



Ultraplan[®] 1 Plus

**High-Performance,
Quick-Setting, Self-Leveling
Underlayment**



DESCRIPTION

Ultraplan 1 Plus is an HCT™ (High-Hydrated Cement Technology)-based, quick-setting, self-leveling, self-drying underlayment and repair mix for interior concrete and engineer-approved floors. *Ultraplan 1 Plus* has high strength and is abrasion-resistant, able to withstand light foot traffic after 2 to 3 hours and vehicular rubber-wheel traffic after 3 days.

FEATURES AND BENEFITS

- For leveling, smoothing and repairing interior floors
- Ready for tile in 3 to 4 hours

INDUSTRY STANDARDS AND APPROVALS

LEED v3 Points Contribution

LEED Points

MR Credit 5, Regional Materials* Up to 2 points

** Using this product may help contribute to LEED certification of projects in the category shown above. Points are awarded based on contributions of all project materials.*

WHERE TO USE

- For leveling, smoothing and repairing floors before the installation of floor coverings
- Interior residential applications (rental apartments, condominiums and homes)
- Interior commercial applications (office buildings, hotel rooms/hallways, restaurants and cafeterias)

- Interior heavy commercial applications (hotel lobbies, convention centers, airports, shopping malls, grocery stores and department stores)
- Interior institutional applications (hospitals, schools, universities, libraries and government buildings)

LIMITATIONS

- Do not install over any flooring products, any adhesives or any substrates containing asbestos.
- For interior use only
- Do not use at thicknesses greater than 1-1/2" (3,8 cm).
- Do not use as a final wear surface. *Ultraplan 1 Plus* must be covered with a finished floor system.
- Install *Ultraplan 1 Plus* between the temperatures of 50°F and 90°F (10°C and 32°C). For temperatures above 90°F (32°C), follow the American Concrete Institute (ACI) hot-weather application guidelines to ensure a successful installation.
- Do not install over moving control joints (with active cracks) or over expansion joints.
- Do not install if the substrate has a moisture vapor emission rate (MVER) exceeding 5 lbs. per 1,000 sq. ft. (2,27 kg per 92,9 m²) per 24 hours using a calcium chloride test (reference ASTM F1869), or a relative humidity (RH) reading greater than 80% (ASTM F2170). Use a MAPEI epoxy moisture barrier to treat concrete slabs with elevated moisture conditions. Consult MAPEI's Technical Services Department for product recommendations.



- Do not install *Ultraplan 1 Plus* over sheet vinyl; self-stick vinyl tile; luxury vinyl tile (LVT); luxury vinyl plank (LVP); glue-down wood flooring; particleboard; hardboard (Masonite); Lauan panels; waterproofing, crack-isolation or sound-control membranes; gypsum-based patching materials; or any other nondimensionally stable materials.
- Do not install if the maximum allowable deflection of the supporting surface exceeds L/360 (or L/720 for installations involving natural stone or their agglomerates) when exposed to live or dead loads.

SUITABLE SUBSTRATES

- All substrates must be primed with the appropriate MAPEI primer before applying self-levelers. See MAPEI's Reference Guide RGC0609, "Primers for Self-Leveling Materials," and the appropriate primer's Technical Data Sheet.
- Properly prepared, sound, dimensionally stable, fully cured concrete at least 28 days old and free from hydrostatic pressure
- Properly prepared, well-bonded and dimensionally stable ceramic tile, porcelain tile, quarry tile, natural stone, vinyl composition tile (VCT), cement/epoxy terrazzo and epoxy-based moisture barriers
- Properly installed cement backer units (CBUs)
- Properly installed and dry cement-based underlayments and patching compounds
- Durable, sound, stable and fully cured cement-based mortar beds
- Engineer-approved plywood or oriented strand board (OSB) subfloors in accordance with F185 specification in the most recent edition of the Tile Council of North America (TCNA) handbook. When MAPEI underlayments are applied to plywood flooring, installation requirements (finished flooring, load, use and/or deflection) may require the utilization of MAPEI's *Mapelath*™ synthetic lath or diamond mesh (meeting the requirements of ASTM C847) on top of the primed surface before the application of the underlayment.
- Existing nailed-down wood flooring (including plank wood subfloors, stripwood subfloors and nailed-down solid wood flooring) that has been covered over with at least one layer of 5/8" (16 mm) plywood that has been glued and screwed to the surface
- Gypsum-based underlayments (refer to MAPEI's Technical Bulletin 010313-TB, "Gypsum-Based Floors and Walls: Which MAPEI Products Can Be Applied?")

