



---

# ARDEX PU 50<sup>TM</sup>

## One-Component, Polyurethane, Vapor Retarder

Perfect for substrates with residual moisture

---

**Reduces moisture vapor emissions in concrete to acceptable levels**

**No minimum profile required**

**Zero VOC, solvent free**

**Fast drying – re-coat in as little as 60 minutes**

**One-component system**

**Ready for use, resealable and reusable**

**Easy to use and apply**



---

ARDEX Americas  
400 Ardex Park Drive  
Aliquippa, PA 15001 USA  
724-203-5000  
888-512-7339  
[www.ardexamericas.com](http://www.ardexamericas.com)

# ARDEX PU 50™

## One-Component, Polyurethane, Vapor Retarder

### Description and Usage

ARDEX PU 50 is a ready-to-use, one-component, polyurethane resin system formulated to suppress residual moisture up to 98% RH in most concrete slabs. ARDEX PU 50 comes in a ready-to-use, resealable container.

### No Moisture Testing Required for Most Applications

With the exception of radiant-heated slabs (see the “Moisture Testing for Radiant-Heated Slabs” section below), no moisture testing is required provided the concrete meets the following conditions:

- Concrete must be at least 28 days old
- If the slab is on grade or below grade, an effective and intact vapor retarder must be placed directly below the concrete in conformance with ASTM E1745.
- The surface of the concrete must be completely dry at the time the ARDEX PU 50 is installed.

### Moisture Testing for Radiant-Heated Slabs

Prior to beginning the installation, measure the relative humidity (RH) within radiant-heated slabs in accordance with ASTM F2170. When installed in accordance with our written recommendations, ARDEX PU 50 is suitable for moisture levels up to 85% RH over radiant-heated concrete slabs.

### Substrate Preparation (Proper Prep™)

The surface of the concrete must be completely dry (free of condensation / water). To verify concrete surface dryness, mat test in conformance with ASTM D4263. The test must be conducted for at least 3 hours, which is the time required for ARDEX PU 50 to be set sufficiently. To ensure that condensation does not form, it is extremely important to check the surface temperature of the concrete just prior to installation to verify that this temperature is at least 5°F (3°C) higher than the dew point for the given temperature and humidity in the space and rising. For example, if the dew point temperature in the space is 60°F (16°C), the slab temperature must be 65°F (19°C) or higher and rising.

Concrete substrates must be solid, structurally sound and thoroughly clean and free of dust, oil, wax, grease, asphalt, paint, latex and gypsum compounds, curing compounds, sealers and any contaminant that might act as a bond breaker. If necessary, mechanically clean the surface by shot blasting, grinding or similar. Mechanical preparation methods must comply with OSHA Silica Standard for Construction CFR §1926.1153. Overwatered, frozen or otherwise weak concrete surfaces must also be cleaned down to sound, solid concrete by mechanical methods. Acid etching and the use of solvents or sweeping compounds are not acceptable means of cleaning the substrate. The resulting concrete surface must be porous and absorbent. The concrete must also have a minimum tensile strength of 150 psi (10.5 kg/cm²) for areas to receive normal foot traffic and 200 psi (14 kg/cm²) for areas of heavy commercial traffic when tested in accordance with ASTM C1583.

After mechanical preparation is completed and prior to installing, ensure that all dust and debris is removed from the substrate by vacuuming thoroughly. The vacuum filter must comply with OSHA Silica Standard for Construction CFR §1926.1153.

The concrete must be dry during installation and cure. The concrete surface and ambient temperatures must be a minimum of 60°F (15°C) and a maximum of 75°F (24°C) for the installation of ARDEX PU 50. If installing over radiant-heated concrete slabs, turn the

heating system off 48 hours before, during, and at least 48 hours after the installation is complete. The installation space must be enclosed and acclimated with the HVAC system running, and the ambient humidity must be between 40% and 65%.

