MONDO PU 300 EPOXY-POLYURETHANE ADHESIVE

DISCLAIMER: Refer to page 6 of this document.

1.1 DESCRIPTION

Mondo PU 300 is a high performance, two-part epoxy-polyurethane adhesive, specially designed for the permanent installation of Mondo's indoor resilient athletic flooring products, and compatible for use with Mondo's indoor Everlay fiber-reinforced underlayment products. Mondo PU 300 has excellent resistance to moisture, heat, water and atmospheric agents.

NOTE: Mondo PU 300 is suitable for indoor installations over concrete or wood substrates, as well as Mondo Everlay fiber-reinforced underlayment products. Consult Mondo's Technical Department for further assistance. Copies of all substrate surface preparation guidelines and installation guides can be obtained from Mondo's Technical Department.

CAUTION: Mondo PU 300 is suitable for applications where resilient athletic flooring may be subject to surface impacts (such as designated areas for use of free weights). In such areas, it is strongly recommended to install the resilient athletic flooring directly over the concrete slab for optimal performance; avoid installing over weaker bases or preparation products, including Everlay, as they may offer less resistance to the continuous impacts atop.

1.2 LIMITATIONS

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

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, old adhesive residues, etc.). **Bond inhibitors are to be mechanically abated; use of abatement chemicals is not recommended.**

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

DO NOT USE when moisture content of the substrate surpasses adhesive tolerances, as expressed in section 1.3 under "f)".

DO NOT USE when the temperature of the substrate is below 50°F (10°C) or above 86°F (30°C). Climate will affect setting time; colder temperature will slow down setting time and warmer temperature will speed it up. **CAUTION: Special attention must always be paid to dew points; always ensure that the substrate is a minimum of 5°F (3°C) above the dew point during the entire installation and for 72 hours after the installation** *(e.g. if the ambient air temperature is 75°F and the relative humidity is 55%, the dew point is 58°F and the installation should not occur unless the substrate temperature remains above 63°F (5°F above the dew point). A dew point guide table is available on page 5 of this document for general consultation).*

1.3 SUBSTRATE 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 athletic flooring. Refer to Mondo's current substrate surface preparation guidelines for all related 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 slabs 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 installation. Once the concrete surface preparation is complete, you should have a CSP (Concrete Surface Profile) of about 1***.

d) 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, old adhesive residues, etc.). Concrete surfaces that are powdery or scaly are not acceptable. **Bond inhibitors 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 bond inhibitor removed so that removal effectiveness can be verified with a mat bond test (refer to current version of ASTM F3311).***

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%. Even indoors, ensure substrate temperature is always minimum 5°F (3°C) above dew point (e.g. of dew point table provided on page 5) for the duration of the resilient athletic flooring installation and for 72 hours post-installation. ***NOTE: It is highly recommended to turn on the heating, ventilation and air-conditioning (HVAC) unit 7 days prior to performing tests, in order to ensure stable testing conditions and accurate results, as well as stable conditions during installation for optimal cure.***

f) Substrate must be dry, free of hydrostatic pressure and/or other types of moisture-related problems. Moisture and alkalinity test results must always 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 ATHLETIC FLOORING PRODUCTS TO A SUBSTRATE 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 or in excess of 10 can negatively impact adhesion. **The concrete's moisture vapor emission rate (MVER) must not exceed 5lb/1,000ft^2 (2.27 kg/92.9 m^2) in 24 hours**, when tested per the current ASTM F1869 (anhydrous calcium chloride) standard test method. **The relative humidity in the concrete slab must not exceed 85%**, when tested per the current ASTM F2170 (in-situ probes) standard testing method, with the aid of a Wagner 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).

g) **DO NOT** proceed with the installation of the resilient athletic flooring until all jobsite conditions are met and the surface preparation is complete.

h) Once the surface preparation has been completed, vacuum the entire substrate surface prior to installation (remove all dust, loose dirt and debris). **DO NOT use sweeping compounds or treated dust mops.** 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) All flooring products will need to be removed from packaging and allowed to relax overnight prior to cut.

k) **Resilient athletic 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 is frozen, you must allow all product components to completely thaw 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 athletic flooring; demark and protect mixing station with a 6' x 6' scrap piece of material, Kraft paper or other suitable item.

b) Mondo PU 300 epoxy-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; the ratio has been strictly determined and any modification to the dosage will interfere with airing the adhesive.**

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 athletic flooring must be installed while the adhesive is wet. **The mix must be used within 25 minutes.**

1.5 TROWEL SIZE

Trowel size must comply with listed recommendations for the specified resilient athletic flooring product to be installed; refer to current installation instructions for details on the recommended trowel for the specified resilient athletic 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's backing**; adjust trowel size when needed to provide best results.

