

Pro Shield by Mats Inc. Installation Instructions

1. GENERAL

Pro Shield is recommended for indoor use only and should be installed by professional flooring installer's experienced at installing commercial resilient floor covering products. Installers must have sufficient professional liability insurance coverage (aka Errors and Omissions Insurance) for the project.

Training programs such as the International Standards & Training Alliance (INSTALL), The International Certified Floorcovering Installers Association (CFI), and Flooring American University are recommended

These have been developed to offer the best opportunity for proper and successful flooring installation and any deviation may result in failure. Installation instructions, all Safety Data Sheets (SDS) and label instructions must be read, fully understood and followed. For all situations that are not covered in this document, please contact Mats Inc.

Because 90% of all dirt in a building comes in on footwear, Mats Inc. strongly recommends installing and maintaining entrance matting (preferably permanently installed) at all outdoor entrances (20-30 linear feet for major entrances; less for infrequently used entrances). Doing this will improve indoor air quality, reduce maintenance costs, and lengthen the life of your floors.

Unless stated otherwise, follow the specific requirements of *ASTM F710 – Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring*. Please visit www.astm.org for copies of any ASTM document.

The General Contractor (or owner) must provide a structurally sound subfloor; new concrete slabs must conform to *ASTM C33/C33M – Standard Specification for Concrete Aggregate*. When concrete slabs have or are suspected of having Alkali Silica Reaction (ASR) present, do not proceed, contact Mats Inc. All on and below grade concrete subfloors require a confirmed effective vapor retarder. The vapor retarder must have a low permeance (≤ 0.1) having a minimum thickness of 10 mils, or it must meet *ASTM E1745 requirements – Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs*. Confirm it was placed directly underneath the concrete, above the granular fill. If this is not possible, use a topically applied moisture mitigation system that conforms to *ASTM F3010 – Standard Practice for Two-Component Resin Based Membrane-Forming Moisture Mitigation Systems for Use Under Resilient Floor Coverings*. It must be applied following the manufacturers written instructions. Chemical adhesive removers must not be used. Do not install where hydrostatic pressure can occur, contact Mats Inc. Also the concrete subfloors must not be subject to shrinking, curling, cracking or moving in any way. Mats Inc. accepts no liability for a failure or complaint due to slab movement of any kind.

To minimize the chance of damage, proper glides must be used on chairs and other furniture that may side directly across the floor. They must have glides that are a minimum of 1 inch in diameter. Heavy objects such as equipment, appliances, fixtures and heavy furniture must not be moved directly across the floor. Using protective boards will reduce the chance of damage.

Direct sunlight can cause UV damage (fading or bleaching) to most interior finishes so Low E glass should be selected that will reduce the UV transmission to less than 1%. If glass without sufficient UV protection has already been installed, apply 3M protection film (or similar) on the windows to reduce the UV transmission to less than 1%. Please contact the film manufacturer for specific recommendations and application instructions.

Protect all materials and maintenance products from extremes of temperature during shipping. Do not stack pallets. These instructions supersede any verbal or written instructions from Mats Inc. representatives, and must be followed for the warranty to be in effect.

2. RECOMMENDED TOOL LIST

- Tape measure
- Straight edge
- Utility knife and straight blades
- Chalk line (white)

3. MOISTURE TESTING and ADHESIVE

Moisture testing is mandatory following the protocol of *ASTM F2170 – Standard Test Method for Determining Relative Humidity in Concrete Slabs using in situ Probes*, regardless of grade level or whether the concrete is freshly poured or classified as an older slab. For installations direct to concrete the sub-floor must not be installed if the test results are above 80%RH. It is also recommended that an International Concrete Repair Institute (ICRI) Tier 2 Certified Technician performs the moisture testing. If for any reason you are unable to drill into the subfloor, contact Mats Inc.

If the Pro Shield is being installed over an athletic flooring then the moisture limits for that flooring must be followed along with those installation instructions. It is the responsibility of the General Contractor/End User to have the concrete subfloor tested for moisture. It is the responsibility of the Flooring Contractor to request the moisture test results prior to installing the flooring or they may wish to perform the testing themselves. **Note:** Testing for moisture following the protocol of *ASTM F1869 – Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride* may be an available option, depending on the manufacturer. Please confirm with the manufacturer directly.

4. HANDLING and STORAGE

Upon receipt of the flooring at the project, immediately remove from the pallet and restack neatly in the properly conditioned area. If packaging is damaged, take photos and mark shipping documents as such before signing for the shipment. Contact shipper and/or Mats Inc. and report the damage.

Store in the area (pre acclimatized) to be installed for a minimum period of 72 hours. Pro Shield must be stored flat and parallel. Do not store on edge, if material is distorted or otherwise damaged during storage or transportation, do not install it.

5. SITE CONDITIONS

Areas must be enclosed weather tight and properly conditioned at a constant ($\pm 5^{\circ}\text{F}$) service temperature that is between 60°F and 80°F with an ambient relative humidity between 35% - 65% for a minimum of 72 hours prior to commencement of installation, during the installation and 72 hours after the installation.

The substrate surface must be at least 5°F above dew point. Example: If the ambient conditions are 70°F and 65% RH, the dew point is 57°F and you must not proceed unless the surface temperature is at a minimum of 62°F . Dew point calculators are available on the web.

5. SUBSTRATE PREPARATION

When cleaning the substrate, use only dustless vacuum cleaners to remove all dirt and debris.

