

INSTALLATION MANUAL

DISCLAIMER: Refer to page 6 of this document.

Installers are required to be experienced with resilient rubber flooring and must apply sound judgement for a high-quality installation. For any areas of doubt or to obtain requirements for substrates other than concrete, please contact the Technical Department at Mondo America, Inc. (United States 1-800-361-3747 • Canada 1-800-663-8138).

DO NOT install Reflex HP resilient athletic flooring in areas intended for use of heavy rolling loads such as bleachers (fixed or mobile) and areas that may receive continuous surface impacts (such as weight training areas).

DO NOT install Reflex HP resilient athletic flooring over Mondo's Everlay T (1.5 mm) underlayment.

1. SURFACE PREPARATION

Before installing any resilient rubber flooring, it is recommended that all parties consult Mondo's current **Substrate Surface Preparation** manual for detailed procedures, additional recommendations and information on substrates or particularities not covered by this document. **This document is intended for indoor installations over concrete.**

Concrete slab must be properly prepared to provide a satisfactory bonding surface for the adhesive being used to install the resilient athletic flooring. Consult a current copy of *ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring* for typical industry requirements regarding surface preparation.

1.1 GENERAL CONTRACTOR (GC)

- a) Flooring **installation will not commence until the building is enclosed** and all other trades have completed their work.
- b) **New concrete must be allowed to cure a minimum of 28 days**, having a minimum 3500 psi in compressive strength (25 MPa). However, consider that drying time is typically 4 weeks for every 1-inch thickness of slab (Example: a 6 in. slab will take around 24 weeks to adequately dry).
- c) Concrete must be smooth and level within a tolerance of 1/8 in (3 mm) in a 10-foot (3.05 m) radius. *Note: Mondo does not recognize the "F" numbers: FF (floor flatness) and FL (floor levelness).* Minor surface cracks or grooves must be filled with a good quality Portland cement based patching or leveling compound (such as Mapei or Ardex). High spots, bumps and peaks must be repaired prior to resilient athletic flooring installation. Mondo recommends a magnesium trowel finish. **Note that while a smooth surface is desired, a shiny, slick, non-porous or over-porous slab is not acceptable and will require additional preparation prior to resilient athletic flooring installation. Once the concrete surface preparation is complete, you should have a CSP (Concrete Surface Profile) of about 1.**
- d) GC is responsible for providing finished concrete that is properly prepared and ready to receive resilient athletic flooring. Concrete slabs must be dry, sufficiently porous, smooth, clean and free of bond inhibitors (paint, wax, dust, oil or grease, sealers or curing agents, surface hardeners, solvents, asphalt, old adhesive residues, etc.). Concrete surfaces that are powdery or scaly are not acceptable. **Contaminants are to be mechanically abated**, such as light to medium shot-blasting (ICRI CSP #3 to #5 profile). **Do not use**

abatement chemicals. *NOTE: Advise Flooring Contractor, in writing, of any contaminants that were removed so that removal effectiveness can be verified with a bond test.*

- e) GC to maintain stable room and base temperatures prior to moisture testing and resilient athletic flooring installation, during the installation, as well as a minimum of 48 hours after the resilient athletic flooring has been completely installed. Recommended ambient temperature range is between 65°F and 86°F (18°C and 30°C) and recommended ambient humidity control level should be between 35-55%. **Ensure HVAC unit is operational for controlled temperature and humidity, for the purpose of accurate moisture testing results and stable ambient conditions during installation.**
- f) Concrete slab must be free of any hydrostatic pressure and/or other types of moisture-related problems. **Moisture and alkalinity tests must be performed on all concrete slabs, under in-service conditions (HVAC must be operational for at least 7 days prior to testing).** Ensure a concrete surface **pH range of 7 to 10**; readings below 7 and in excess of 10 have been known to affect some adhesives. When testing concrete moisture vapor emissions (ASTM F1869) or relative humidity (ASTM F2170), ensure individual results do not exceed the specified adhesive's tolerance. Refer to selected adhesive's technical data sheet. **WARNING: Moisture tests will help confirm whether a concrete slab is dry enough to proceed with the resilient athletic flooring installation, but it does not mean the slab will always remain dry. Mondo will not guarantee the adhesion of any of its resilient athletic flooring products to a concrete slab with relative humidity or moisture vapor emissions rates exceeding the tolerance of the specified adhesive.**

