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# ARDEX UI 740™ FLEXBONE®

## Uncoupling Membrane

**FLEXBONE® - The most advanced, single-source uncoupling solutions!**

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**High load-bearing uncoupling membrane**

**Ideal for large format tile and stone in heavy traffic areas**

**For use with porcelain, ceramic, quarry and natural stone tiles**

**Helps prevent grout joint and tile damage from substrate movement**

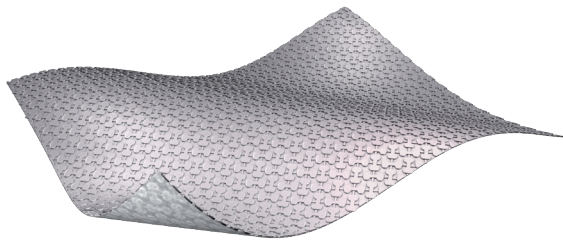
**Higher shear and tensile bond strengths than comparable uncoupling membranes  
(independent tests at MPA Wiesbaden, Germany)**

**Suitable as a waterproofing membrane**

**For use in high stress areas, such as shopping malls, airports, office buildings,  
hospitals, etc.**

**For use over wooden or concrete substrates**

**Can be prefilled with ARDEX Liquid BackerBoard® Self-Leveling Underlayment**



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# ARDEX UI 740™ FLEXBONE®

## Uncoupling Membrane

### Description

ARDEX UI 740™ FLEXBONE® Uncoupling Membrane is a high load-bearing uncoupling membrane ideal for large format tile in high traffic areas. The unique bone-shaped pattern with GripLock Technology delivers outstanding tensile bond strength. The system helps neutralize underlying substrate movement and supports and distributes heavy loads from above. Special high-performance felt helps provide vapor equalization. ARDEX UI 740 FLEXBONE® can be used as a waterproof layer in bathrooms and wet areas.

### For Use In

Office buildings, Hotel rooms, Medical offices, Residential properties, Retail shops, Car showrooms, High-stress areas, such as: Shopping malls, Airports and Hospitals.

### Recommended Tools

Drywall square or straight edge, utility knife, 35-75 lb. roller or float, and the appropriate notched trowel for the selected mortar.

### Accessories

ARDEX UD 146™ Edge Insulation Strip

ARDEX UD 156™ Movement Joint Tape

ARDEX SK 175™ Seam Tape

### Preparation

Deliver all material to the jobsite in its original, unopened packaging under proper storage conditions.

It is the responsibility of the installation contractor to inspect the ARDEX UI 740 FLEXBONE® for visual defects and to verify that it is the correct type before beginning the installation.

Acclimate the setting material, ARDEX UI 740 FLEXBONE® and tile or stone in an enclosed building at a minimum of 65°F (18°C) for at least 24 - 48 hours before the installation. Lay the ARDEX UI 740 FLEXBONE® flat during acclimation.

### Substrate Preparation

For all substrates listed below, acid etching, adhesive removers, solvents and sweeping compounds are not acceptable means for cleaning the substrate. Substrate and ambient temperatures must be a minimum of 50°F (10°C) for the installation of ARDEX products. Substrates must be dry during installation and cure.

Substrates also must be load-bearing, flat and structurally sound. Vacuum or sweep away all dust and debris. All substrates must be smooth and flat with a maximum variance of 1/4" in 10' (6 mm in 3 m) from the required plane per TCNA or TTMAC guidelines or as recommended by the tile or stone manufacturer (default to the most stringent requirement).

Should pre-leveling or subfloor repair be required, use one of the materials listed below, as appropriate. Observe the instructions and dry times in the ARDEX technical data sheets.

Product	Substrate	Interior
ARDEX A 38™ Rapid Set Screed or ARDEX A 38 MIX™ Rapid Set, Premixed Screed	Concrete	X
	Wood	X*
ARDEX AM 100™ Rapid Set Pre-Tile Smoothing and Ramping Mortar	Concrete	X
	Wood	
ARDEX Liquid BackerBoard® Self-Leveling Underlayment for Interior Wood and Concrete Subfloors	Concrete	X
	Wood	X
ARDEX TL 1000™ Self-Leveling Underlayment	Concrete	X
	Wood	
ARDEX SKM™ Skimcoat Patch & Finishing Underlayment	Concrete	X
	Wood	X

\* Refer to the ARDEX A 38 and ARDEX A 38 MIX technical data sheets for further instructions.

