

MONDO PU 105 POLYURETHANE ADHESIVE

DISCLAIMER: Refer to page 6 of this document.

1.1 DESCRIPTION

Mondo PU 105 is a high performance, solvent-free two-part polyurethane adhesive, specially designed for the permanent installation of Mondo resilient flooring products.

NOTE: Mondo PU 105 is suitable for both indoor and outdoor installations* over concrete, and indoor installations over wood. For installations over asphalt, the only suitable adhesive to use is Mondo PU 100. DO NOT USE MONDO PU 105 OVER ASPHALT. Consult Mondo's Technical Department for further assistance.

Mondo PU 105 has excellent resistance to moisture, heat and water, plus outstanding adhesion at low temperatures.

NOTE: Mondo PU 105 is suitable for applications where resilient athletic flooring may be subject to surface impacts (such as designated areas for use of free weights). It is recommended to install the resilient athletic flooring directly over the concrete slab for optimal performance. Whenever possible, avoid installing over weaker bases or preparation products that may offer less resistance to the continuous impacts atop.

**Copies of substrate surface preparation guidelines can be obtained from Mondo's Technical Department.*

1.2 LIMITATIONS

DO NOT USE over asphalt (for such applications ONLY use Mondo PU 100 adhesive).

DO NOT USE over Mondo Everlay (for such applications ONLY use Mondo PU 100 or PU 200 adhesives).

DO NOT USE over gypsum-based products. If you have such a base, communicate with Mondo's Technical Department for further instructions.

DO NOT USE over a substrate surface that has been covered with or contains bond inhibitors (like paint, wax, dust, oil or grease, sealers or curing agents, surface hardeners, solvents, asphalt, old adhesive residues, etc.). **Contaminants are to be mechanically abated; use of abatement chemicals is not recommended.**

DO NOT USE when moisture content of the substrate surpasses adhesive tolerances, as expressed in section 1.3 under point f). **WARNING: All outdoor concrete slabs will need to be treated with a topical moisture mitigation system.**

DO NOT USE when the temperature of the substrate is below 45°F (7°C) or above 90°F (32°C). When installing outdoors in colder temperatures, special attention should be paid to the dew point; always ensure a minimum of 5°F (3°C) above dew point during entire installation and for 72 hours after the installation. Climate will affect setting time; colder temperature will slow down setting time and warmer temperature will speed it up.

DO NOT USE outdoors during adverse climatic conditions.

1.3 SURFACE PREPARATION

- a) **Effective substrate preparation is key, in order to obtain a good bonding surface for the adhesive that will be used to install Mondo resilient flooring. Refer to Mondo's current Substrate Surface Preparation manual for all requirements.**
- b) **New concrete must be allowed to cure a minimum of 28 days**, having a compressive strength of at least 3500 psi (25 MPa). However, consider that drying time is typically 4 weeks for every 1-inch thickness of slab (Example: a 6" slab will take around 24 weeks to adequately dry).
- c) Concrete slab must be smooth and level within a tolerance of 1/8" (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 installation. Mondo recommends a magnesium trowel finish. **NOTE: 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 flooring installation. Once the concrete surface preparation is complete, you should have a CSP (Concrete Surface Profile) of about 1.**
- d) Concrete slab 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) Maintain stable room and substrate temperatures prior to moisture testing and flooring installation, during the flooring installation, as well as a minimum of 48 hours after the 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 range is between 35% and 55%. **NOTE: Ensure HVAC unit is operational for controlled temperature and humidity, needed for both accurate moisture testing results and stable ambient conditions during installation.**
- f) Base must be dry, free of hydrostatic pressure and/or other types of moisture-related problems. Moisture and alkalinity test results must be within the specified adhesive's tolerances. It is recommended that tests be conducted by third party professionals and be effectively documented. **NOTE: MONDO WILL NOT GUARANTEE THE ADHESION OF ITS RESILIENT FLOORING TO A BASE WITH RELATIVE HUMIDITY AND/OR MOISTURE VAPOR EMISSIONS EXCEEDING THE TOLERANCE OF THE SPECIFIED ADHESIVE, AS EXPRESSED BELOW:**
 1. **INDOOR installations over concrete:** Never attempt testing until the HVAC unit has been operational for at least 7 days and/or site conditions (temperature and humidity) are constant in the building and reflective of in-service conditions. The pH should be between 7 and 10; readings below 7 and in excess of 10 could negatively impact adhesion. **The concrete's moisture vapor emission rate (MVER) must not exceed 5lb/1,000ft² (2.27 kg/92.9 m²) in 24 hours**, when tested per ASTM F1869 (anhydrous calcium chloride). **The relative humidity in the concrete slab must not exceed 85%**, when tested per ASTM F2170 (in-situ probes) with the aid of a Wagner RH moisture meter. Note that moisture tests will help confirm whether the slab is dry enough to proceed with the installation but it does not mean that the slab will always remain dry.
 2. **INDOOR installations over wood:** Ensure exterior grade plywood with at least one good side, such as: APA (Engineered Wood Association) Exterior grade plywood (A-A Exterior, A-B Exterior or A-C Exterior) and CANPLY (Canadian Plywood Association) Exterior certified plywood (Canada: Grade

