PREPARATION OF SUB-FLOORS:

Mannington Commercial suggests that you reference the current ASTM F710, "Standard Practice of Preparing Concrete Floors to Receive Resilient Flooring" and contact one or more of the following or other moisture suppressant system suppliers for assistance:

Ardex (724) 203-5000 www.ardex.com
Koester American Corp. (757) 425-1206 www.koesterusa.com
Mapei (800) 426-2734 www.mapei.com
Uzin Ltd. (800) 505-4810 www.ufloorsystems.com

A. Subfloor Preparation
Careful subfloor preparation is vital for an excellent floor appearance and good tile adhesion. The subfloor must be smooth, firm, flat, clean, dry, free from defects and fit for purpose. A suitable smoothing compound should be used to ensure that no irregularities show through to the surface of the finished floor. In all cases, the subfloor must meet the moisture and pH requirements before installation.

Below and On-grade concrete subfloors must have a suitable vapor retarder properly installed beneath the slab. Crawlspaces and basements directly beneath the new floor installation should be maintained with a relative humidity +/- 10% of the room relative humidity where the flooring is installed. This can be accomplished by proper ventilation and air circulation or using a dehumidifier. Always follow other manufacturers' written recommendations for the use and installation of their proprietary surface preparation materials.
1. Record site conditions, test results and corrective action(s). Mannington Commercial requires written documentation of site conditions, test results and corrective action(s) before processing claims.
2. Subfloor must be clean (free of dirt, sealers, curing, hardening or parting compounds or any substance that may stain or prevent adhesion), smooth, flat, sound, fit for purpose, free of movement, excessive moisture and high alkalinity.
3. Slick surfaces such as power troweled concrete shall be profiled to allow for a mechanical bond between the adhesive and subfloor.
4. Remove existing resilient floor covering, 100% traces of old adhesives, paint or other contaminants by scraping, sanding, grinding, shot blasting or scarifying the substrate. The use of adhesive removers or solvents in the abatement or removal of existing or old adhesives is prohibited and may void the warranty. WARNING: ASBESTOS & SILICA - Refer to the current Resilient Floor Covering Institute (RFCI) document "Recommended Work Practices for Removal of Existing Resilient Floor Coverings" for guidance.
5. Perform corrective actions necessary for elevated moisture or high alkalinity conditions.
6. Surface Flatness for all Subfloors: The surface shall be flat to 1/8" in 10 ft (3 mm in 3 m). Bring high spots level by sanding, grinding etc. and fill low spots. Smooth surface to prevent any irregularities or roughness from telegraphing through the new flooring.
7. Leveling and Patching:
a. For concrete subfloors, use only high quality Portland cement based materials (minimum 3000 psi compressive strength according to ASTM C109). Mix with water only, do not use latex. Caution: Do not lightly skim coat highly polished or slick power troweled concrete surfaces. A thin film of floor patch will not bond to a slick subfloor and may become a bond breaker causing tiles to release at the interface of the subfloor and patching material.
b. Wood subfloors require an underlayment (double layer construction) with a minimum total thickness of
1" (25 mm). Use minimum ¼" (6 mm) thick APA rated "underlayment grade" plywood with a fully sanded face or other underlayment panel that is appropriate for the intended usage. Install and prepare panels and seams
according to the manufacturers' instructions.

B. Installation Procedures
Before starting the Spacia installation, ensure the following are satisfactorily completed. Start of flooring installation indicates acceptance of current subfloor conditions and full responsibility for completed work.
- Acclimation: Acclimate tiles (keep cartons flat), adhesive, jobsite and subfloor to a stable condition between
64°-81° F (18°-27° C) and 50% +/- 10% RH for a minimum of 48 hours before and after installation.
- Flooring Materials: Check quantity of Spacia tile and adhesive are sufficient for area to be installed. Check tile for visual defects before installation. Installation of flooring acknowledges acceptance of materials.
- Expansion joints, isolation joints, or other moving joints are incorporated into concrete floor slabs in order to permit movement without causing random cracks in the concrete. These joints must be honored and not be filled with underlayment products or other materials, and floor coverings must not be laid over them. Expansion joint covering
systems should be detailed by the architect or engineer based upon intended usage and aesthetic considerations.
- Surface cracks, grooves, depressions, control joints or other non-moving joints, and other irregularities shall be filled or smoothed with high quality Portland cement based patching or underlayment compound for filling or smoothing, or both. Patching or underlayment compound shall be moisture, mildew, and alkali-resistant, and shall provide a minimum of 3000 psi compressive strength after 28 days, when tested in accordance with Test Method C 109 or Test Method C 472, whichever is appropriate.

