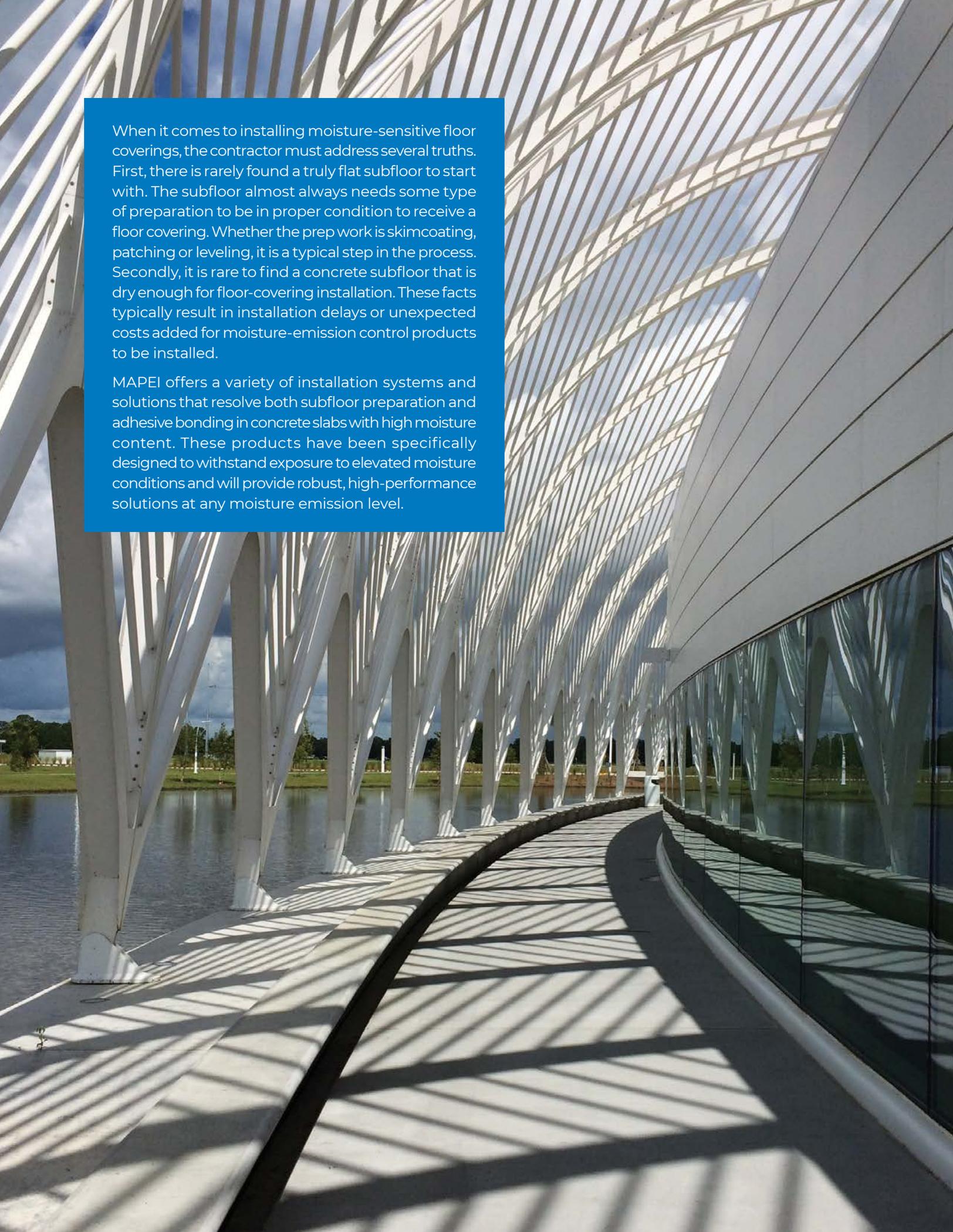




**Floor-covering
installation
systems for high-
moisture concrete
substrates**



When it comes to installing moisture-sensitive floor coverings, the contractor must address several truths. First, there is rarely found a truly flat subfloor to start with. The subfloor almost always needs some type of preparation to be in proper condition to receive a floor covering. Whether the prep work is skimcoating, patching or leveling, it is a typical step in the process. Secondly, it is rare to find a concrete subfloor that is dry enough for floor-covering installation. These facts typically result in installation delays or unexpected costs added for moisture-emission control products to be installed.

