250 psi (50 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)	
1 day	> 725 psi (5 MPa)
28 days	> 900 psi (6,21 MPa)

Note: Protect containers from freezing in transit and storage. Provide for heated storage on site and deliver all materials at least 24 hours before work begins.

## Shelf Life and Product Characteristics (before mixing)

Shelf life	6 months in an unopened, original bag in a dry, covered and well-ventilated place at 73°F (23°C)
Physical state	Powder
Color	Natural gray

## Application Properties (mixed)

Mixing ratio of water per <i>Ultratop PC</i> powder	0.96 U.S. gal. (3,63 L) of water per 50-lb. (22,7-kg) bag
Density	131.10 lbs. per cu. ft. (2,10 kg per L)
pH	12.85
Application temperature range	50°F to 95°F (10°C to 35°C)
Pot life at 73°F (23°C)	30 minutes
Flowing time at 73°F (23°C)	15 minutes
Final set at 73°F (23°C)	70 minutes
Time required before installation of stains or coatings	24 hours

## CSI Division Classifications

Concrete Topping	03 53 00
Cast-in-Place Concrete	03 30 00

## Packaging

Product Code	Size
15950	Bag: 50 lbs. (22,7 kg)

## Approximate Coverage\* per 50 lbs. (22,7 kg)

Yield	0.44 cu. ft. (0,01 m <sup>3</sup> )
Coverage at 3/8" (10 mm) thickness	14.10 sq. ft. (1,31 m <sup>2</sup> )
Coverage at 1/2" (12 mm) thickness	10.6 sq. ft. (0,98 m <sup>2</sup> )

\* Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions and setting practices.

- Use an intermittent fine mist to cure *Ultratop PC* for 1 hour after the final set, with additional misting as needed.
  - For polishing, let *Ultratop PC* cure for at least 24 hours. For optimum results, polish *Ultratop PC* between 48 to 72 hours after placement. Although the polishing process can begin in as little as 24 hours, *Ultratop PC* forms a protective film that allows the material to hydrate properly, and removing this film early in the curing process can contribute to surface micro-cracking.
  - On interior applications, apply a MAPEI densifier between the metal and resin stages of the polishing process and allow the densifier to penetrate *Ultratop PC* for 30 minutes.
  - Typically, *Ultratop PC* can be stained, sealed or coated 24 hours after application. Follow the recommendations of the stain, sealer or coating manufacturer. Test all surface treatments on a small sample area, before application, to ensure desired results. Verify that the moisture content meets the specifications of the stain, sealer or coating manufacturer.
  - Always perform a meaningfully sized mockup exactly as the finished floor will be.
- Do not expose *Ultratop PC* to rolling dynamic loads, such as forklifts or scissor lifts, for at least 48 hours after installation.
  - Apply a protective coating, sealer or densifier over *Ultratop PC* after 24 hours. Deeper applications and cooler temperatures may require a longer waiting period before application of subsequent treatments. Follow the recommendations of the stain, sealer or coating manufacturer. Test all surface treatments on a representative sample area, before application, to ensure adequate installation techniques as well as the desired results.

## CLEANUP

- Wash hands and tools with water promptly before material hardens.
- Cured material must be mechanically removed.

## CURING AND PROTECTION

- For all applications, apply an intermittent fine water mist to the newly hardened surface of *Ultratop PC* for one hour after final set. Protect *Ultratop PC* from excessive heat or windy conditions during curing. Protect for up to 24 hours after the final set. *Ultratop PC* is not recommended in areas where slopes for water drainage are needed, or where de-icing salts are used.
- Avoid walking on the installed surface for at least 2 to 3 hours after installation, depending upon temperature and humidity conditions.
- Protect from traffic, dirt and dust from other trades until the final floor sealer or coating has been installed and completely cured.

Refer to the SDS for specific data related to VOCs, health and safety, and handling of product.

## STATEMENT OF RESPONSIBILITY

Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith.

**ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

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**Edition Date:** December 20, 2013  
PR: 6922 MKT: 13-0375