1.2 FLOORING CONTRACTOR/SUBCONTRACTOR

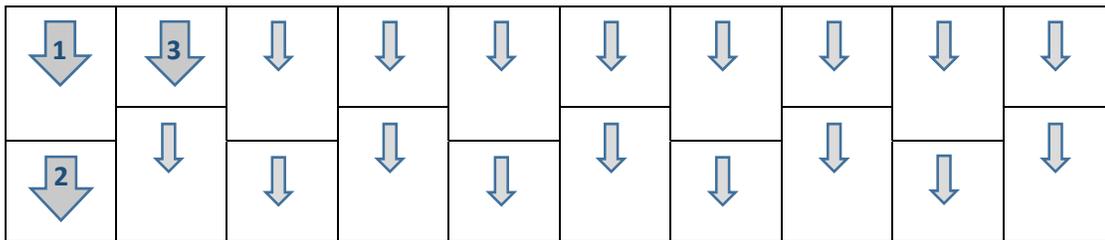
- a) **DO NOT proceed with the installation of the resilient athletic flooring until all jobsite conditions are met and surface preparation is complete.**
- b) Always store rolls of resilient athletic flooring upright on a dry, clean and flat surface. Climate controlled storage is recommended; storage temperature must not be below 40°F (4°C) or exceed 100°F (38°C).
- c) All trades to protect flooring products and accessories from damage, including exposure to harmful weather conditions. Flooring products should not suffer damage during handling (such as dents, scratches, edge chipping, warping, etc.). **WARNING: Avoid prolonged storage or additional material trimming may be required prior to installation.**
- d) Thoroughly inspect concrete surface for any visible defects (such as cracks, bumps, rough areas or variations in levelness, etc.). Immediately report defects in writing to the Project Manager and GC. Defects must be corrected prior to resilient athletic flooring installation.
- e) Confirm moisture and alkalinity test results and verify their suitability with all preparation products and adhesives specified (as outlined in section 1.1 above, under point f). Safely keep records of all test results.
- f) Confirm concrete surface is free from any bond inhibitor/contaminant (paint, wax, dust, oil or grease, sealers or curing agents, surface hardeners, solvents, asphalt, old adhesive residues, etc.) and ready to receive resilient athletic flooring (as outlined in section 1.1 on page 1, under point d).
- g) Vacuum entire room prior to installation (remove dust, loose dirt and debris). **DO NOT use sweeping compounds.** If desired, use damp (not wet) sawdust to help with sweeping.
- h) Allow all resilient athletic flooring products, adhesives and accessories to **acclimate to in-service conditions a minimum of 24 hours** prior to their use/installation.

- i) **Before you proceed with the installation, verify that all resilient athletic flooring products, adhesives and accessories received are as was specified for the project** (verify physical characteristics such as type, color, thickness, format, dimensions, etc.). Prior to installation, ensure resilient athletic flooring products are free of apparent defects/imperfections or color variations. **WARNING: NO CLAIMS WILL BE ACCEPTED AFTER THE RESILIENT ATHLETIC FLOORING HAS BEEN CUT AND/OR INSTALLED.**

2. INSTALLING RUBBER SHEETS

- a) **It is highly recommended to do an installation test (mock-up).**
- b) Consult section 1 Surface Preparation prior to installation.
- c) Square the room and make the first chalk line down the center of the room parallel to the length of the room.
- d) **Unroll the sheets of rubber flooring in the same direction and follow the numbered roll sequence,** following a recommended “ashlar” pattern layout (displayed below). Allow material to relax overnight (12 hours or longer if needed; colder building temperatures may result in a longer relaxation period).

LAYOUT - ASHLAR PATTERN



- e) Dry lay and cut-to-fit complicated cuts prior to adhesion, such as perimeters, columns, doorways, etc., that are within the space. **Note: If a multiple color layout is to be made, double-checking measurements will avoid problems.**
- f) End seams should be staggered (as illustrated above) and overlapped approximately 3 in (7.6 cm).
- g) To make perfect long seams, the first **side seam must be trimmed a minimum of 1 in (2.54 cm)** using a good straightedge. Trim more, if needed, in order to obtain a nice flat seam. Do this step prior to spreading the adhesive. All seams must be straightedged and butted or scored, or simply double-cut.
- h) For end seams, use the same procedure as for the long seams, but **trim off a minimum of 1.5 in (3.75 cm) from both ends of the roll.**
- i) All seams must be adjusted without applying too much pressure, while ensuring that they are perfectly closed. Pressured seams will cause peaking.
- j) Jobsite and concrete conditions can affect adhesive spread rates; it may be necessary to adjust trowel size or perform additional surface preparation. It is recommended that you **replace trowels periodically** in order to ensure that the teeth of the trowel do not get worn-down and that the adhesive spread remains

consistent. Use a 1/32 in x 1/16 in x 1/32 in (0.8 mm x 1.6 mm x 0.8 mm) trowel with U-shaped notches to install Reflex HP resilient athletic flooring.

