

Standard installation of SLUs

This installation guide presents information and steps regarding standard installation of MAPEI self-leveling underlayments (SLUs) without aggregate. To install SLUs with aggregate, reference the MAPEI installation guide “Extending SLUs with aggregate.”

Preparation for installation

Read all Technical Data Sheet (TDS) requirements before using any of MAPEI's SLUs.

Proper surface preparation is crucial to a successful SLU installation. Consult the reference guide “Surface-preparation requirements for self-leveling underlayments” in the Related Documents section of the Floor Covering Installation Systems page on MAPEI's Website. Also reference ASTM F710 (“Preparing the Concrete Floor”) and ACI 302.2R-06 (“Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials”).

After surface preparation has been completed, foam tape 1/4" (6 mm) wide should be applied around the edges of the walls, columns, supports and equipment to allow for expansion and to prevent the SLU from flowing under walls. In addition, a bead of caulk along the walls will keep the SLU from flowing into other areas.

Before priming, make sure to remove all sealers and contaminants that may inhibit bond. In addition, the existing finishes should be well bonded.

Priming is critical in helping the SLU to bond. When applied over porous surfaces that soak up the SLU, primers prevent uneven drying, which can cause cracks.

For help in selecting the appropriate MAPEI primer, consult the reference guide “Primers for self-leveling materials” in the Related Documents section of the Floor Covering Installation Systems page on MAPEI's Website. Also refer to a primer's TDS for the recommended drying time.

Apply the primer and allow it to dry based on the drying times on the primer's TDS. Note that MAPEI primers and SLUs are not recommended over any products containing asbestos.

Suitable substrates and installation conditions

- SLUs are for interior floors only.

Concrete subfloors

- For required characteristics of the concrete substrate, consult the TDS of the selected SLU.
- To ensure selection of the appropriate SLU, moisture-test concrete floors using the ASTM F1869 (calcium chloride) test for moisture vapor emission rates and using the ASTM F2170 test for relative humidity.
- Porosity of the substrate will play a big role in applying the primer. Assess the concrete's porosity by using the ASTM F3191 porosity test method: First, drop dime-sized water droplets onto the concrete and mark how long they take to soak into the surface. Absorption of less than 1 minute indicates a porous surface, while absorption of more than 1 minute indicates a nonporous substrate. This porosity test will help determine how many coats of primer or what dilution rate to use.

Wood subfloors

- Acceptable wood subfloors are engineer-approved plywood or OSB subfloors Group 1, CC type or APA-rated. Also see the most recent edition of the Tile Council of North America's F185 specification.
- Along with the aforementioned foam tape around the walls, also caulk the joints between the subfloor to prevent the leveler from seeping through to lower levels or other areas.
- Wood subfloors require primers to be undiluted and at full strength.
- When MAPEI underlayments are applied to plywood flooring, installation requirements (finished flooring, load, use and/or deflection) may necessitate use of MAPEI's *Mapelath*™ or diamond mesh (meeting the requirements of ASTM C847) on top of the primed surface before the underlayment is applied. All APA-approved oriented strand board (OSB) requires *Mapelath* or diamond mesh lath.

Other suitable subfloors

- Well-bonded and dimensionally stable ceramic, porcelain, quarry tile, vinyl composition tile (VCT) terrazzo and non-asbestos cutback adhesive

Mixing methods

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details.

General mixing

1. Into a clean mixing container – typically at least a pail measuring 5 U.S. gals. (18.9 L) – pour the required amount of cool, clean, potable water. If available water is not cool, chill the water to 70°F (21°C).
2. Add the MAPEI self-leveler powder while slowly stirring.
3. Combine water and SLU powder at the appropriate ratio, per the SLU's TDS. The mixing ratio must remain consistent. Do not overwater material.
4. Mix the material with a drill and paddle to a homogenous, lump-free consistency. This typically takes 90 to 120 seconds. For details, contact MAPEI's Technical Services Department.

Barrel mixing

1. Use the appropriate mixing ratio per the TDS of the MAPEI SLU. Barrel mixing typically involves two bags of SLU.
2. Mix to a homogenous, lump-free consistency, for about 90 to 120 seconds. 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 process.

