

## wedi Vapor Barrier

- Strong vapor retarder presenting an effective Barrier in wedi Steam Rooms and Steam Showers
- 100 % Solids, Chemically enhanced Epoxy 2 –Component Coating- directly tileable
- Zero VOC/ Solvent formulation/ LEED contributing

### General product description

Whether installed in a steam room with commercial 24 hour use or in a residential steam shower, waterproof and insulating wedi Building Panels, just combined with wedi Vapor Barrier, a strong vapor retarder and waterproofer, form the industry's first sufficient solution and effective barrier to protect your tiled steam room against the threat of water vapor transmission through walls or ceilings- leaving nothing to question. Water vapor transmission through building materials into walls or ceiling substrates can cause deterioration and mold. Traditional vapor retarders and waterproofing methods often fail to address the challenges in many situations due to use of products that may act as a waterproofing but may display insufficient or no water vapor retarding properties, or the proper placement of water vapor retarders or the entire installation concept may be wrong. Many latex based waterproofing products may only work as vapor retarders when applied in thicknesses very difficult to apply on site. Many installation concepts may fail because they allow water vapor pressure to build up due to a lack of insulation in a wall ceiling which may lead the chosen vapor retarder to fail. To be sure, steam showers and rooms also require waterproofed surfaces just like general shower or wet rooms. A tricky part is, however, that it is not safe to assume that a vapor retarder layer can generally be a waterproofing layer able to withstand (liquid) water pressure and vice versa. The wedi System offers all three: The waterproof and vapor retarding XPS foam underlayment systems with insulation value built in, and the surface added, strong liquid wedi vapor barrier- a waterproofing product as well- all in one compact system.

### Protecting tiled structures against water vapor migration/permeation

Wall and ceiling assemblies in steam rooms and showers must feature sufficient vapor retarder attributes. Very few assemblies or products suitable for tile substrate installations can be called an effective vapor barrier ( sufficiently strong retarder) for many, especially commercial or continuous use steam rooms.



For our wedi steam room construction's or applications purpose, a water vapor retarder performance is measured in WVTR (Water Vapor Transmission Rate) or Permeance. WVTR / Permeance is measured, for a material or construction layer with a specific thickness, whereby the test specimen is exposed to specific environments and a climate differential established on either side of the specimen (climate differential such as between steam room insides and outsides). Permeance, the specific performance, is the arithmetic result of the permeability of the material divided by its thickness and is measured in perms. It is important, that when determining WVTR / Permeance, the proper ASTM test method is used. The TCNA now requires that all steam room application related vapor retarders must be tested according to ASTM E96, method E, to document performance as needed. This method E should be applied at 100°F and 90% Relative Humidity on one side of the test specimen. A product suitable for steam rooms should generally have a Perm rating of 0.5 or less, in commercial applications 0.1 or less. Most common waterproofing membranes do not come close to providing such properties and are either not properly tested or show higher Perm ratings than should be allowed for steam room applications. Current steam shower details in the Tile Council of North America Handbook for Ceramic Glass, Tile and Stone Installation call for a minimum Perm rating for vapor retarders of 0.5 in all continuous use steam rooms. wedi, however, recommends higher standards. The wedi Vapor Barrier, called a barrier because its retarding strength is so high that it acts as a true and full barrier in all steam room applications, is used in conjunction with wedi Building Panel applications in residential and commercial steam room installations. It is formulated to protect the entire wall and ceiling construction against aggressive water vapor diffusion and migration into or through any critical layers of such construction. The wedi vapor barrier stops migration and therefore keeps the dew point, the temperature defined point at which vapor cools and transforms into liquid water at the tile surface level. This is important, as other waterproofing products, when installed over insulated substrates, may allow vapor migration with the consequence of transferring the dew point into the insulation layer or even behind into the framing or wall where this water will remain and cause damage.

## Areas of application

- New Construction of Residential/Commercial use buildings
- Renovation in Residential/Commercial use buildings
- Wet areas such as showers and steam baths/rooms
- Over wedi steam room structures/surfaces

## Product features

- Protects through its firm membrane barrier formation against water vapor migration.
- 100% mold and mildew proof due to the product's natural composition.
- Stable and ready to tile surface offers tenacious bond / adhesion to thinset mortar
- Zero V.O.C./ Solvents exposure performance
- Contributes to LEED (EQ 4.2=1 pt.)
- No limitation to use of polymer or latex modified cement based thinset mortars and grouts adequate for areas subject to extreme wetness and acute and sudden temperature changes such as in steam showers and steam rooms. . Product works perfectly with epoxy based grouts/ thinsets as well.