For more detailed information on substrate preparation, please refer to the ARDEX Substrate Preparation Data Sheet at [www.ardexamericas.com](http://www.ardexamericas.com).

**Note on Asbestos-Containing Materials:** Please note that when removing existing flooring, any asbestos-containing materials should be handled and disposed of in accordance with applicable federal, state and local regulations.

### Dormant Cracks and Dormant Saw Cuts

To achieve continuous moisture vapor suppression, dormant control joints and dormant cracks must be pre-filled with a two-part, low viscosity, 100% solids, rigid crack and joint filler, such as ARDEX ARDIFIX™. Dormant cracks and dormant saw cuts must be filled in strict accordance with the installation instructions provided by the ARDEX Technical Service Department. Once the dormant cracks and dormant saw cuts have been filled properly, broadcast sand to refusal into the fresh material, and allow these areas to cure thoroughly. Remove all excess sand prior to proceeding with the ARDEX PU 50 installation.

### Moving Joints and Moving Cracks

All moving joints and moving cracks must be honored up through the ARDEX PU 50, the ARDEX underlayment and the floor covering by installing a fully flexible sealing compound designed specifically for use in moving joints, such as ARDEX ARDISEAL™ RAPID PLUS.

ARDEX cannot be responsible for issues arising from expansion and isolation joints, saw cuts or new or existing cracks that may develop, widen or become more narrow after the system has been installed.

For questions regarding the appropriateness of specific joint treatment compounds, please contact the ARDEX Technical Service Department at 888-512-7339.

### Recommended Tools

Short-nap paint roller and paintbrush.

### Mixing and Application

Shake ARDEX PU 50 well before use.

Apply the ARDEX PU 50 to the prepared concrete and roll using a short-nap paint roller. Roll the material in a uniform direction, without interruption and at a thickness of 4 mils (100 microns). To minimize the potential for pinhole formation, work the ARDEX PU 50 into the surface with the roller to ensure maximum penetration. ARDEX PU 50 can also be worked into the surface with a paintbrush for hard-to-reach areas and corners. Once an area has been coated completely, allow this to dry to a tack-free film for a minimum of 60 minutes (70°F / 21°C).

Once the first coat is dry, apply the second coat at right angles to the first and install without interruption and in a uniform direction at a thickness of 4 mils (100 microns). Allow the second coat to dry to a tack-free film, which will take approximately 60 minutes (70°F / 21°C). **NOTE:** Do not allow more than 24 hours of dry time between coats.

A two-coat installation of 4 mils per coat equates to an application rate of approx. 500 sq. ft. (46.5 sq. m) per unit, depending on concrete surface profile, texture and porosity.

It is not necessary to re-test the substrate for moisture emissions prior to installing the floor covering.

If moisture mitigation is required prior to installing an ARDEX topping, use ARDEX MC™ RAPID One-Coat Moisture Control System for Concrete to Receive ARDEX Products. Refer to the technical data sheet for further installation instructions.

**NOTE:** Avoid all general traffic over the ARDEX PU 50 surface until the ARDEX PU 50 is completely dry (approx. 60 minutes). If the underlayment or flooring will not be installed immediately, protect the surface from construction traffic, dirt and debris using Masonite or similar.

### If an ARDEX Underlayment will be Installed

Allow the final coat of ARDEX PU 50 to completely dry (approx. 60 minutes), then prime the ARDEX PU 50 surface with ARDEX P 82™ or ARDEX P 4™ in accordance with the respective technical data sheet.

If ARDEX P 82 was used, allow it to dry thoroughly (min. 3 hours, max. 24 hours). If ARDEX P 4 was used, allow it to dry to a thin, opaque white film (min. 30 - 60 minutes).

An ARDEX underlayment must be installed within 24 hours and in accordance with the corresponding technical data sheet.