MAPEI offers a variety of installation systems and solutions that resolve both subfloor preparation and adhesive bonding in concrete slabs with high moisture content. These products have been specifically designed to withstand exposure to elevated moisture conditions and will provide robust, high-performance solutions at any moisture emission level.

Patching and Skimcoating Compounds

Prep products for high-moisture concrete



Planiprep® PSC

Moisture-Resistant, Fast-Drying Patch and Skimcoating Compound

Planiprep PSC is a fast-drying, cement-based, fiber-reinforced, polymer-modified patch and skimcoating compound designed for preparing concrete and wood substrates for flooring installation.



Mapecem® Quickpatch

High-Performance Concrete Patch

Mapecem Quickpatch is a high-performance, fast-setting, cementitious material used for the patching of concrete surfaces.



Ultraplan® Extreme 2

Weather-Resistant, High-Compressive-Strength, Self-Leveling Underlayment

Ultraplan Extreme 2 is an advanced, hydraulic-cement-based, self-leveling compound designed for fast-track underlayment applications. It is especially formulated for leveling interior horizontal concrete surfaces where environmental controls are not operational or the building is not enclosed. Once installed, *Ultraplan Extreme 2* is not affected by exposure to intermittent rain exposure after 6 hours or to freezing temperatures after 3 days of curing. Its high compressive strength is designed to allow it to be exposed to traffic as a temporary wear layer until the floor is covered with floor covering. *Ultraplan Extreme 2* has no moisture vapor emission limitations and can be installed without testing on properly prepared concrete substrates. It is the self-leveling compound of choice for use under moisture-controlling adhesive systems and epoxy moisture barriers.



Note that MAPEI's standard subfloor-preparation products can be used up to a moisture emission vapor rate (MVER) of 10 lbs. (4.54 kg) MVER and 90% relative humidity (RH).

Direct-bond adhesive solutions for high-moisture concrete

MAPEI has a variety of adhesive systems that can be used in elevated moisture conditions. While these adhesive solutions do not act as moisture barriers, they have been tested to provide the bond and shear strength necessary to hold flooring systems in place beyond the floor-covering manufacturer's stated limitations.

For < 8 lbs. (3.63 kg) MVER and 90% RH¹



Ultrabond ECO® 185

Professional Carpet Adhesive

Ultrabond ECO 185 is a latex-based adhesive that offers fast grab and quick leg development for the fast-track installation of commercial carpet. It can be used in direct-bond and double-stick carpet applications.



Ultrabond ECO 711

Premium, Clear, Thin-Spread VCT Adhesive

Ultrabond ECO 711 is a latex-based adhesive that offers a quick drying time with enhanced grab and slip resistance for vinyl composition tile (VCT) installations. *Ultrabond ECO 711* is translucent when dry, allowing layout lines to be easily seen.



Ultrabond ECO 811

Universal Carpet Tile Adhesive

Ultrabond ECO 811 is a high-performance, acrylic latex adhesive designed to provide an aggressive tack for installing all types of carpet tile. *Ultrabond ECO 811* provides a secure, releasable adhesive base for standard PVC-backed carpet tile as well as for non-PVC-, polyolefin-, felt- and bituminous-backed carpet tile. It can also be used to bond fiberglass-reinforced vinyl sheet flooring.