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

SURFACE PREPARATION

- All substrates must be properly prepared, primed and structurally sound, stable, solid and dry.

- Unless primed with MAPEI's *ECO Prim Grip*™, concrete surfaces must be mechanically profiled and prepared by shotblasting, sandblasting, water-jetting, scarifying, diamond grinding or other engineer-approved methods. Reference International Concrete Repair Institute (ICRI) concrete surface profile (CSP) standards of #2 to #3 for acceptable profile height.
- On concrete substrates, fill in deep areas, holes and cracks with an appropriate MAPEI patching compound or screed, preventing fluid self-leveler from leaking through to a floor below or other unwanted cavities.
- On plywood substrates, fill joints with an acrylic-based caulking compound to prevent *Ultraplan 1 Plus* from leaking onto a level below.
- See MAPEI's "Surface Preparation Requirements" document in the Reference & Installation Guides section of the Floor Covering Installations Systems page on MAPEI's Website.

MIXING

Choose all appropriate safety equipment before use. Refer to the Safety Data Sheet for details.

General mixing

1. Measure and pour 5.75 to 6 U.S. qts. (5,44 to 5,68 L) of cool, clean potable water per each 50 lbs. (22,7 kg) of *Ultraplan 1 Plus* powder into a clean mixing vessel, using a mixing barrel or a plastic pail measuring 5 U.S. gals. (18,9 L). For best results, the water temperature should be about room temperature (73°F [23°C]). The mixing ratio of water to *Ultraplan 1 Plus* must remain consistent. Do not overwater.
2. Slowly add *Ultraplan 1 Plus* powder into the premeasured water. Use a high-speed drill (at 800 to 1,000 rpm) and an oval paddle mixer to mix *Ultraplan 1 Plus* for 2 to 3 minutes, until achieving a homogenous, lump-free consistency.
3. Do not overmix. Overmixing or moving the mixer up and down during the mixing process could trap air, shorten the pot life or cause pinholing during the application and curing process.

Pump mixing

1. *Ultraplan 1 Plus* can be mechanically mixed, using the appropriate mixing ratio shown above, with a continuous mixer and pump (and at least 140 ft. [42,7 m] of hose) or a batch mixer and pump (and at least 110 ft. [33,5 m] of hose). Periodic cleaning of pumping equipment may be required per the manufacturer's instructions.
2. Use a mesh screen "sock" at the end of the hose to catch any foreign material that may have fallen into the hopper during mixing.
3. To ensure a suitable mix and flow, test the mixed material from the pump hose's end in a small test area before general application.

Product Performance Properties

Laboratory Tests	Results
pH	11
Cured density	128 lbs. per cu. ft. (2,06 kg per L)
Compressive strength – ASTM C349	1 day > 2,000 psi (13,8 MPa) 28 days > 4,150 psi (28,6 MPa)
Flexural strength – ASTM C348	28 days > 1,070 psi (7,38 MPa)

Shelf Life and Product Characteristics (before mixing)

Shelf life	1 year when stored in original, unopened packaging at 73°F (23°C) and 50% RH
Physical state	Powder
Color	Gray
VOCs	0 g per L

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.