5.1. Concrete Substrates

All subfloors must be permanently dry, clean, smooth and structurally sound per *ASTM F710 — Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring*. Concrete subfloors must be free of dust, solvents, paint, wax, varnish, oil, grease, asphalt, old adhesives and other extraneous materials that may interfere with the bond or void the warranty of the flooring. These must be completely removed by mechanical means only. Dustless diamond grinding is one method to remove contaminants and bond breakers, as it also helps to smooth the concrete.

All burnished or polished concrete surfaces must be mechanically abraded or roughed-up sufficiently to provide a mechanical key for the adhesive, unless using the interlocking tiles.

For permanent installations, no expansion joint or moving joint can be covered over or filled. Use a suitable industry standard expansion joint assembly system as required. Permanently dormant control joints and cracks must be properly cleaned out to remove all dirt and debris or contaminants and filled to a smooth finish using a suitable commercial grade underlayment, following the manufacturers written instructions.

All substrates should be both smooth (ridge free) and with a minimum flatness tolerance of $\leq 3/16^{\text{th}}$ inch over 10 feet. Irregularities in the substrate must be repaired using only commercial grade leveling compound or patching compounds that have a minimum compressive strength ≥ 3000 psi.

- **Warnings:** All local, state and federal regulations must be followed. Do not sand, dry sweep, dry scrape, drill, saw, shot-blast or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphalt “cutback” adhesive or other adhesive. These products may contain asbestos fibers and/or crystalline silica. Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Unless positively certain that the product is a non-asbestos containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content. Various local, state and federal government agencies have regulations governing the removal of in-place asbestos-containing material. If you contemplate the removal of a resilient floor covering structure that contains (or is presumed to contain) asbestos, you must review and comply with all applicable regulations. Do not use any chemical adhesive removers. The RFCI’s (Resilient Floor Covering Institute) “Recommended Work Practices for Removal of Resilient Floor Coverings” is a defined set of instructions that addresses the task of removing all resilient floor-covering structures, including adhesive and adhesive residues. For more information, contact RFCI directly at www.rfci.com or 706-882-3833. **Note:** Occupational Safety and Health Administration (OSHA) has amended its existing standards and determined that people exposed to respirable crystalline silica at the previous permissible exposure limits, face a significant risk of material impairment to their health. For more information go to <https://www.osha.gov/silica/>.

5.2. Wood Substrates

All wooden subfloors are recommended to be a total minimum thickness of 1-1/4” (31.75 mm), however they must meet the current building code including its thickness and deflection properties. If required, cover with overlapping joints using APA (American Plywood Association) underlayment-grade plywood installed per *ASTM F1482 — Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring*.

Wooden substrates must not be in direct contact with concrete subfloors, even if built on sleepers. All suspended wood floors must have adequate under floor ventilation and a permanently effective vapor retarder or membrane placed directly on the ground beneath the air space. **Note:** As plywood will expand and contract due to changes in moisture content and temperature, Mats Inc. cannot accept any liability of the plywood joints telegraphing through the finished floor.

Do not install over lauan panels, plywood with knots, OSB, hardwood flooring, treated wood (i.e. CCA, fire-rated plywood, or other coated wood), particle board, chipboard, flakeboard, fiberboard, Masonite™, pressboard, or other hardboard underlayment, or other uneven or unstable substrates.

5.3. Gypsum Substrates

Gypsum underlayment’s patching and leveling compounds can be acceptable substrates providing they meets the substrate performance requirements of *ASTM F710* including the smoothness/levelness and having a minimum compressive strength of 3000 psi. It must also be fully warranted for the use of the project including the relative humidity (%RH) content of the subfloor (unless an *ASTM F3010* compliant mitigation system is also used). And have a written, project specific confirmation from the Gypsum manufacturer.

The manufacturers written instructions must also be followed including the amount of mixing water used, the drying time and any requirements for priming (typically before application).

5.4. Existing Resilient or Gym Flooring

Pro Shield is designed to be a Durable and attractive gym floor cover in the form of easy to handle tiles. The giant-sized mats protect athletic flooring during non-sports events and activities.

5.5. Other Subfloors

Do not install over non-compatible substrates such as asphalt, any bituminous or asphalt-saturated material.

Substrates such as terrazzo, stone, ceramic tile, metal must be covered with a suitable underlayment/leveling compound following the manufacturer's written instructions. Please contact Mats Inc. direct for specific recommendations for all other types of subfloors/substrates.

6. LAYOUT

After substrate is prepared properly the area must also be kept free of any other trades or traffic (protect if necessary) and clean. When cleaning the substrate, use only dustless vacuum cleaners to remove all dirt and debris.

The material layout should be decided by the architect, designer or end user.

Great care is taken to properly label and inspect materials for defects at all phases of manufacturing and handling by Mats Inc. However, in the rare case where the wrong product or material with visible defects is shipped, these products must not be installed. Careful inspection of the product before installing is the responsibility of the installer. Installation of the product denotes acceptance of the product. Mats Inc. will not honor any warranty complaints for materials installed in the wrong color, with visible defects or other damage.

7. INSTALLATION

Pro Shield tiles lie flat on top of the wood gym flooring and there are no unsightly wrinkles or ripples to cause potential tripping hazards. Easy to set up and break down, this gym floor cover doesn't require adhesive, tape or lots of special accessories. Pro Shield's non-staining Plus Backing keeps floors clean.