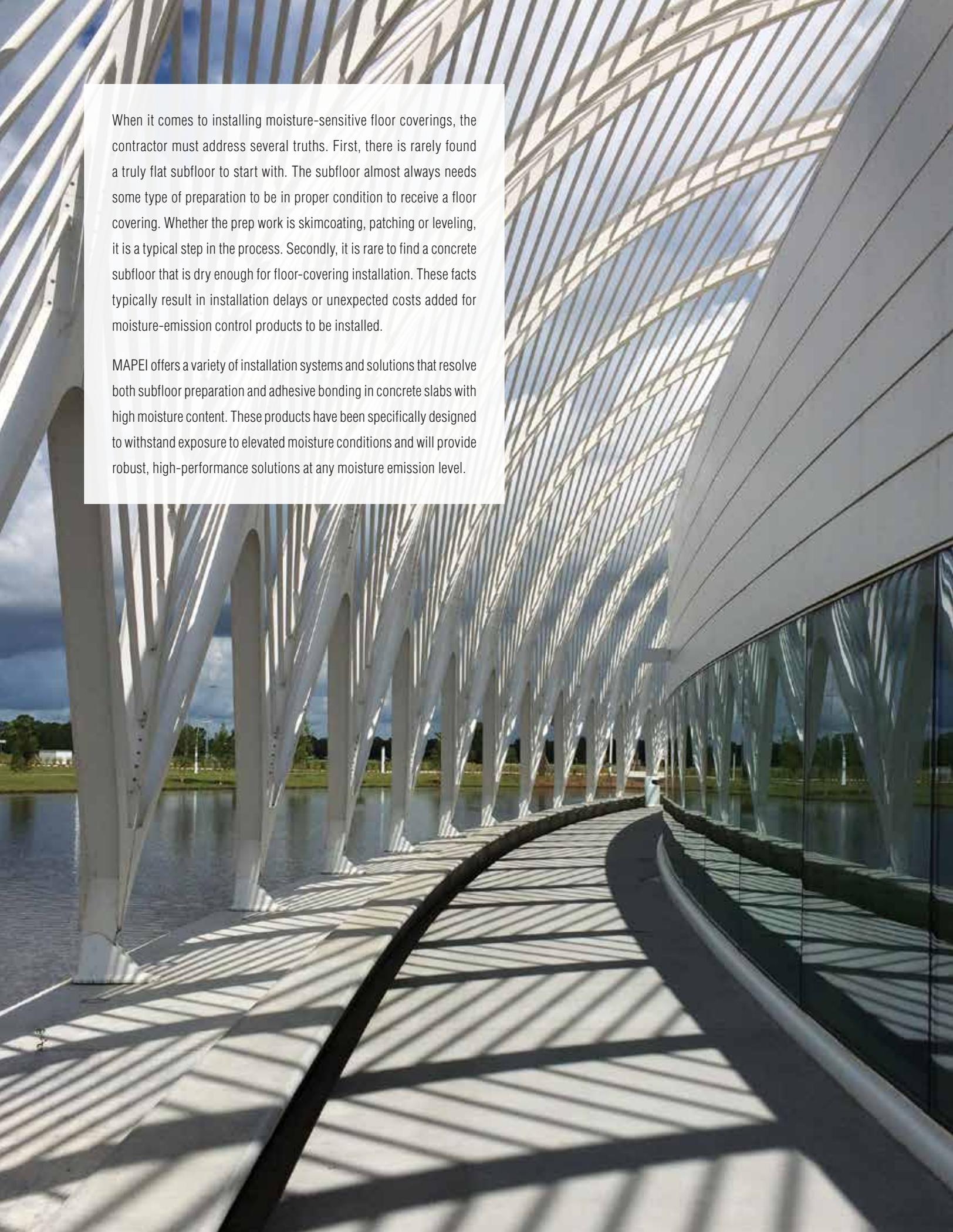




# FLOOR-COVERING INSTALLATION SYSTEMS FOR HIGH-MOISTURE CONCRETE SUBSTRATES





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™ MRS**

Moisture-Resistant, High-Compressive-Strength Skimcoating Compound

*Planiprep MRS* is an advanced, hydraulic-cement-based skimcoating compound designed for use under moisture-controlling membranes and adhesive systems. It is especially formulated for skimcoating and patching interior horizontal concrete surfaces with high moisture content or where environmental controls are not operational. *Planiprep MRS* has no moisture vapor emission rate (MVER) limitations and can be installed without testing on properly prepared concrete substrates.



### **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% RH<sup>1</sup>



### **Ultrabond ECO® 185**

Professional Carpet Adhesive

*Ultrabond ECO 185* is a longtime favorite adhesive of the commercial carpet installer with fast grab, excellent leg development and superb bond strength. *Ultrabond ECO 185* is FastTrack Ready™, making it suitable for use over fresh concrete slabs with diminishing moisture vapor emission rates (MVERs) up to 8 lbs. per 1,000 sq. ft. (3,63 kg per 92,9 m<sup>2</sup>) per 24 hours and 90% relative humidity. Use to install carpets with jute, polypropylene (ActionBac), latex-unitary, sponge-rubber, hot-melt (Unibond), needle-punched, woven, closed-cellular urethane and Enhancer backings.



