

## FLEXTECH 4020 MOISTURE BARRIER

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### PRODUCT DESCRIPTION:

4020 MOISTURE BARRIER is a high performance, rapid drying, water-based, penetrating epoxy formulated to dramatically reduce moisture vapor transmission and surface alkalinity from substrates including; “freshly-poured/green concrete,” properly prepared concrete, cement backer board, radiant heat flooring, and cement based terrazzo prior to the installation of carpet; vinyl/VCT; rubber; engineered or solid hardwood; porcelain, marble, granite or ceramic tile floor covering. 4020 MOISTURE BARRIER is a low odor, non-flammable, two-component system. 4020 MOISTURE BARRIER contains Flexfresh<sup>TM</sup> antimicrobial protection and utilizes a breakthrough, silver-based, antimicrobial agent that provides built in protection to inhibit the growth of a broad range of odor causing bacteria, mold and mildew on the surface of the coating’s film. 4020 MOISTURE BARRIER is uniquely formulated so that it may be applied to fresh “green” concrete as soon as it has achieved “initial set” (when the concrete can be walked on without disturbing the surface). It is pigmented green for visual indication of coverage and film thickness during the application process. It is extremely durable and wear resistant. When properly installed, 4020 MOISTURE BARRIER is designed to reduce the moisture vapor emission rate of concrete slabs to  $\leq 3$  lbs. per 1,000 ft<sup>2</sup> per 24 hours. This non-blushing formulation requires no solvent wiping, and has no application window in which floor covering adhesives must be applied to achieve a strong bond. 4020 MOISTURE BARRIER is formulated to be effective in reducing the surface alkalinity of concrete slabs with pH levels as high as 14 down to pH levels of 9 or lower as recommended by the Carpet and Rug Institute and the Canadian Carpet Institute, making them ideal for bonding with most adhesives.

Please refer to and follow industry standards for flooring material being installed (i.e.: TTMAC, TCNA, etc.) prior to using this material. Various flooring materials have vastly different substrate preparation and installation requirements; substrate preparation and installation requirements are keys to a successful installation regardless of flooring material being installed.

### DIRECTIONS FOR USE:

Read and understand data sheet and Material Safety Data Sheet completely before beginning installation. Follow industry standards and flooring manufacturer’s recommendations for design, layout and application of flooring materials; including test methods, jobsite

temperature and relative humidity. Always do a test area to ensure product satisfaction, including adhesion to substrate, and/or to become familiar with proper application techniques prior to use.

#### Moisture Vapor Emission Testing:

Prior to the application of 4020 MOISTURE BARRIER, a Moisture Vapor Emission Rate, using “Anhydrous Calcium Chloride” testing per ASTM F1869-05, must be obtained to determine the Moisture Vapor Emission Rate.

#### For Applications over “Freshly-Poured/Green Concrete”:

4020 MOISTURE BARRIER is uniquely formulated so that it may be applied as soon as the fresh concrete can be walked on without disturbing the surface (“initial set”). Since a calcium chloride test cannot be done prior to application, the “Anhydrous Calcium Chloride” test, per ASTM F 1869-05, should be done prior to application of flooring material to confirm the moisture vapor emission rate is within flooring manufacturer’s acceptable rate. This can be done approximately 16 hours after application of 4020 MOISTURE BARRIER at 21°C.

Dry time will vary depending on the temperature of the concrete slab.

### TECHNICAL DATA

Typical Physical Properties	
Application Temperature	4°C to 32°C
Flash Point	>93°C
Viscosity	
Part A	10,000 cps
Part B	1,800 cps
Mixed	4,100 cps
Maximum Allowable Moisture	
Vapor Emission Rate	1 coat $\leq 14$ lbs/1,000 ft <sup>2</sup> /24 hrs (ASTM 1869)
	2 coats $> 14$ lbs to $\leq 25$ lbs./1000 ft <sup>2</sup> /24 hrs (ASTM 1869)
Maximum Recommended	
Relative Humidity (%)	1 coat $< 92\%$ RH (ASTM D2170)
	2 coats $\geq 92\%$ RH (ASTM D2170)
Odor	Mild
Color	Part A White
	Part B Green
	Mixed Green
Weight	11.65 lbs./3.8L
Pot Life @ 72°F	60 minutes
Cure Time*	6 hours
VOC Content	67 g/L
*Cure time may vary due to temperature and humidity.	
<b>Approximate Coverage*</b>	
See Coverage section	

**SURFACE PREPARATION:**

Surfaces must be absorptive, clean, free from loose materials, oil, grease, sealers, curing compounds, waxes, silicates, laitance, and all other surface contaminants that may inhibit proper bond. Completely remove cutback adhesive residue or other surface contaminants by diamond grinding to open the pores of concrete. All surfaces to be treated must have a concrete surface with a light broom finish.

Surface areas requiring patching or leveling must be treated using 5900 Flextile Flexflo Plus Self-Leveling Underlayment with 4040 Acrylic Primer for Concrete ON TOP OF the properly cured 4020 MOISTURE BARRIER Moisture Vapor Barrier Coating according to label instructions.

**MIXING:**

Using a slow speed drill (< 150 RPM), fitted with a blade that is at least 3" in diameter, separately pre-mix Part A (RESIN) and then separately pre mix Part B (HARDENER). Because some of the ingredients may settle to the bottom of each container, it is very important to scrape all of the material off of the sides and bottom of each pail to ensure that a proper mix is obtained.

After each container has been thoroughly scraped and mixed, slowly add Part A into Part B while mixing, mix for one minute until a homogenous mix (uniform color/no streaks) is obtained.