For more detailed information on substrate preparation, please refer to the ARDEX Substrate Preparation Technical 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.

### Concrete Substrates

All concrete substrates must be solid, structurally sound, thoroughly clean, thoroughly cured, dry and free of oil, wax, grease, asphalt, latex and gypsum compounds, curing compounds, sealers and any contaminant that might act as a bond breaker. If necessary, mechanically clean the floor down to sound, solid concrete by shot blasting or similar. Over-watered, frozen or otherwise weak concrete surfaces also must be cleaned down to sound, solid concrete by mechanical methods. Sanding equipment is not an effective method to remove contaminants from concrete.

For time-sensitive jobs that would benefit from minimal preparation, or where the cost of substrate preparation for a tile installation may be excessive, use ARDEX UI 720™ FLEXBONE® (unbonded application). Refer to the appropriate technical data sheet for complete instructions.

### Wooden Subfloors

The wood subfloor must be constructed according to prevailing building codes. It must be solid and securely fixed to provide a rigid base free of undue flex. For tile installations, the subfloor must be constructed in accordance with ANSI L/360 standards. Any boards

exhibiting movement must be properly fastened. The surface of the wood must be clean and free of oil, grease, wax, dirt, varnish, shellac and any contaminant that might act as a bond breaker. If necessary, sand down to bare wood. A commercial drum sander can be used to sand large areas. Do not use solvents, strippers or cleaners. Vacuum all dust and debris. Open joints should be filled with ARDEX SKM. It is the responsibility of the installation contractor to ensure that the wood subfloor is thoroughly clean and properly anchored prior to the installation of any ARDEX material.

Exterior-grade plywood and OSB subfloors must be either 5/8" (approx. 16 mm) or 3/4" (19 mm) tongue and groove. Fasten plywood or OSB every 6" (15.2 cm) o.c. along sheet ends and 8" (20.3 cm) o.c. along intermediate supports with ring-shank nails or screws. Allow 1/8" (approx. 3 mm) between sheets. All sheet ends must be supported by a framing member and properly fastened.

The underlayment must be constructed of 3/8" (9.5 mm) plugged-faced, exterior-grade plywood or OSB and fastened every 6" (15.2 cm) along sheet ends and 8" (20.3 cm) in the panel field with ring-shank nails or screws. Allow 1/8" (approx. 3 mm) between sheets on all edges and ends and 1/4" (approx. 6 mm) at perimeter walls and any abutting surfaces. Offset underlayment joints from the joints in the subfloor.

### **For Ceramic or Porcelain Tile Installations**

If a single layer of plywood or OSB will be installed, a joist spacing of either 16" (40.6 cm) o.c. or 19.2" (49 cm) o.c. is required.

For 16" (40.6 cm) o.c. joist spacing, the minimum subfloor, nominal thickness must be 5/8" (approx. 16 mm) tongue and groove wood.

For 19.2" (49 cm) o.c. joist spacing, the minimum subfloor, nominal thickness must be 3/4" (19 mm) tongue and groove wood.

For 24" (61 cm) o.c. joist spacing, a double layer of plywood or OSB is required. The minimum subfloor, nominal thickness must be 3/4" (19 mm) tongue and groove wood, and the minimum underlayment, nominal thickness must be 3/8" (9 mm).

### **For Natural Stone Tile Installations**

When installing natural stone over wood subfloors, two layers of plywood or OSB are required regardless of joist spacing, per TCNA and TTMAC guidelines. However, the joist spacing size must not exceed 24" (61 cm) o.c. The double-layer wood flooring must have a minimum subfloor, nominal thickness of 3/4" (19 mm) tongue and groove wood as well as a minimum underlayment, nominal thickness of 3/8" (9.5 mm).

### **Moisture-Sensitive Substrates**

Moisture-sensitive substrates, such as gypsum, must be properly protected by priming with ARDEX P 51™ Primer.