G2S A-A or G1S A-C. USA: Grade G2S A-A, A-B, B-B or G1S A-C and B-C). There must be proper underfloor ventilation, **plywood must be dry and should have a moisture content ranging from 6% to 12%**, when measured with a quality wood moisture meter (electronic hygrometer).

3. **OUTDOOR installations over concrete: Moisture content of the slab is not to exceed 2.5%**, when tested per ASTM D4944 (calcium carbide gas pressure tester). **Mondo requires the application of a topical moisture mitigation system/vapor reducer on all outdoor concrete** bases to protect against both natural and artificial moisture sources; the only acceptable topical treatment product is **Aquafin Vaportight Coat SG2, applied at a rate of 160ft² (14.86 m²) per 2.1-gallon kit**. No other coatings or additives, accelerators and hardeners of any sort are allowed in or on the concrete slab. Always consult the supplier directly for notes on preparation, compatibility, warranty, safety, and for any on-site support required.
- g) **DO NOT** proceed with the installation of the resilient flooring until all jobsite conditions are met and surface preparation is complete.
 - h) Once surface preparation is complete, vacuum entire room prior to installation or sweep outdoor base (remove all dust, loose dirt and debris). **DO NOT use sweeping compounds**. If desired, use damp (not wet) sawdust to help with any manual sweeping.
 - i) Allow all flooring products, adhesives and accessories to acclimate prior to their use/installation.
 - j) **Flooring installation shall not commence until the building is enclosed and all other trades have completed their work.**

1.4 MIXING

NOTE: In colder climates, if product received has frozen, you must allow it to thaw completely before mixing. See section 1.8 Protection.

- a) 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.
- b) Mondo PU 105 polyurethane adhesive has two components that will need to be mixed together. Pour the contents of the smaller bottle identified as part B into the larger pail identified as part A. After the part B bottle has been emptied out, screw its cap back on and invert it for a minute, in order to be able to extract the maximum amount of liquid. **The complete contents of both parts of the adhesive must be used at once.**
- c) 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 reduce bond performance).**
- d) **The adhesive must be applied immediately after mixing** (otherwise it will thicken and be much harder to trowel). The resilient flooring must be installed while the adhesive is wet. **The mix must be used within 60 minutes.** **NOTE: If installing outdoors, be mindful of working in warmer temperatures and how this may potentially affect your working time. Base and ambient temperatures directly affect setting times: "the warmer it gets, the faster it sets".**

1.5 TROWEL SIZE

Trowel size must comply with listed recommendations for the specified resilient flooring product to be installed; refer to current installation instructions for details on the recommended trowel for the specified resilient flooring product or consult Mondo's Technical Department for additional support.

Jobsite and base conditions can affect adhesive spread rate; it may be necessary to adjust trowel size or perform additional surface preparation. It is recommended that you **replace trowels periodically** to ensure that the teeth of the trowel do not get worn down and that the adhesive spread remains consistent. In all cases, ensure that selected trowel allows for a **minimum of 95% adhesive transfer to the flooring**; adjust trowel size when needed to provide best results.