For < 15 lbs. (6.80 kg) MVER and 95% RH²



Ultrabond ECO 399

Heavy-Duty, Pressure-Sensitive, Multi-Flooring Adhesive

Ultrabond ECO 399 is a high-moisture-resistant, heavy-rolling-load-resistant, aggressive, pressure-sensitive adhesive with enhanced dimensional control properties designed to install a wide variety of resilient flooring types.



Ultrabond ECO 983

Modified-Silane, Moisture-Control Wood-Flooring Adhesive

Ultrabond ECO 983 is a single-component, 100%-solids, modified-silane wood-flooring adhesive that is formulated without water, solvents, amines, isocyanates, phthalate plasticizers or epoxy resins. With an extremely low emission level of volatile organic compounds (VOCs), the unique formulation of *Ultrabond ECO 983* provides excellent bond strength and moisture control up to 15 lbs. (6.80 kg) MVER and 90% relative humidity (RH). Special trowel clips are provided to apply the adhesive in a monolithic layer for subfloor moisture control. It can also be used with traditional trowel applied methods where subfloor moisture problems do not exist.



Ultrabond ECO 977

Fast-Set Urethane Adhesive for Hardwood Flooring

Ultrabond ECO 977 is a fast-setting, 100%-solids, one-component, moisture-cured urethane adhesive specifically designed for the installation of domestic solid and engineered wood flooring. *Ultrabond ECO 977* can also be used in elevated subfloor moisture conditions of up to 12 lbs. (5.44 kg) MVER and 95% relative humidity when a specific installation method and trowel notch configurations are used.



For < 25 lbs. (11.3 kg) MVER and 100% RH²



Ultrabond ECO MS 4 LVT

Professional, Hybrid-Polymer Adhesive for Resilient Flooring

Ultrabond ECO MS 4 LVT is a moisture-curing, one-component, silane-modified, hybrid-polymer adhesive specifically designed for the direct bonding of vinyl and rubber flooring in interior applications.





Mapecontact™ MRT

Moisture-Resistant Tape for Resilient Flooring Installation

Mapecontact MRT is a double-sided, moisture-resistant tape for the rapid and permanent installation of a wide variety of resilient flooring types. It has been specifically designed to provide instant bond and instant utilization for residential and commercial floor installations. *Mapecontact MRT* is unaffected by high moisture conditions in concrete and can be installed without moisture testing.



Mapecontact SRT

Sound-Reduction, Moisture-Resistant Tape for Resilient and Wood Flooring Installation

Mapecontact SRT is a double-sided, foam-core, dry-film tape for rapidly and permanently installing solid vinyl sheet, vinyl tile and vinyl plank flooring, as well as prefinished engineered and solid wood. Providing sound reduction for multi-family living, it has also been specifically designed to instant bond and instant utilization for residential and commercial floor installations. *Mapecontact SRT* is unaffected by high moisture conditions in concrete and can be installed without moisture testing. Plus, it provides subfloor moisture protection for wood and bamboo flooring.



Ultrabond ECO 985³

Hybrid-Polymer-Based, Moisture-Control and Sound-Reducing Wood-Flooring Adhesive

Ultrabond ECO 985 is MAPEI's premium single-component, hybrid-polymer-based wood-flooring adhesive that is formulated without water, solvents, amines, isocyanates, phthalate plasticizers or epoxy resins, and has an extremely low emission level of volatile organic compounds (VOCs). *Ultrabond ECO 985*'s formulation provides excellent sound-reduction properties that are required for multi-unit housing. *Ultrabond ECO 985* is also a moisture-controlling wood-flooring adhesive that protects wood flooring from moisture vapor emitting through concrete slabs in a single application.