The substrate must be thoroughly clean and free of dirt, debris, sealers and any contaminant that might act as a bond breaker. If necessary, mechanically clean the floor down to sound, solid material by shot blasting or similar.

Moisture-sensitive substrates require two applications of ARDEX P 51. Make an initial application of ARDEX P 51 mixed with 3 parts water by volume. Apply evenly with a soft push broom. Do not use paint rollers, mops or spray equipment. Do not leave any bare spots. Brush off puddles and excess primer. Let dry thoroughly (1 - 3 hours), and install a second application of ARDEX P 51 mixed 1:1 with water as stated above. Allow primer to dry to a clear, thin film (min. 3 hours, max. 24 hours).

### **Existing Floor Coverings**

Contact the ARDEX Technical Department for specific substrate requirements.

### **Joints and Cracks**

All existing expansion joints, isolation joints and construction joints, as well as all moving cracks, must be honored up through the substrate, uncoupling membrane and tile or stone as indicated by TCNA or TTMAC guidelines.

Perimeter movement joints are essential for door areas, thresholds between rooms and geometric offsets. Arrange perimeter movement joints in accordance with industry standards. Interior areas exposed to direct sunlight, such as floors in front of floor-length windows, as well as underfloor heating areas require additional joints as required by TCNA or TTMAC guidelines.

For areas with heavy loads, expansion joint profiles may be necessary. Contact the expansion joint profile manufacturer to ensure suitability for the intended use.

As needed, dormant cracks and dormant control joints can be filled with ARDEX SKM, following the instructions in the technical data sheet.

### **Uncoupling Mat Installation**

Installation of the ARDEX UI 740™ FLEXBONE® membrane may occur with one of the following ARDEX mortars\*\*:

- ARDEX X 78™ MICROTEC® Semi-Pourable Tile and Stone Mortar
- ARDEX S 28™ MICROTEC® Rapid-Set, Rapid-Dry, Super-Format Tile and Uncoupling Membrane Mortar
- ARDEX X 77™ MICROTEC® Fiber Reinforced Tile and Stone Mortar
- ARDEX X 5™ Flexible Tile and Stone Mortar
- ARDEX FB 9 L™ Pourable ShearFlex® Mortar
- ARDEX X 90 OUTDOOR™ MicroteC3 Rapid-Set, Flexible Tile and Stone Mortar

Remove the shrink-wrap from the roll of ARDEX UI 740™ FLEXBONE®, and unroll it onto the floor. Shaking the material once as it is unrolled can help it to relax.

Place the ARDEX UI 740™ FLEXBONE® so that it is perpendicular to the subsequent installation direction of the tile or stone installation. Trim the ends of each section as necessary in order to fit the surface area to be covered. Align the lengthwise edge of the material exactly with that of the adjacent section.

Using the flat side of a trowel, key in the approved ARDEX mortar to the substrate. Then, apply the mortar to the substrate using a 1/4" x 3/16" V-Notch trowel.

Comb the mortar out, and use just enough to be covered by the ARDEX UI 740™ FLEXBONE® membrane during the mortar open time. ARDEX mortars should be mixed to the high water ratio.

Carefully lay the ARDEX UI 740™ FLEXBONE® into the wet ARDEX mortar with the fleece side facing down. DO NOT let the material fall, as this will trap air beneath the material. Using a float, flat trowel or 35 - 75 lb. roller, smooth and embed the mat into the bonding mortar. Gently lift a corner of the membrane to check for proper coverage. Full contact between the fleece and mortar must be achieved.

When approaching walls or other obstacles, cut the mat to the appropriate lengths using a utility knife. Leave approximately 1/4" (6 mm) between the mat and the edge of the wall or obstacle to allow for expansion.

Structural, expansion and field perimeter joints are formed by dividing the ARDEX UI 740™ FLEXBONE® to the required width. The joints in the mats are to be covered with self-adhesive ARDEX UD 156 Movement Joint Tape (for waterproofing applications, use ARDEX SK 175 Seam Tape) to protect against the entry of mortar and grout. The arrangement of joints in the tile or stone installation must be in line with the divisions of the mats.