## Substrate/ Material Preparation and Requirements Before Installation

### General Limitations / Requirements (Wall Applications)

- Use only over cement coated systems.
  - wedi Product Systems are only used for interior installations.
  - Do not use as a wear surface or without tile / stone or other suitable coverings.
  - Do not use organic mastic adhesives for setting tile on wedi systems in wet areas.
  - Possible dust, residues, oil, waxes, grease or other contaminants acting as possible bond breakers must be removed from wedi surfaces prior to installation of wedi Vapor Barrier.
  - All wall/ceiling surfaces and their substrate including framing must be sufficiently load-bearing, plumb and square.
  - Make sure all wedi installations in steam rooms are waterproofed and reinforced with wedi Joint Sealant between assembly parts and over all seams prior to installing wedi Vapor Barrier.
  - A wedi installation, including the wedi Vapor Barrier, does not replace the need for Expansion and/ or Movement joint placement within a tile installation. Please follow recommendations found in the TCNA guidelines (Detail EJ171). Apply guidelines for exterior applications of expansion joints in the application of steam rooms (frequency of expansion joints and location in surface area and at surface area transitions)
  - All installations shall be in conformance with IRC for residential installations and IBC for commercial installations or applicable building codes in a region including the consideration of properly designed substrates. All installations including the consideration of properly designed substrates should be in compliance with current TCNA Handbook for Ceramic, Glass and Stone Tile Installation. wedi's technical recommendations supersede all requirements of IRC, IBC, IPC or TCNA where in conflict and exceeding minimum requirements established by the above mentioned institutions.
- Please Contact wedi for installation of tile or stone larger than 12 x 12 inches in size to learn more about the best practices and requirements applied in such applications. Follow tile manufacturers' recommendations for appropriate tile choice, setting materials and installation techniques.
  - Please consider using appropriate setting materials and techniques when installing transparent tile
  - Setting materials, when applied over waterproof wedi Building Panel, or vapor retarding wedi Vapor Barrier, and below tile with low water absorption, must be allowed sufficient time to cure prior to grouting and/ or water exposure such as in shower installations. Consult setting material manufacturer to obtain individual cure and setting time requirements.
  - Please read and consider wedi Vapor Barrier SDS prior to using product.

wedi Vapor Barrier Technical Properties

wedi Vapor Barrier Characteristics	100% Solids Epoxy; 2 – component, clear
VOC/Solvent Content	0 g/L Volume Solids
Volume Solids	100%
Flashpoint Part A (Resin)	> 212°F ( >100 °C)
Flashpoint Part B (Hardener)	> 170°F ( >77°C)
Mixing Ratio (by weight)	100 Part A : 47 Part B
Viscosity	600±80 cps ( mPa*s)@ 77°F (25°C)
Pot Life (Approximately)	15 Minutes ( 150 gram mass) at 73°F ( 25°C)
Working Temperature	40° F to 85° F ( 5° C to 30°C) Curing Temperature
Curing Temperature	minimum 40° F (5 ° C)
Full Strength Permeability; ASTM E96,Method E tested at 100°F/90% R.H.; Desiccant Method	after 7 days at 73°F ( 23 °C) <0.09 (0.09 grains/h-ft <sup>2</sup> -in Hg. perms)
Capillarity	0
Indoor Air Comfort 5.a EN717-1	Formaldehyde was below limit of 60 µg/m <sup>3</sup> @ 28 days
High Alkalinity Barrier; ASTM D1308	pH 14
Fungus & Bacteria Resistance	No Growth , Passes
Adhesion / Tensile Strength; ASTM 723; 7 Day Test; 3 Specimens	574 PSI Average