AMTICO High Moisture PS Adhesive Specifications

AMTICO High Moisture PS Adhesive offers the following benefits:
- Very low volatile organic compounds (VOC)
- Meets California SCAQMD Rule 1168 & Section 01350 Requirements
- Solvent-free - non-flammable - non-staining
- Extended working time (up to 3 hours)
- High tack and bond strength
- Excellent plasticizer resistance
- Protected against bio-degradation and mold growth
- Freeze-thaw stable to 10°F (5 cycles)

This adhesive should be used for bonding Amtico and Spacia tile floor coverings to APA registered underlayment grade plywood, terrazzo, existing well adhered tile, radiant heated subfloors where surface temperature do not exceed 85°F (29.40°C); and above, on, or below grade concrete in the absence of hydrostatic pressure, excessive moisture or alkalinity.

Preparation
Sub-floors must be sound, smooth, dry and free from any contamination which will affect adhesion. Concrete subfloors must be fully cured, clean, free from curing agents, excessive relative humidity (maximum 93% per ASTM F-2170) and or excessive moisture vapor emissions (maximum 10 lbs./1000 SF/24 hrs. per ASTM F-1869). Concrete must have a 5.0 to 12.0 ph (ASTM F-710). If necessary, a suitable moisture suppressant system should be applied to the sub-floor. On grade and below-grade concrete subfloors must have an approved vapor retardant membrane (ASTM E-1745) which is properly installed (ASTM E-1673). Wooden sub-floors should be overlaid with a suitable APA "underlayment grade" sanded face, exterior AC or BC plywood with a minimum $\frac{1}{4}$" (6mm) thickness. Tiles, adhesive and sub-floor should be allowed to stabilize to a temperature between 64°F (18°C) and 81°F (27°C), for a period of 48 hours before, during and 24 hours after installation. Tiles must be stored flat.

Amtico PS Adhesive is not designed to be used over floors with Moisture Vapor Emission (VE) from water of intrusion or hydrostatic pressure.

It is designed for slabs with high vapor emission from the water of hydration, or initial mixing. Amtico PS Adhesive should not be used on concrete slabs that do not have a vapor retardant membrane properly placed above the sand layer and next to the concrete.

Installation
Apply the adhesive to the substrate using the recommended trowel. Holding the trowel at an angle of 600, spread the adhesive evenly over an area of sub-floor that can be covered within the 3 hour working time. Wait until the adhesive has tacked up, which is usually about 15 minutes depending on site conditions, before placing the tiles in position. Press tiles firmly into position to obtain contract, paying particular attention to the tile edges. Pails of adhesive must be resealed with lid after use.

Finishing
After the tile have been placed in the adhesives, roll the floor within the 3 hour working time with a minimum 100 lbs (45 kg) roller to ensure complete contact with the adhesive. Remove any adhesive from the face of the tile with a cloth moistened with denatured alcohol. The finished floor should be protected from point loads and heavy traffic for 24 hours after installation. Tiles may be damp-mopped 24 hours after installation.

Trowel Recommendation and Approximate Coverage
Porous Substrates
Actual size notch:
$\frac{1}{16}$" X $\frac{1}{32}$" x $\frac{1}{32}$" U-Notch
(1.6mm x 0.8mm x 0.8mm)
200-250 sq. ft./gal. (600-800 sq. ft/4gal.)

Non-porous Substrates
Actual size notch:
$\frac{1}{16}$" X $\frac{1}{32}$" x $\frac{5}{64}$" U-Notch
(1.6mm x 0.8mm x 2mm)
300-350 sq.ft./gal. (1,200-1,400 sq.ft./4gal.)

Note: Trowel dimensions are width x depth x spacing. Coverage is approximate and may vary depending on type, condition, and porosity of substrate and the angle at which the trowel is held. Trowel illustrations shown above are not a 100% scale.

Sizes
1 gallon, 4 gallons

Shelf life
2 years when stored in original unopened containers at temperatures between +50°F (12°C) and + 86°F (30°C). Protect from freezing.

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