



# Ultraplan<sup>®</sup> LSC

## High-Flow, Fast-Setting, Self-Leveling Liquid Skimcoat



### DESCRIPTION

*Ultraplan LSC* is a super fluid, high-flow, calcium-aluminate-cement-based underlayment designed for thin-coat applications over large surfaces. Unique flow properties allow *Ultraplan LSC* to spread easily and quickly, potentially eliminating the need for hand-applied skimcoats. This product cures to a hard and flat surface that typically requires no further touchup or repair, accelerating floor-covering installation and reducing the need for additional patching or skimcoating materials.

### FEATURES AND BENEFITS

- High-flow and super fluid for thin-coat applications
- Creates hard and flat final surface
- Features high compressive strength

### INDUSTRY STANDARDS AND APPROVALS

LEED 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 (rental apartments, condominiums and homes)

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

### LIMITATIONS

- Do not install over any flooring products, adhesives or substrates containing asbestos.
- For interior use only
- Do not use at thicknesses greater than 1/2" (12 mm).
- Do not use as a final wear surface. *Ultraplan LSC* must be covered with a finished floor system.
- Install *Ultraplan LSC* 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 m<sup>2</sup>) 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 LSC* 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 Product Selection 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 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. Fluid self-leveler may leak through to a floor below or other unwanted cavities.
- On plywood substrates, fill joints with an acrylic-based caulking compound to prevent *Ultraplan LSC* 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 LSC* 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 LSC* must remain consistent. Do not overwater.
2. Slowly add the *Ultraplan LSC* powder into the pre-measured water. Use a high-speed drill (at 800 to 1,000 rpm) and an oval paddle mixer to mix *Ultraplan LSC* 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 LSC* 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 (CAN/CSA-A23.2-8C)	
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% relative humidity

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 LSC</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 1/2" (1,5 to 12 mm)
Waiting time for second-coat applications of <i>Ultraplan LSC</i>	24 hours
Drying time before installation of non-moisture-sensitive floor coverings at 70°F (21°C) at 1/2" (12 mm) thickness	3 hours
Drying time before installation of moisture-sensitive floor coverings at 70°F (21°C) at 1/2" (12 mm) thickness	12 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 <sup>2</sup> )
1/8" (3 mm)	52 sq. ft. (4,83 m <sup>2</sup> )
1/4" (6 mm)	26 sq. ft. (2,42 m <sup>2</sup> )
1/2" (12 mm)	13 sq. ft. (1,21 m <sup>2</sup> )

\*\* 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.

## 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 LSC* is cured. Protect installation areas from direct sunlight.
3. Quickly pour or pump *Ultraplan LSC* 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 LSC*, 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 LSC* require priming the surface of the first pour using an appropriate MAPEI primer.

Note: *Ultraplan LSC* cannot be extended for deeper fills. For deep fills, select an alternate MAPEI self-leveling underlayment.

## CURING

- *Ultraplan LSC* is self-curing; do not use a damp-curing method or curing-and-sealing compounds.
- Cool-weather conditions may extend cure or set times. Warm-weather conditions may accelerate flow, set and curing times.

## CLEANUP

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

## PROTECTION

- Protect *Ultraplan LSC* from direct sunlight, excessive heat and drafty conditions during curing. Turn off all forced ventilation and radiant-heating systems, and protect 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 LSC* is completely dry and final flooring has been installed.
- Do not expose *Ultraplan LSC* to rolling dynamic loads, such as fork lifts or scissor lifts, for at least 72 hours after installation.

## RELATED DOCUMENTS

Reference Guide: Primers for Self-Leveling Materials	RGC0609*
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\* At [www.mapei.com](http://www.mapei.com)

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

## 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.**

We proudly support the following industry organizations:



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