Ultrabond ECO 995³

Premium Moisture-Control, Sound-Reduction and Wood-Flooring Adhesive

Ultrabond ECO 995 is MAPEI's premium, 100%-solids, one-component, moisture-curing urethane adhesive for all types of wood flooring and bamboo. *Ultrabond ECO 995* can be used in a single-coat application method that provides a superior bond and moisture vapor emission control on concrete slabs. *Ultrabond ECO 995* also provides sound-reduction properties, making it suitable for use in multi-unit housing projects.



¹ These adhesive systems can utilize traditional subfloor preparation materials when applied on concrete substrates.

² These adhesive systems require highly moisture-resistant subfloor preparation materials when applied on concrete substrates.

³ Do not use these adhesives as moisture-controlling systems over gypsum or wood underlayments, as they will trap moisture below the bond line and potentially cause moisture-related damage or subsequent floor failure.

Moisture barriers

Some flooring types and MAPEI installation adhesives do not have the necessary structure or formula to withstand elevated moisture conditions on their own without a secondary barrier in place. Flooring types such as wood, bamboo, felt-backed vinyl sheet, prefinished cork and mineral-backed linoleum are not designed to work in moisture conditions much higher than 5 lbs. (2.27 kg) MVER and 80% RH. Therefore, the need for an additional barrier coat becomes important. MAPEI has a variety of solutions for varying levels of subfloor moisture content.

For mid-range moisture vapor control: < 15 lbs. (6.80 kg) MVER and 99% RH



Planiseal® MSP

Moisture-Control Membrane, Adhesive Isolator, Sealer, pH Blocker and Primer

Planiseal MSP is a two-coat, high-solids, polymer-based adhesive isolator, sealer, moisture-control membrane and self-leveling primer. *Planiseal MSP* protects flooring installations against subfloor moisture and pH in concrete slabs with moisture vapor emission rates (MVERs) up to 15 lbs. (6.80 kg) per ASTM F1896, relative humidity (RH) up to 99% per ASTM F2170 and alkalinity protection up to pH of 12. *Planiseal MSP* eliminates the need for a secondary primer for self-leveling applications.



For maximum moisture vapor control: < 25 lbs. (11.3 kg) MVER and 100% RH



Planiseal PMB

One-Component, Polyurethane Moisture Barrier and Bonding Agent

Planiseal PMB is a one-component, moisture-curing, polyurethane compound designed to provide moisture vapor emission protection on damp concrete substrates in a single- or double-coat application method as well as a vapor retarder using a single-coat method over wood substrates. It also serves as a bonding agent and moisture barrier system for self-leveling underlayments when applied in a double-coat method with dry sand.



Planiseal VS

Alkali-Resistant, Epoxy Moisture-Reduction Barrier

Planiseal VS is an alkali-resistant, two-component, 100%-solids epoxy coating that effectively stops moisture-related problems with floor coverings. In addition, *Planiseal VS* expedites floor-covering installations by eliminating the traditional wait time required for new concrete slabs to reach moisture levels suitable for installations.



Planiseal VS Fast

Fast-Track, Alkali-Resistant, Epoxy Moisture-Reduction Barrier

Planiseal VS Fast is a fast-curing, alkali-resistant, two-component, 100%-solids epoxy coating that effectively stops moisture-related problems over concrete that impact floor coverings. In addition, it significantly expedites floor installations by eliminating the traditional wait time required for new concrete slabs to reach moisture levels suitable for floor-covering installation.



System solutions for highly moisture-resistant installation

The following scenarios give some recommended installation system solutions for floor-covering installation at varying levels of moisture emission. These are but a few of the solutions that MAPEI can provide. Speak with your MAPEI sales or technical services representative for details on these system solutions and how they can apply to your specific project requirements.