- k) **Resilient athletic flooring is typically installed with Mondo PU 105 polyurethane adhesive;** however, Mondo PU 100 polyurethane adhesive, Mondo PU 200 polyurethane adhesive or Mondo EP 55 epoxy adhesive are acceptable in some cases. Select the most appropriate adhesive by considering the substrate surface, desired application and intended use. If in doubt, please contact the Technical Department at Mondo America, Inc. (United States 1-800-361-3747 • Canada 1-800-663-8138). Refer to the specified adhesive's current technical data sheet for detailed instructions. **WARNING: It is highly recommended to perform a bond test on all surfaces that will receive resilient athletic flooring** (refer to Mondo's Substrate Surface Preparation manual for detailed bond test instructions), confirming that the bond strength is adequate.
- l) Create a mixing station for the adhesive, carefully selecting a space away from the installation area to avoid spills and splatter onto the resilient flooring; demark and protect mixing station with a 6' x 6' scrap piece of material, Kraft paper or other suitable item. Mondo reactive adhesives, such as the suggested PU 105 polyurethane adhesive, have components that will need to be mix together. Pour the complete content of the small bottle marked Part B into the larger pail of Part A. *Note that if you are using EP 55, there are 2 small bottles of Part B to be mixed into the Part A.* **The complete contents of both parts of the adhesive must be used at once.** After a Part B bottle has been emptied out, screw its cap back on and invert it for a minute in order to extract the total amount of liquid. Using a variable speed mixer (6 amps minimum), combine until a homogeneous, smooth and creamy consistency is obtained (this should not take more than 2 minutes). Remember to scrape the sides of the pail to ensure the entire content is effectively mixed together. **WARNING: Improper mixing may result in a weak bond and over mixing will cause the catalyst to set up too fast (thus reducing pot life and entrapping air which may also reduce bond). The adhesive must be applied immediately after mixing, otherwise it will thicken and be much harder to trowel. Always refer to the specified adhesive's current technical data sheet for detailed instructions and working time.**
- m) **Carefully place material into the wet adhesive; never "flop" material into the wet adhesive** as this can cause both adhesive displacement and entrapment of air bubbles. Confirm proper adhesive transfer by periodically lifting the flooring material to inspect its backing for a **minimum of 95% adhesive transfer.** **WARNING: Walking on, standing on or kneeling on freshly laid resilient flooring before the adhesive has had the chance to properly cure will cause displacement of the adhesive, which in return may cause indentations and/or bubbling.** As you work, protect the integrity of the installation by using knee boards and protect the newly installed rubber flooring with 1/8-inch Masonite or ¼-inch plywood.
- n) **We recommend that you manually work the seams of the resilient athletic flooring so that they are perfectly flat and tight** (butted together and never pressured to avoid peaking seams).
- o) Immediately remove any dropped or oozed adhesives with a damp cloth while the adhesive is still fresh. Dried reactive adhesives are very difficult to remove. Mondo only recommends using denatured alcohol for reactive adhesives like Mondo PU 105 polyurethane adhesive; **never use solvent based products that could discolor and/or dull the resilient athletic flooring.**
- p) Using a piece of a 2x4 wood wrapped with a thick cloth, towel or carpet (approximately 12 to 18 inches in length (refer to image below), work to remove any entrapped air by pressing along the flooring from the center of the roll outwards. Afterwards, inspect material for any remaining air pockets.



NOTE: Turning off all overhead lights and aiming a direct spot light at the resilient athletic flooring's surface will allow you to detect any missed areas (remaining air bubbles). Immediately address any missed areas.

- q) Use 2-inch (5 cm) masking tape to help close any small gaps in the seams and to keep material in place while adhesive sets. **NEVER use duct tape.** Duct tape will chemically react with the resilient flooring and leave permanent surface residue/stains.
- r) Sheet goods tend to retain a small percentage of curl memory from being rolled up for packaging; it is recommended to apply weights on all head/end seam during adhesive curing. Apply one row of grey concrete utility bricks (2 in x 4 in x 8 in) or small oblong sandbags over seams that need assistance to remain flat into the adhesive while it sets. Keep weights on a minimum of 12 to 24 hours, depending on the ambient site conditions and adhesive curing rate. You can follow this same procedure for any stubborn side seams as well.
- s) Protect the integrity of the installation and avoid direct sunlight exposure; ensure that all windows and glass doors have adequate UV protection/shading.
- t) **No foot traffic shall be allowed onto the resilient athletic flooring for a minimum period of 24 hours after its complete installation, and no heavy traffic or rolling equipment shall be permitted for a minimum of 72 hours after the installation.** Failure to follow this recommendation can lead to dispersion of the fresh adhesive under the resilient athletic flooring and can result in unwanted air pockets, bubbles and/or mounds. Use 1/8-inch Masonite or ¼-inch plywood to protect the rubber flooring during this time (or block access to the area).
- u) **Do not perform the initial wash on your new resilient athletic flooring until a minimum of 72 hours after its complete installation.** Always refer to Mondo's current maintenance guidelines for detailed instructions on proper care of resilient athletic flooring.

3. DISCLAIMER

These instructions conform to commonly accepted techniques for the installation of resilient athletic flooring, including installation of Mondo's rubber floor coverings. However, Mondo will not accept any liability whatsoever for any incorrect implementation of these instructions nor for any failure of equipment, paint & primer, patching and leveling compound, adhesive or any other product not manufactured by Mondo that may be referenced in these instructions, nor for any adverse handling, climatic or environmental conditions that may affect the installation and/or the performance of the specified flooring product.

The above installation recommendations are provided for general guidance only. Mondo assumes no responsibility neither for actual work performed nor for loss or damage that may result from the use of this information due to variations of processing or working conditions outside of our control. Users are advised to confirm suitability of conditions and products by performing their own tests and verifications.

Mondo's standard warranty only extends to the quality and performance of its manufactured flooring products when properly installed and maintained.

WARNING: Should you have any concerns or be unsure about installation conditions or procedures, please consult Mondo's Technical Department:

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