In waterproofing applications, all seams in the ARDEX UI 740 FLEXBONE and floor and wall transitions must be sealed with ARDEX SK 175 Seam Tape using a thin set mortar. The ARDEX SK 175 Seam Tape must overlap the ARDEX UI 740™ FLEXBONE® at the seams and floor and wall transitions by a minimum of 2" (50 mm) in order to secure waterproof integrity. This practice may be appropriate in laundry rooms, spaces with icemakers and other areas where an overflow or pipe break may occur.

In some cases, the vertical section of the floor or wall transition may not be compatible with bonding using a thin set mortar. Connections to these vertical substrates may otherwise be achieved by using ARDEX CA 20 P™ Multi-Purpose Construction Adhesive and Sealant or suitable waterproofing materials, including those that require atmospheric moisture to cure.

Do not mechanically fasten any material through the ARDEX UI 740™ FLEXBONE®, as this will compromise its waterproofing and uncoupling capabilities.

### **Prefill With ARDEX Liquid BackerBoard®**

ARDEX Liquid BackerBoard can be used as a high-flow, easy-to-apply prefilling material for ARDEX UI 740 FLEXBONE prior to the installation of tile or stone. Please see the technical data sheet for instructions and further details.

## **Flooring Installation**

Installation of ceramic or natural stone materials\*\* may occur with one of the following ARDEX mortars\*\*\*:

- ARDEX X 78™ MICROTEC® Semi-Pourable Tile and Stone Mortar
- ARDEX X 77™ MICROTEC® Fiber Reinforced Tile and Stone Mortar
- ARDEX X 7 R™ Rapid Set, Flexible Tile and Stone Mortar
- ARDEX X 5™ Flexible Tile and Stone Mortar
- ARDEX X 32™ MICROTEC® Universal Rapid Setting and Drying Thin-to-Thick Bed Mortar
- ARDEX N 23™ MICROTEC® Rapid Set Natural Stone and Tile Mortar
- ARDEX FB 9 L™ Pourable ShearFlex® Mortar
- ARDEX S 28™ MICROTEC® Rapid-Set, Rapid-Dry, Super-Format Tile and Uncoupling Membrane Mortar
- ARDEX X 90 OUTDOOR™ MicrotecC3 Rapid-Set, Flexible Tile and Stone Mortar

After mortar has cured (approximately 12 hours, standard-set mortars), tile or stone can be installed over the ARDEX UI 740 FLEXBONE and should proceed in accordance with ANSI A 108.5 or TTMAC standards. After mixing the appropriate ARDEX mortar, apply the mortar to the ARDEX UI 740 FLEXBONE with the flat side of a notched trowel (keying in) to fill in the bone-shaped cavities. Comb additional mortar "wet on wet" over the mat with the appropriate notched trowel for the size of the tile or stone to be installed, and directly lay the tile or stone on top. Follow the recommendations of the TCNA or TTMAC for the proper transfer of setting materials. Periodically remove and check tile or stone to ensure full coverage.

The mortar thickness between the top of the ARDEX UI 740 FLEXBONE and tile side must not exceed 1/4" (6 mm). Using the correct notched trowel will provide proper thickness. Install metal edge or transition strips where the tile ends along bordering, lower-lying covering surfaces.

Avoid foot traffic during installation and until the mortar has cured. Prior to installing tile or stone, ARDEX UI 740 FLEXBONE should be protected with boards in areas where foot traffic is necessary.

For grouting, use ARDEX FL™ Rapid Set, Flexible, Sanded Grout, ARDEX FH™ Sanded Wall and Floor Grout or ARDEX WA™ High Performance, 100% Solids Epoxy Grout and Adhesive. For soft and expansion joints, use ARDEX SX™ 100% Silicone Sealant.

## Installation Guide



**Step 1**  
Check the substrate for load-bearing qualities, flatness and structural soundness. If leveling is necessary, a product such as ARDEX Liquid BackerBoard may be used.