**Building & Plumbing Code Compliance**

2015,2012,and 2009 International Plumbing Code (IPC)	Compliant
2015,2012, and 2009 International Residential Code ( IRC)	Compliant
2015,2012, and 2009 International Building Code (IBC)	Compliant
2010 and 2005 National Plumbing Code of Canada	Compliant
2012 and 2009 Uniform Plumbing Code ( UPC)	Compliant
2012 and 2009 National Standard Plumbing Code ( NSPC)	Compliant

## Building & Plumbing Code Compliance continued

New York City Approval OTCR	Approved
City of L.A. Approval	Approved; Report No M-100017 in reference to ICC ES PMG 1189
Illinois State Approval IDPH	Approved
North- America Approvals Code Compliances & Quality Management	ICC ES PMG 1189

## The Product Range

US5000051	wedi Vapor Barrier	0.24 gallon unit covers 25 sqft. with a 2-coat application (16 mil wet total, 8 mil wet per each coat)
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## Scope of Delivery

The wedi Vapor Barrier is delivered in a 0.24 gallon metal containers containing component A (Resin) and Component B (Hardener). The product can be shipped safely via parcel or standard land transportation.

## Complementary Products to use with wedi Vapor Barrier

wedi Building Panel and wedi Fundo Shower Systems to build Steam Rooms/ Showers



wedi Installation Accessories: Sealants, Fasteners & Tools



## Shelf Life

- 24 months in closed original packaging. Store in a cool and dry place

## Sustainability & Environmental Considerations

- The wedi Vapor Barrier does not contain V.O.C.'s/ Solvents and can contribute to LEED.
- wedi's vapor retarding product systems protect wet room tile & stone installations against deterioration and mold due to water vapor exposure damages and increase the average lifetime of wetroom installations such as steam showers and rooms , thus conserving energy and material. The maintenance, cleanliness and added value to surfaces, air quality as well as general health of users is provided by the natural mold protection offered by wedi product.

## **Installation of wedi Vapor Barrier**

### General Application Instructions:

Vapor Barrier Components A and B are supplied in pre-measured quantities. Add Comp. B to Comp. A by piercing a hole through the top (rubber membrane) and the bottom of Component B. Assure that Component B completely flows out of the container. Always mix a complete kit in the proportions supplied. Do not alter mixing ratios. Only mix what you can apply within pot life. Stir mixture for approx. 5 minutes to a homogenous, streak free consistency, using a slow speed drill (approx. 300 rpm) with a clean Polished Steel Jiffy blade. Avoid entrapping air. Ensure that the material at the bottom and sides of the pail is agitated well. After mixing, pour it into a clean metal container and carefully mix it again for additional 30 seconds. Make sure not to mix too fast to avoid trapping air. Pour fully mixed product into a metal tray for application.

### **Application:**

Apply to the clean wedi substrate, free of oil, grease or other contaminants, by non-shed roller or notched squeegee. A thorough 2-Coat Application with a dry time of approximately 30 minutes in between the two coats is required. Each coat should be 8 mils thick (wet thickness=dry thickness) for a total of 16 mils (wet thickness = dry thickness) for the complete application. The surface is ready for tiling using an epoxy mortar according to ANSI 118.3 or a cement based , modified thinset mortar according to ANSI 118.4 (must be recommended for extreme wet areas with frequent and strong temperature changes) only 3 1/2 hours after final application of the second wedi vapor barrier coat. Tiling must be completed within 5 days maximum after application of the final, second coat has been left to cure for 3 ½ hours. If tiling must commence later, the surface has to be roughened for best adhesion using fine sandpaper and cleaning off the dust later. A new surface coat of the wedi vapor barrier must be installed as a primer surface up to 8 mil thick. The primer coat must be allowed to dry for 3 1/2 hours and again can be tiled over within 5 days

### **Limitations/Precautions:**

- Do not spray apply this product
- Do not alter mixing ratios, thin or mix with Cab-O-Sil
- Contact wedi technical department for applications not listed in this TDS.
- Do not mix and apply product where surfaces or ambient temperatures are outside the limits of 40°F-85°F (5°C - 30°C)
- Do not allow epoxy mass in container beyond pot life as the exothermic reactions of chemicals will increase the temperature of the material to more than 350°F. Smoking may occur, adjacent materials which are easily flammable may catch fire. Handle with great care.
- Always wear protective gear including safety glasses and gloves.
- For professional use only.