### **Ultrabond ECO 285**

Premium, Wet-Set Carpet Adhesive

*Ultrabond ECO 285* is a FastTrack Ready™ product designed specifically for the installation of carpet with hot-melt backings. Its high-solids formulation has been developed for use in the wet-lay installation method, so that no flash time is required. Its rapid tack development and superior bond strength make *Ultrabond ECO 285* the adhesive of choice for virtually all carpet installations.



### **Ultrabond ECO 711**

Premium, Clear, Thin-Spread VCT Adhesive

*Ultrabond ECO 711* has been reformulated to provide even faster drying times, enhanced grab and greater slip resistance. Use to install vinyl composition tile (VCT) on approved substrates as well as over an existing single layer of VCT. Now a FastTrack Ready™ product, *Ultrabond ECO 711* has been formulated for higher moisture resistance, making it suitable for use over fresh concrete slabs with moisture vapor emission rates (MVERs) up to 8 lbs. per 1,000 sq. ft. (3,63 kg per 92,9 m<sup>2</sup>) per 24 hours.



### **Ultrabond ECO 811**

Universal Carpet Tile Adhesive

*Ultrabond ECO 811* provides an enhanced, 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% RH<sup>2</sup>



### **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% RH<sup>2</sup>



### **Ultrabond® G15<sup>3</sup>**

Premium, Fast-Setting, Epoxy Flooring Adhesive for High-Moisture Conditions

*Ultrabond G15* is a fast-setting, two-part reactive epoxy adhesive with low volatile organic compounds (VOCs), designed for the installation of rubber and vinyl flooring in high-moisture conditions. *Ultrabond G15* provides the ultimate in bond and shear strength, can be used on concrete slabs with high moisture vapor emission rates, and is recommended for high-traffic installations where superior indentation resistance and performance are required.



### **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 solid vinyl sheet, vinyl tile and vinyl plank flooring as well as virgin rubber flooring. 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 or solid wood. Providing sound reduction for multifamily 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 985***<sup>3</sup>

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 995***<sup>3</sup>

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.



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

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

<sup>3</sup> 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 for wood and bamboo flooring on damp concrete 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 611* or *Ultrabond ECO 711*
2. *Planiprep MRS*; *Mapecem Quickpatch* or *Ultraplan Extreme 2*; *Planiseal MSP*; and *Ultrabond ECO 611* or *Ultrabond ECO 711*

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

1. *Planiseal VS* or *Planiseal VS Fast*; *Primer T™* or *Primer E™* (with sand) and traditional MAPEI subfloor prep products; and *Ultrabond ECO 611* or *Ultrabond ECO 711*
2. *Planiseal PMB* (with sand broadcast) and traditional MAPEI subfloor prep products; and *Ultrabond ECO 611* or *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 MRS*; *Mapecem Quickpatch* or *Ultraplan Extreme 2*; *Planiseal MSP*; and MAPEI floor-covering adhesive designed for vinyl flooring and suitable for use on nonporous substrates

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

1. *Planiseal VS* or *Planiseal VS Fast*; *Primer T* 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 MRS*; *Ultrabond G15*
4. *Planiprep MRS* 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 MRS*; *Mapecem Quickpatch* or *Ultraplan Extreme 2*; *Planiseal MSP* and MAPEI floor-covering adhesive designed for vinyl flooring and suitable for use on nonporous substrates

### Condition #3: > 15 lbs. (6,80 kg) MVER and > 95% RH

1. *Planiprep MRS*; *Ultrabond G15*
2. *Planiseal VS* or *Planiseal VS Fast*; *Primer T*, *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 MRS* or *Ultraplan Extreme 2*; *Mapecontact MRT*

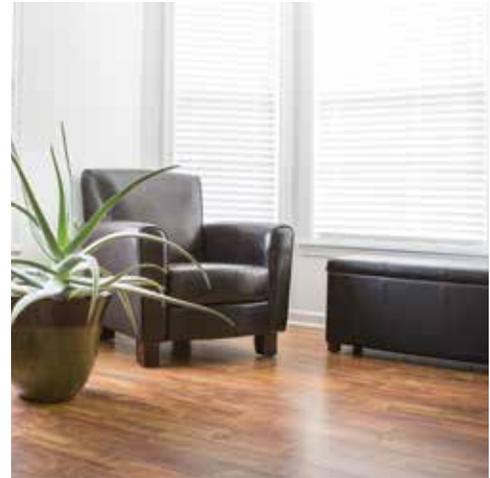
## Wood flooring

### 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 MRS*; *Mapecem Quickpatch* or *Ultraplan Extreme 2*; *Planiseal MSP*; and traditional-performance MAPEI wood-flooring adhesive
3. *Planiprep MRS*; *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 MRS*; *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 MRS*; *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 T* or *Primer E* (with sand) and traditional MAPEI subfloor prep products; and traditional-performance MAPEI wood-flooring adhesive
5. *Planiprep MRS* 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 MRS*; *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 T*, *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 MRS* 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 9 locations: Deerfield Beach (FL), San Bernardino (CA), Garland (TX), Dalton (GA), West Chicago (IL) and Swedesboro (NJ), 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.**

### **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)

For the most current BEST-BACKED<sup>SM</sup> product data and warranty information, visit [www.mapei.com](http://www.mapei.com).

© 2018 MAPEI Corporation. All Rights Reserved. Printed in the USA.

**Edition Date:** August 29, 2018

PR: 8442 MKT: 18-1851



MAPEI USA