1.6 APPLICATION

- a) **Refer to specified resilient flooring's current and detailed installation instructions.**
- b) It is highly recommended to perform a bond test on all surfaces that will be receiving resilient flooring (refer to Mondo's Substrate Surface Preparation manual for detailed instructions), confirming that the bond strength is adequate.
- c) Use the recommended notched trowel with sufficient depth to **ensure that at least 95% of the adhesive transfers to the material backing. Proper adhesive transfer to the material backing should be confirmed periodically by lifting the resilient flooring and inspecting its backing.** Special care must be taken so that the adhesive is not applied too thinly or too thickly which could result in a mound.
- d) **Do not spread more adhesive than can be covered with material within 30 minutes.** Remember that floor and ambient temperatures directly affects setting time.
- e) Immediately clean up any accidental adhesive spills or smudges as they occur, while the adhesive is still wet, using denatured alcohol. Dried adhesive residue will be extremely difficult to remove, if not impossible. **NEVER use solvent-based products** as they could discolor the resilient flooring.
- f) Remove any entrapped air between the substrate's surface and the resilient flooring using the recommended method (refer to specified flooring's current and detailed installation instructions for recommendations on removing entrapped air).
- g) Because the instant grab of Mondo PU 105 adhesive is low, you will be required to weigh down the seams of most resilient athletic flooring products, in order for the material to remain in contact with the adhesive while it sets (refer to specified flooring's current and detailed installation instructions for all recommendations regarding weighing seams).
- h) **No foot traffic shall be allowed onto the flooring for a period of 24 hours after its installation and no heavy traffic or rolling loads (wheels, carts, etc.) shall be allowed onto the flooring for a period of 72 hours after its installation, in order to ensure proper adhesive set-up and curing.** Failure to follow this recommendation can lead to dispersion of the fresh adhesive under the flooring and can result in unwanted air pockets, bubbles and/or mounds. Use 1/8" Masonite or 1/4" plywood to protect the surface of the flooring during this time (or block access to the area).

1.7 PHYSICAL PROPERTIES

Working time at 72°F (22°C) and 50% ambient humidity	60 minutes
Initial setting time at 72°F (22°C)	12 hours
Final setting time at 72°F (22°C)	20 hours
Freeze/thaw stability at 0°F (-18°C)	Stable 5 cycles
Flash Point	>100°C (212°F)
Flammability (part A)	Not flammable
Flammability (part B)	Not flammable
Max. moisture vapor emissions rate (ASTM F1869)	5lb/1000ft ² /24hr or less
Max. concrete relative humidity (ASTM F2170; using Wagner meter)	85% or less
Cleaning (while adhesive is still fresh)	Denatured alcohol
Color	White/cream
Consistency	Buttery
Format*	1.98 US gal pail (7.5 L)

*Shelf life is approximately 12 months from date of manufacturing; do not store adhesive for extended periods of time after delivery from supplier. It is recommended to always store adhesive in its original container, at room temperature and in a dry heated area.

1.8 PROTECTION

- a) Protect adhesive containers from freezing in transit and storage. Mondo PU 105 is freeze/thaw stable (5 cycles) at temperatures down to 0°F (-18°C). However, it is recommended to protect all adhesives from freezing. **If frozen, do not mix until product has completely thawed.**
- b) Ensure climate controlled storage, inside the range of 40°F to 100°F (4°C to 38°C). Deliver all materials to site a minimum of 24 hours before work is scheduled to begin so that they may acclimate.
- c) **Refer to adhesive’s safety data sheet (SDS) for all safety-related details concerning transportation, exposure, handling and use.** A copy of the SDS can be obtained from Mondo’s Technical Department.

DISCLAIMER

These instructions conform to commonly accepted techniques for the installation of resilient flooring. However, Mondo will not accept any liability whatsoever for any incorrect implementation of these instructions nor for any failure of equipment, paints and primers, patching and leveling compounds, adhesives or any other product not manufactured by Mondo but 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 flooring products.

The enclosed guidelines and 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.

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

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