

Formative LVT

Preparation, Storage & Installation

Subfloor Preparation

Document every process of the testing, preparation and installation with video or photographs.

Warning

The Occupational Safety and Health Administration (OSHA) has exposure limits for people exposed to respirable crystalline silica; these limits must be followed. All local, state and federal regulations must be followed; this includes but is not limited to the removal of in-place asbestos containing material. Do not install over a chemically abated subfloor, contact the technical department first.

Concrete Subfloors

Unless stated otherwise, follow the requirements of ASTM F710. If the subfloor has standing water, hydrostatic pressure, ASR, or if a chemical adhesive remover has been used, do not install; contact the Technical Department.

The substrate must also be smooth (ridge-free) with a flatness tolerance of $\leq 3/16$ -inch over 10-foot maximum plane variation and if required, smooth using a commercial grade (≥ 3000 psi.) suitable leveling underlayment or skim coat with a suitable patching compound. Follow the manufacturer's written instructions and limitations which must also meet the moisture requirements / test results for the project and allow it to fully cure / dry before proceeding.

Porosity

See the adhesive moisture limitations, and if required, the substrate must be porous. Test for porosity according to ASTM F3191, the water droplet must be absorbed into the concrete within 5 minutes to be considered porous. Diamond grinding (or similar) to make the concrete surface porous is acceptable. Alternatively, any leveler or patch used must be at least $1/8^{\text{th}}$ -inch thick to be considered porous.

On & Below Grade

All on and below grade concrete slabs must have a confirmed and effective vapor retarder installed directly underneath the slab that meets the requirements of ASTM E1745. If this cannot be confirmed, then use an appropriate moisture mitigation system.

Moisture Mitigation System

If the moisture test results are too high, making the surface porous and allowing it to dry to an acceptable level is recommended. If that is not possible, then we recommend only moisture mitigation systems that conform to ASTM F3010, which must be applied following the manufacturer's written instructions.

Other products like floating or bonded membranes are available; these are not covered by our limited warranty. Only adhesives suitable for non-porous substrates must be used over such membranes and Matter Surfaces will only provide a one-year product defect warranty unless it is a recommended Matter Surfaces product.

Joins & Cracks

Do not install over any expansion or moving joints as any subfloor movement may cause installation failure. Use a suitable industry standard expansion joint assembly system, as required.

Gypsum Subfloors

Unless stated otherwise, all Gypsum subfloors must be prepared in accordance with ASTM F2678. The gypsum products must be installed following the manufacturer's written installation instructions including any requirements for priming. The substrate must be smooth (ridge-free) with a minimum flatness and gradient tolerance of $\leq 3/16$ -inch over 10-foot.

Wooden Subfloors

Unless stated otherwise all wooden subfloors must be prepared in accordance with ASTM F1482. The substrate must be clean (without contaminates), dry ($\leq 8\%$ moisture content).

Wood floors must be double layer construction with a minimum total thickness of 1-inch. The subfloor must be rigid, free from movement, and have at least 18-inches of well-ventilated air space below. Sleepers must not be directly in contact with concrete or earth, and the ground beneath the subfloor must be covered by a suitable vapor retarder. Do not install directly over Masonite™, Luan, fire retardant, particle or chipboard. The substrate must also be smooth (ridge-free) with a minimum flatness and gradient tolerance of $\leq 3/16$ -inch over 10-foot.

All Other Subfloors

For all other subfloor/substrates, please contact the Technical Department before proceeding.

Storage, Conditions & Acclimatization

Storage

Must be stored flat and neat (without overhanging). If appropriate, they can be left on the transport pallet. Never store outdoor or in shipping containers.

Conditions

The conditions of the project and on-site storage area must be at a constant ($\pm 5^\circ\text{F}$) service temperature, that is also between 68°F and 80°F with ambient relative humidity between 35% - 65% for at least 48 hours before acclimatization begins and for 72 hours after installation. The substrate must also be at least 5°F above the dew point.

Acclimatization

The boxes must be stored flat (maximum stacking of 5 high) in the correct conditions, for at least 48 hours before installation, to acclimate properly.

Windows etc. where sunlight may shine onto the subfloor, must be covered for 2 hours prior, during, and for 72 hours after installation using blinds, cardboard or similar.

Installation Instructions

Required & Recommended Tools

Personal protective equipment (PPE) – HEPA filtered vacuum – 3M® Easy Trap Duster – tape measure – adhesive trowel and spare blades, $1/16'' \times 1/16'' \times 1/16''$ square notch (FCA) – straight edge – pencil – string line – utility knife with blades – scribing tool – thermo-hygrometer – 100-lb. three section roller – Infrared thermometer – guillotine cutter (planks) – camera phone.

Layout

Follow the detailed layout drawings provided or agreed upon by the designer, architect or end user. Calculate and mark out your start lines using a string line, straight edge, and pencil.

Installation

After marking your start lines using a straight edge and pencil, ensure the area is clean and dust free using a HEPA filtered vacuum. Apply the adhesive only to a workable area of flooring at a time following the application instructions, then continue the installation making all cuts as you go with either a guillotine cutter or utility knife, one section at a time until completed.

Option A - MI 1000 Adhesive

when tested following the protocol of ASTM F2170 the limits are as follows:

MI 1000 Adhesive has a moisture limit of 90% RH used “Wet-set” over porous substrates only.

MI 1000 Adhesive has a moisture limit of 90% RH used “Dry-to-the-touch” over non-porous substrates.

MI 1000 Adhesive has a moisture limit of 95% RH used “Dry-to-the-touch” over porous concrete subfloors only.

This adhesive can be used either as a wet-set or semi-dry adhesive, depending upon the porosity of the substrate. Apply using a 1/16 inch x 1/16 inch x 1/16-inch Square-notched trowel (FCA). The adhesive must be applied at an angle of approximately 60° to the prepared substrate without voids or puddles. Do not make any sharp turns with the trowel to avoid an uneven application of the adhesive. Do not re-notch trowels; use a new trowel blade for every 4 gallons of adhesive used.

Wet-set: Providing the substrate is porous, and humidity levels are correct, the flooring may be correctly placed into the adhesive after approximately ten minutes of open time, depending on site conditions.

Dry-to-the-touch: When the substrate is non-porous, allow the adhesive to become dry-to-the-touch, then immediately and correctly place the flooring into the adhesive. The timing will depend on the humidity levels and porosity of the substrate. **Important:** Install the flooring into the exposed adhesive within two (2) hours after it has become “Dry-to-the-touch” and do not allow the adhesive to become contaminated with dust or anything else; if it does, remove the adhesive and apply fresh adhesive.

Clean up all debris, take photographs and if required, protect the flooring from traffic and have the end user or representative sign a “Job Completion Ticket”.