Application Properties at 73°F (23°C) and 50% RH

Mixing ratio	5.75 to 6 U.S. qts. (5,44 to 5,68 L) of water per 50 lbs. (22,7 kg) of <i>Ultraplan 1 Plus</i>
Mixing time	2 to 3 minutes
Profile required	CSP #2 to #3
Temperature range for application	50°F to 90°F (10°C to 32°C)
Working time*	Up to 20 minutes
Thickness range for single-lift application	1/16" to 1-1/2" (1,5 mm to 3,8 cm)
Waiting time for second-coat applications of <i>Ultraplan 1 Plus</i>	24 hours
Drying time before installation of non-moisture-sensitive floor coverings at 1-1/2" (3,8 cm) thickness	3 hours
Drying time before installation of moisture-sensitive floor coverings at 1-1/2" (3,8 cm) thickness	16 to 24 hours

* Working time varies based on jobsite conditions.

CSI Division Classification

Cast Underlayment	03 54 00
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Packaging

Size
Plastic bag: 50 lbs. (22,7 kg)

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

Thickness	Coverage
1/16" (1,5 mm)	104 sq. ft. (9,66 m ²)
1/8" (3 mm)	52 sq. ft. (4,83 m ²)
1/4" (6 mm)	26 sq. ft. (2,42 m ²)
1/2" (12 mm)	13 sq. ft. (1,21 m ²)

** Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions, type of equipment, thickness applied and application methods used.

Ultraplan 1 Plus



PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Substrate and ambient room temperatures should be maintained between 50°F and 90°F (10°C and 32°C) during the installation as well as for 72 hours before and after.
2. Before installation, close doors and windows, and turn off HVAC systems to prevent drafts during application and until *Ultraplan 1 Plus* is cured. Protect installation areas from direct sunlight.
3. Quickly pour or pump *Ultraplan 1 Plus* onto the properly prepared and primed surface in a ribbon pattern. Set the width of the pour at a distance that is ideal for maintaining a wet edge throughout placement. If a wet edge cannot be maintained, reduce the width of the pour. For best results, work as a team to provide a continuous flow of wet material, to avoid trapping air or creating a cold joint. Apply enough material to adequately cover all high spots.
4. Shortly after placing *Ultraplan 1 Plus*, spread the material with a gauge rake. After achieving the desired depth, use a smoother to obtain an even surface.
5. Second-coat applications of *Ultraplan 1 Plus* require priming the surface of the first pour using an appropriate MAPEI primer.

CURING

- *Ultraplan 1 Plus* is self-curing; do not use a damp-curing method or curing-and-sealing compounds.
- Cool-weather conditions may extend curing or setting times.

- Warm-weather conditions may accelerate flow, setting and curing times.

CLEANUP

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

PROTECTION

- Protect *Ultraplan 1 Plus* from direct sunlight, excessive heat and drafty conditions during curing. Turn off all forced ventilation and radiant-heating systems, protecting the installation for up to 24 hours after completion. Avoid walking on the installed surface for at least 2 to 3 hours after installation, depending upon temperature and humidity conditions. Protect the installation from traffic, dirt and dust from other trades until *Ultraplan 1 Plus* is completely dry and final flooring has been installed.
- Do not expose *Ultraplan 1 Plus* to rolling dynamic loads, such as fork lifts or scissor lifts, for at least 3 days after installation.

RELATED DOCUMENTS

Reference Guide: Primers for Self-Leveling Materials	RGC0609
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* At www.mapei.com

Refer to the SDS for specific data related to health and safety as well as product handling.

LEGAL NOTICE

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 effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at

www.mapei.com. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use,

and the user alone assumes all risks and liability. **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.**

We proudly support the following industry organizations:



MAPEI Headquarters of North America
1144 East Newport Center Drive
Deerfield Beach, Florida 33442
1-888-US-MAPEI (1-888-876-2734) /
(954) 246-8888

Technical Services
1-800-992-6273 (U.S. and Puerto Rico)
1-800-361-9309 (Canada)

Customer Service
1-800-42-MAPEI (1-800-426-2734)

Services in Mexico
0-1-800-MX-MAPEI (0-1-800-696-2734)

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For the most current BEST-BACKED™ product data and warranty information, visit www.mapei.com.

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