1.6 APPLICATION

a) **Refer to the current copy of the installation manual for the resilient athletic flooring specified.**

b) It is highly recommended to perform a mat bond test on all surfaces that will be receiving resilient athletic flooring to confirm adequate bond strength (refer to current version of ASTM F3311 for detailed instructions or communicate with Mondo's Technical Department).

c) Use the recommended notched trowel for the specified resilient athletic flooring, having 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 athletic 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 flooring within 25 minutes.** Remember that substrate and ambient temperatures directly affect 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 athletic flooring.

f) Remove any entrapped air between the substrate's surface and the resilient athletic flooring using the recommended method (refer to specified resilient athletic flooring's current installation instructions for recommendations on removing entrapped air).

g) Because the instant grab of Mondo PU 300 is low, you will be required to weigh down the seams of most resilient athletic flooring products with grey bricks, in order for the material to remain in contact with the adhesive while it sets (refer to specified resilient athletic flooring's current and detailed installation instructions for all recommendations regarding the application of seam weights).

h) **Depending on temperature and final setting time, at a minimum no foot traffic shall be allowed onto the surface of the resilient athletic flooring for a period of 24 hours after its installation, as well as no heavy traffic or rolling loads (wheels, carts, etc.) shall be allowed onto the resilient athletic flooring for a period of 72 hours after its installation.** Failure to follow this recommendation can lead to dispersion of the fresh adhesive under the flooring and can result in unwanted air pocket bubbles and/or mounds. Block access to the area during this period or protect the surface with 1/8" Masonite or 1/4" plywood.

1.7 PHYSICAL PROPERTIES

Shelf Life*	**12 months from manufacturing**
Pot life & working time calculated at 73°F (23°C) and 50% ambient humidity	**25 minutes**
Initial setting time for light foot traffic at 73°F (23°C)	**24 hours**
Final setting time for heavy traffic or rolling loads at 73°F (23°C)	**72 hours**
Moisture vapor emissions rate tolerance (ASTM F1869)	**5lb/1,000ft^2/24hr or less**
Concrete relative humidity tolerance (ASTM F2170; using Wagner meter)	**85% or less**
Cleaning (while adhesive is still fresh)	**Denatured alcohol**
Color	**Part A beige** **Part B pale yellow**
Consistency	**Part A thick paste** **Part B liquid**
Unit Weight	**22 lb (10 kg)**
Unit Volume (Mixed)	**1.7 US gal (1.4 imp gal or 6.4 L)**
Indoor Air Quality	**CDPH Standard Method v1.2-2017)**

***Shelf life is typically 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 in a dry and climate-controlled area. The storage temperature must never be lower than 50°F (10°C) or higher than 86°F (30°C) to avoid decreasing adhesive performance

or reducing its shelf life. A proper storage area must be fully enclosed so that the adhesive remains protected from the elements and in the shade/away from direct sunlight, as well as properly heated during winter months (if applicable based on region). Claims will not be accepted for adhesive that has not been stored properly and/or has passed its shelf life.

1.8 PROTECTION

a) Protect adhesive containers from freezing in transit and storage. **If received frozen, do not mix until all product components have completely thawed.**

b) Always ensure on-site climate-controlled storage, inside the range of 50°F to 86°F (10°C to 30°C). Deliver all materials to jobsite a minimum of 24 hours before work is scheduled to begin so that they can 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.

DEW POINT REFERENCE TABLE (in Fahrenheit)

Temperature	Relative Humidity												
	90%	85%	80%	75%	70%	65%	60%	55%	50%	45%	40%	35%	30%
90°F	87	85	83	81	79	76	74	71	68	65	62	59	54
85°F	81	80	78	76	74	72	69	67	64	61	58	54	50
80°F	77	75	73	71	69	67	65	62	59	56	53	50	45
75°F	72	70	68	66	64	62	60	58	55	52	49	45	41
70°F	67	65	63	61	59	57	55	53	50	47	44	40	37
65°F	62	60	59	57	55	53	50	48	45	42	40	36	32
60°F	57	55	53	52	50	48	45	43	41	38	35	32	
55°F	52	50	49	47	45	43	40	38	36	33	32		
50°F	46	45	44	42	40	38	36	34	32				
45°F	42	40	39	37	35	33	32						
40°F	37	35	34	32									

The dew point is the temperature at which air is saturated with water vapor and moisture will condense on a surface. Adhesives should not be applied unless the substrate surface temperature is a minimum of 5 degrees Fahrenheit above the dew point.

For example, if the ambient temperature is 75°F and the relative humidity is 55%, your dew point is 58 and the installation should not occur unless the substrate surface remains at least at 64°F during the entire installation and for 72 hours post-installation.

THE ABOVE TABLE AND LISTED EXAMPLES ARE PROVIDED ONLY AS A BASIC GUIDE REFERENCE. DEW POINT TABLES ARE READILY AVAILABLE ON THE WEB FOR CONSULATION. INSTALLERS ARE RESPONSIBLE FOR MAKING THEIR OWN VERIFICATIONS AND CALCULATIONS, RESPECTING INSTALLATION CONDITION REQUIREMENTS AT ALL TIMES. MONDO WILL NOT ACCEPT LIABILITY WHATSOEVER FOR ANY MISCALCULATIONS REGARDING CLIMATIC CONDITIONS.

DISCLAIMER

These instructions conform to commonly accepted techniques for the installation of resilient athletic 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, moisture mitigation products, 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 these specified 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:

Mondo America Inc., Technical Department, 2655 Francis-Hughes, Laval, QC H7L 3S8
Telephone: (450) 967-5800 • Canada: 800 663-8138 • USA: 800 361-3747. Facsimile: (450) 663-7927
Email: sports.technical@mondousa.com • www.mondoworldwide.com