For VCT

Condition #1: < 8 lbs. (3.63 kg) MVER and 95% RH

1. Traditional MAPEI subfloor prep products; and *Ultrabond ECO 711*

Condition #2: 8 to 15 lbs. (3.63 to 6.80 kg) MVER and > 95% RH

1. *Planiseal MSP*; traditional MAPEI subfloor prep products; and *Ultrabond ECO 711*
2. *Planiprep PSC*; *Mapecem Quickpatch* or *Ultraplan Extreme 2*; *Planiseal MSP*; and *Ultrabond ECO 711*

Condition #3: > 15 lbs. (6.80 kg) MVER and > 95% RH

1. *Planiseal VS* or *Planiseal VS Fast*; *Primer X™* or *Primer E™* (with sand) and traditional MAPEI subfloor prep products; and *Ultrabond ECO 711*
2. *Planiseal PMB* (with sand broadcast) and traditional MAPEI subfloor prep products; and *Ultrabond ECO 711*



For solid vinyl sheet flooring

Condition #1: < 8 lbs. (< 3.63 kg) MVER and < 95% RH

1. Traditional MAPEI subfloor prep products; and *Ultrabond ECO 373* (wet-lay method) for < 8 lbs. (3.63 kg) MVER and 95% RH

Condition #2: 8 to 15 lbs. (3.63 to 6.80 kg) MVER and > 95% RH

1. *Planiseal MSP*; traditional MAPEI subfloor prep products; and MAPEI floor-covering adhesive designed for vinyl flooring and suitable for use on nonporous substrates
2. *Planiprep PSC*; *Mapecem Quickpatch* or *Ultraplan Extreme 2*; *Planiseal MSP*; and *Ultrabond ECO 399*

Condition #3: > 15 lbs. (6.80 kg) MVER and > 95% RH

1. *Planiseal VS* or *Planiseal VS Fast*; *Primer X* or *Primer E* (with sand) and traditional MAPEI subfloor prep products; and MAPEI floor-covering adhesive designed for vinyl flooring
2. *Planiseal PMB* (with sand broadcast); and traditional MAPEI subfloor prep products; and MAPEI floor-covering adhesive designed for vinyl flooring
3. *Planiprep PSC*; *Ultrabond ECO MS 4 LVT*
4. *Planiprep PSC* or *Ultraplan Extreme 2*; *Mapecontact MRT*



LVT/LVP flooring

Condition #1: < 8 lbs. (< 3.63 kg) MVER and < 95% RH

1. Traditional MAPEI subfloor prep products; *Ultrabond ECO 373* for < 8 lbs. (3.63 kg) MVER and 95% RH

Condition #2: 8 to 15 lbs. (3.63 to 6.80 kg) MVER and > 95% RH

1. *Planiseal MSP*; traditional MAPEI subfloor prep products; and MAPEI floor-covering adhesive designed for LVT/LVP
2. *Planiprep PSC*; *Mapecem Quickpatch* or *Ultraplan Extreme 2*; *Planiseal MSP*; and *Ultrabond ECO 373* or *Ultrabond ECO 399*

Condition #3: > 15 lbs. (6.80 kg) MVER and > 95% RH

1. *Planiprep PSC*; *Ultrabond ECO MS 4 LVT*
2. *Planiseal VS* or *Planiseal VS Fast*; *Primer X*, *Primer E* or *Primer WE™* and traditional MAPEI subfloor prep products; and MAPEI floor-covering adhesive designed for vinyl flooring
3. *Planiseal PMB* (with sand broadcast) and traditional MAPEI subfloor prep products; and MAPEI floor-covering adhesive designed for vinyl flooring
4. *Planiprep PSC* or *Ultraplan Extreme 2*; *Mapecontact MRT*

Wood flooring

Condition #1: < 15 lbs. (6.80 kg) MVER and > 99% RH

1. *Planiseal MSP*; traditional MAPEI subfloor prep products; and traditional-performance MAPEI wood-flooring adhesive
2. *Planiprep PSC*; *Mapecem Quickpatch* or *Ultraplan Extreme 2*; *Planiseal MSP*; and traditional-performance MAPEI wood-flooring adhesive
3. *Planiprep PSC*; *Mapecem Quickpatch* or *Ultraplan Extreme 2*; *Ultrabond ECO 977* applied at 30 to 35 sq. ft. per U.S. gal. (0.73 to 0.86 L) and 100% coverage