Please also note that a skimcoat of a cementitious material applied over a non-porous surface may not create a porous bonding surface for the finish flooring. For this reason, it will be necessary to consult the flooring manufacturer for confirmation of any minimum thickness requirements for cementitious underlayments as well as for any additional considerations when installing over potentially non-porous surfaces.

### If a Floating or Non-adhered Direct Flooring will be Installed

Floating or non-adhered flooring systems may be installed directly over ARDEX PU 50 without the use of an underlayment.

Please note that the final coat of the ARDEX PU 50 must be completely dry (approx. 60 minutes; 70°F / 21°C) prior to the installation of the floor covering. The floor covering must be installed within 24 hours. Care must be taken not to pierce or otherwise compromise the ARDEX PU 50 during the floor covering installation.

### Notes

FFOR PROFESSIONAL USE ONLY. Improper use voids warranty.

Clean all tools with mineral spirits before the ARDEX PU 50 dries.

The installation of ARDEX PU 50 does not require calcium chloride testing of the concrete per ASTM F1869, nor does this ASTM standard permit this test over the top of concrete that has been treated with a moisture remediation system.

Do not apply ARDEX PU 50 if the surface temperature is below 60°F (15°C) or above 75°F (24°C). Store at temperatures between 40 and 90°F (5 - 32°C). Do not allow to freeze.

Dispose of packaging and residue in accordance with federal,

state and local waste disposal regulations. Do not flush material down drains.

### Precautions

Carefully read and follow all precautions and warnings on the product label. For complete safety information, please refer to the Safety Data Sheets (SDS) available at [www.ardexardexamericas.com](http://www.ardexardexamericas.com).

### Technical Data According To ARDEX Quality Standards

Physical properties are typical values and not specifications. All data is based on 70°F (21°C) installation temperatures.

<b>Coverage:</b>	Approx. 500 sq. ft. (46.5 sq. m) per unit at 2 coats of 4 mils (100 microns) each
	Approx. 200 sq. ft. (18.5 sq. m) per gallon at 2 coats of 4 mils (100 microns) each
	Approx. 4.9 sq. m per liter at 2 coats of 4 mils (100 microns) each
	(Will vary with concrete surface profile, porosity and texture)
<b>Effect of 14 pH Solution (ASTM D1308):</b>	No effect
<b>Walkable:</b>	When completely dry (approx. 60 minutes); no max. provided surface is protected
<b>Install ARDEX Underlayment:</b>	1 - 24 hours (after the application of the second coat)
<b>Install Floating/ Non-Adhered Floor Covering:</b>	1 - 24 hours (after the application of the second coat)
<b>VOC:</b>	0 g/L
<b>Packaging:</b>	2.5-gallon (9.5 L) jug
<b>Storage:</b>	Store at temperatures between 40 and 90°F (5 - 32°C). Do not allow to freeze.
<b>Shelf Life:</b>	1 year, if unopened. Open containers remain usable for 3 months if properly resealed and stored under proper conditions. Keep container closed when not in use.
<b>Warranty:</b>	ARDEX, L.P. Standard Limited Warranty applies. Extended system warranty is available. Please note that training by the ARDEX Technical Service Department is required for extended warranty eligibility. Please contact the ARDEX Technical Service Department for details.

Made in the USA  
© 2019 ARDEX, L.P. All rights reserved. Revised 5/28/2019. Published 06/07/2019. Supersedes all previous versions. Check [www.ardexamericas.com](http://www.ardexamericas.com) for most recent version and for technical updates, which may supersede the information herein.

Visit [www.youtube.com/ARDEX101](http://www.youtube.com/ARDEX101) to watch ARDEX Americas product videos.

For easy-to-use ARDEX Product Calculators and Product Information On the Go, download the ARDEX App at the iTunes Store or Google Play.



**ARDEX Americas**  
400 Ardex Park Drive  
Aliquippa, PA 15001 USA  
724-203-5000  
888-512-7339  
[www.ardexamericas.com](http://www.ardexamericas.com)