Pump mixing

1. MAPEI's SLUs can be mechanically mixed, using the appropriate mixing ratio per the TDS of the MAPEI SLU.
2. Use a continuous mixer and pump. Both the mixer and pump must be in good working condition. Refer to the pump manufacturer's instructions for use and periodic cleaning.
3. Test mixed material from the end of the hose, and apply to a small test area before general application to ensure a successful installation.
4. Note that cool-weather conditions may require longer mixing or additional hose length to ensure the best product performance.

Application

Read all installation instructions thoroughly before installation.

1. Before installation, close doors and windows, and turn off HVAC systems to prevent drafts during application and until the SLU application is cured. Protect areas from direct sunlight.
2. Make sure concrete substrate and ambient room temperatures are between 50°F and 95°F (10°C and 35°C) before application. In large applications, allow for indirect air circulation to dissipate humidity created by SLU application. Temperatures must be maintained within this range for at least

72 hours after the installation of MAPEI's SLU. In cooler conditions, use indirect auxiliary heaters to maintain ambient and substrate temperatures within the required range. It is critical that heaters heat the air and are not directed toward the curing SLU. For temperatures above 85°F (29°C), follow the American Concrete Institute (ACI) hot-weather application guidelines to ensure a successful installation.

3. Non-aggregate pours of SLU are generally between 1/8" and 2" (3 mm and 5 cm) in thickness. Consult the TDS of the selected SLU.
4. Set the width of the pour at a distance that is ideal for maintaining a wet edge throughout placement of the SLU. Quickly pour or pump the SLU onto the properly prepared and primed surface in a ribbon pattern. If a wet edge cannot be maintained, reduce the width of the pour by creating a dam with foam strips placed about every 10 to 12 feet (3.05 to 3.66 m), with the strips weighted down to keep them in place until the initial set time. Then remove the strips, prime the exposed edge of the SLU, allow the primer to dry and then continue pouring the SLU.
5. Shortly after placing the SLU, spread the material with a gauge rake to assist in gauging out the product to the desired depth. After achieving the desired depth, use a smoother or a spiked roller to smooth the surface until even.

Secondary lifts

1. The self-leveler must be sound and secure to the substrate.

Note: For proper drying and strength, secondary SLU lifts must be preceded by the longer waiting times that are indicated for moisture-sensitive/resilient installations. For these times, refer to the TDSs of MAPEI's SLU products.

2. The first lift must be properly primed before application of the second lift.
3. Follow Steps 1 to 4 in the "Applications" section above.
4. An engineer should evaluate the project for structural strength before the installation of the second lift.
5. Secondary lifts can be applied as many times as needed, provided that the engineer evaluation permits it.
6. For the permitted thickness of secondary lifts, consult the TDS of the selected SLU.
7. For extended installations, consult MAPEI's installation guide "Extending SLUs with aggregate" or contact MAPEI's Technical Services Department.

Curing

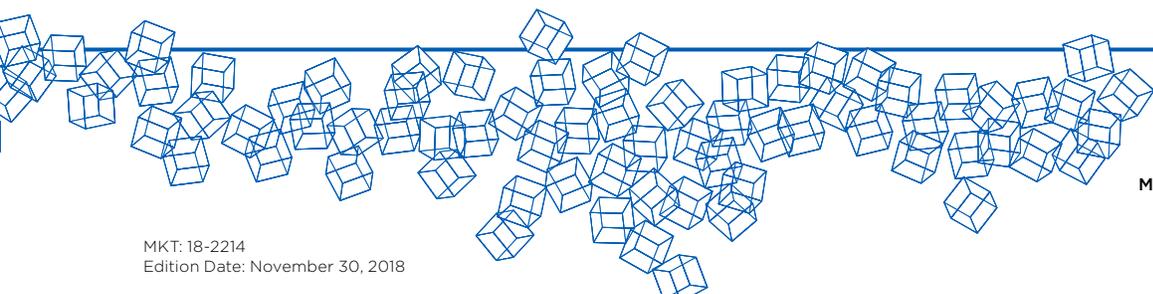
- MAPEI self-levelers are self-curing. Do not use a damp-curing method, or curing and sealing compounds.
- Protect MAPEI's SLUs from excessive heat and draft conditions during curing. Turn off all forced ventilation and radiant-heating systems. (Some

radiant-heating systems should not be turned on after installation for 7 to 14 days; check with heat manufacturer.) 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 MAPEI's SLU is completely cured and the final flooring has been installed.

Cleaning

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



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