Condition #2: > 15 lbs. (6.80 kg) MVER and > 95% RH

1. *Planiprep PSC*; *Mapecem Quickpatch* or *Ultraplan Extreme 2*; *Ultrabond ECO 983* (for < 15 lbs. [6.80 kg] MVER and 95% RH only) or *Ultrabond ECO 985* or *Ultrabond ECO 995* (no moisture limits)
2. *Planiseal PMB* (single coat); and traditional-performance MAPEI wood-flooring adhesive
3. *Planiprep PSC*; *Mapecem Quickpatch* or *Ultraplan Extreme 2*; *Planiseal PMB* (single coat); and traditional-performance MAPEI wood-flooring adhesive
4. *Planiseal VS* or *Planiseal VS Fast*; *Primer X* or *Primer E* (with sand) and traditional MAPEI subfloor prep products; and traditional-performance MAPEI wood-flooring adhesive
5. *Planiprep PSC* or *Mapecem Quickpatch*; *Mapecontact SRT*



Carpet tiles

Condition #1: < 8 lbs. (< 3.63 kg) MVER and < 95% RH

1. Traditional MAPEI subfloor prep products; and *Ultrabond ECO 811* for < 8 lbs. (3,63 kg) MVER and 95% RH

Condition #2: 8 to 15 lbs. (3.63 to 6.80 kg) MVER and > 95% RH

1. *Planiseal MSP*; traditional MAPEI subfloor prep products; and any MAPEI adhesive designed for carpet tile
2. *Planiprep PSC*; *Mapecem Quickpatch* or *Ultraplan Extreme 2*; *Planiseal MSP*; and any MAPEI adhesive designed for carpet tile

Condition #3: > 15 lbs. (6.80 kg) MVER and > 95% RH

1. *Planiseal VS* or *Planiseal VS Fast*; *Primer X*, *Primer E* or *Primer WE* and traditional MAPEI subfloor prep products; and any MAPEI adhesive designed for carpet tile
2. *Planiseal PMB* (with sand broadcast); traditional MAPEI subfloor prep products; and any MAPEI adhesive designed for carpet tile
3. *Planiprep PSC* or *Ultraplan Extreme 2*; *Mapecontact MRT*





The **MAPEI Technical Institute** (MTI) provides the highest-quality, basic product knowledge with demonstrations and hands-on training to architects, contractors, installers and distributors in 10 locations: Deerfield Beach (FL), San Bernardino (CA), Garland (TX), Dalton (GA), West Chicago (IL), Swedesboro (NJ) and Fredericksburg (VA), all in the USA; and Laval (Quebec), Brampton (Ontario) and Delta (British Columbia), all in Canada.



Training by request

In addition to regular MAPEI Technical Institute workshops that are scheduled throughout the year, the Technical Services Department accommodates a number of special-request workshops. On occasion, members of an organization may meet at MAPEI's Deerfield Beach, Florida, headquarters facility to get hands-on experience with new technologies such as large, thin (gauged) tile panels.

However, at other times, a distributor may send representatives from a specific region or selected people from each of their regions to get specialized training on new MAPEI products. Or contractors may want all their employees to learn approved techniques for specific installations.

When the need for such localized training arises, the customer's MAPEI sales representative can contact MAPEI's MTI coordinators. The coordinators can then arrange for a local one- or two-day workshop led by MAPEI's National Presenter Sam Biondo or by regional Technical Services representatives. The workshops are held in one of MAPEI's MTI facilities, which are located at each of the production plants in the United States and Canada.



For registration information on U.S. seminars, please contact Sophia D'Amico-Campbell at (954) 246-8555.

For registration information on Canadian seminars, please contact Marie-Christine Mercier at (450) 662-1212.



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