**Step 2**  
Clean and prepare the substrate as necessary.



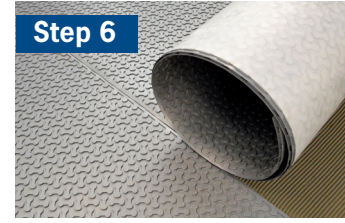
**Step 3**  
Using a 1/4" x 3/16" V-Notch trowel, apply the ARDEX mortar that is suitable for the substrate.



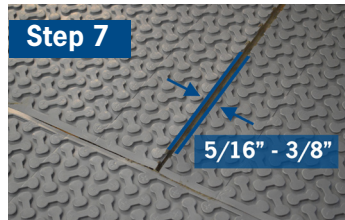
**Step 4**  
Embed the pre-measured and cut ARDEX UI 740 FLEXBONE with the fleece side facing down directly into the wet mortar layer.



**Step 5**  
Press and flatten the mat using a float, the flat side of a trowel or a 35 - 75 lb roller.



**Step 6**  
At the seams, the lips can overlap or butt up against each other.



**Step 7**  
Leave a joint minimum width of 5/16" - 3/8" (8 - 10 mm) for expansion and field perimeter joints that sub-divide large areas, doorways, etc.



**Step 8**  
Cover the joints with self-adhesive ARDEX UD 156 Movement Joint Tape to protect against the entry of mortar and grout.



**Step 9**  
Fill the bone-shaped cavities of the membrane with the appropriate ARDEX mortar, and evenly smooth the mortar with the flat side of a trowel.



**Step 10**  
Using the appropriate notch trowel, comb the mortar and install the tile or stone.



**Step 11**  
Due to the properties of plastic membranes, mortar type, tile type, tile size and climactic conditions, the mortar curing time required prior to grouting may vary. ARDEX mortars allowable for use with ARDEX uncoupling membranes typically permit grouting in 3 - 24 hours.



**Step 12**  
Fill expansion joints with a suitable soft joint filler, such as ARDEX CA 20 P or ARDEX SX.

Note: Due to the properties of plastic membranes, mortar type, tile type, tile size and climactic conditions, the mortar curing time required prior to grouting may vary. However, the ARDEX mortars allowable for use with ARDEX uncoupling membranes typically permit grouting in 3 - 24 hours.

## Robinson Test Results

ARDEX UI 740 FLEXBONE received an Extra Heavy Rating.

## Warranty

ARDEX L.P. Standard Limited Warranty. Also eligible for the ARDEX SystemOne™ 25-Year Limited Warranty when used in conjunction with select ARDEX mortars and grouts.

Failure to follow written directions will void the warranty. For complete warranty details, please contact our Customer Service Center at 888-512-7339.

## Notes

FOR PROFESSIONAL USE ONLY.

Rolls are shipped vertically. Protect in a dry area free of sunlight.

Store in temperatures from 32°F (0°C) to 72°F (22°C). Temperature resistance is from -22°F (-30°C) and up to 158°F (70°C) for brief periods only.

Dispose of packaging and residue in accordance with federal, state and local waste disposal regulations.

\*\*Tile size must be a minimum size of 2" x 2" (5.1 cm x 5.1 cm) and have a minimum thickness of 1/4" - 5/16" (6 - 8 mm).

\*\*\*ARDEX recommends a polymer modified tile and stone mortar with an ISO 13007 C2 designation and/or that complies with ANSI A118.4, ANSI A 118.11 or ANSI A118.15 to install the ARDEX UI 740 FLEXBONE and tile or stone. ARDEX tile and stone mortars are highly recommended due to their unique hardening and curing capabilities. In addition, the use of an ARDEX tile and stone mortar with the appropriate ARDEX grout qualifies the installation for an ARDEX SystemOne™ 25-Year Limited Warranty.

## Precautions

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

Made in Germany.

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## Size and Coverage Available

1/8" (3 mm) Uncoupling Mat - 39" wide x 65.6' long (1 m wide x 20 m long) roll

Coverage of 215 sq. ft. (20 m<sup>2</sup>) per roll

1/8" (3 mm) Uncoupling Mat - 39" wide x 16.4' long (1 m wide x 5 m long) roll

Coverage of 54 sq. ft. (5 m<sup>2</sup>) per roll

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