Do not over mix, as the pot life will be reduced. Mix full units only; do not mix partial components, or alter components in any way. Material components should be a minimum of 15°C (60°F) at time of mixing.

**INSTALLATION:**

Make sure the concrete substrate and ambient room temperature is between 4° C and 32° C (40° F to 90° F) during and for a minimum of 24 hours after application. To achieve proper coverage, protection, and application of material, layout jobsite into 150 ft "grids". Ensure the material is applied at the required coverage rate by staying within the grid per unit/container. Use a short 3/8" nap roller to coat the substrate with 4020 MOISTURE BARRIER. Let the coating cure a minimum of 6 hours (until it is tack free to the touch), this may vary due to temperature and humidity. A nylon bristle deck brush can be used to work the coating into any pin holes or surface imperfections that may not be properly filled using the nap roller. For required application rates, please refer to the COVERAGE section.

The surface of 4020 MOISTURE BARRIER should be tack-free prior to application of a second coat of 4020 MOISTURE BARRIER (if required), floor covering adhesives, primers or patch/underlayments. Cementitious patch/underlayment products, such as 5900 Flextile Flexflo Plus Self Leveling Underlayment with 4040 Acrylic Primer for Concrete, must be installed ON TOP OF properly cured 4020 MOISTURE BARRIER according to label instructions.

Always coat the dry surface of 4020 MOISTURE BARRIER with 4040 Acrylic Primer for Concrete prior to the installation of Flextile 5900 Flexflo Plus Self Leveling Underlayment.

*For Crack/Joint Treatment: For "Non-Dynamic" Cracks /Joints (Cracks with No Movement):* Remove any existing sealant or debris. Treat all non-dynamic joints with 4020 MOISTURE BARRIER by applying a layer into the joint with a paint brush to completely coat the walls of the cavity. Once dry, fill the crack/joint with an approved cement-based patch material (ie: Flextile Patch).

*For "Dynamic" Joints/Cracks (Joints with Movement):* Remove any existing sealant or debris. Treat all dynamic joints (i.e. expansion, isolation, control) with 4020 MOISTURE BARRIER by applying a layer into the joint with a paint brush to completely coat the walls of the cavity. Once dry, fill the joint with sand while leaving the top 1/8" to 1/4" of joint for proper treatment with Flextile Ultra performance Caulk.

**CAUTION:** There is a major difference between the proper application of flooring over non-dynamic vs. dynamic joints, as well as, variations based upon the type of flooring being installed. Please follow appropriate industry standards, as well as flooring manufacturer's recommendation for treatment of joints.

**CLEAN UP:**

Immediately clean all tools and equipment with soap and water. Once cured, this material can only be mechanically removed; which may damage some surfaces.

**CURE TIME:**

Light foot traffic and installation of flooring material may typically begin after 6 hours of cure time (once the surface is tack free to the touch.) DO NOT INSTALL OVER 4020 MOISTURE BARRIER IF IT IS STILL TACKY

**COVERAGE:**

*For applications over "freshly-poured/green concrete" or installations with substrate moisture vapor emission rate of  $\leq 14$  lbs. per 1,000 ft<sup>2</sup> per 24 hours:* Required coverage is 150 ft<sup>2</sup> per 3.8L which yields a dry film thickness of ~6.4 mils.

*For applications with substrate moisture vapor emission rate of > 14 lbs. to  $\leq 25$  lbs. per 1,000 ft<sup>2</sup> per 24 hours:* Two coats of 4020 MOISTURE BARRIER are required; required coverage for each coat is 150 ft<sup>2</sup> per gallon. The second coat must be applied over a fully cured/dried initial coat (typically 6 hours after application of the coating) which will yield a dry film thickness of 12.8 mils. Coverage rates are approximate and actual coverage will vary based upon porosity and roughness of substrate, application technique, waste and/or other jobsite conditions.

**LIMITATIONS:**

- For applications involving a wet set adhesive installation of resilient floor covering, or 'non-breathable floor coverings' with a water-based adhesive, a cementitious layer, such as Flextile Patch and 5900 Flexflo Plus self leveling underlayment, must be installed at a minimum of 1/8" layer on top of the 4020 MOISTURE BARRIER coating according to label instructions. Failure to apply this layer will result in the adhesive not drying and remaining wet/uncured.
- If using Flextile 720 or other reactive adhesive, a cementitious layer is NOT required to be placed over the 4020 MOISTURE BARRIER coating.
- Always do a test area to ensure product satisfaction, including adhesion to substrate, and/or to become familiar with proper application techniques prior to use.
- PLEASE NOTE: Not all floor covering adhesives/installation systems are compatible, or designed for use over epoxy coatings. Use ONLY adhesives/installation systems specifically approved in writing for use over this coating. Please contact Flextile Technical Service for questions related to the application of adhesive systems.
- Do not use over concrete slabs treated with sealers or curing compounds.
- Due to limitations with gypsum-based materials in wet/moist environments, gypsum-based patches/underlayments should not be used in conjunction with this system.
- Thoroughly clean surface to remove any substance that could interfere with the bond including: dirt, paint, oil, grease, laitance, efflorescence and other surface contaminants that may inhibit proper bond.
- Completely remove cutback adhesive residue, curing compounds, and sealers by sandblasting, shot blasting, or scarifying.
- Do not use in areas subject to hydrostatic head.
- Use indoors only.
- This is not a waterproofing or anti-fracture membrane.
- Do not use acid etching to prepare substrate surface.
- Do not thin/dilute product with water or solvent.
- 4020 MOISTURE BARRIER is NOT designed to be used as a penetrant to treat concrete slabs that contain ASR (Alkali Silica Reaction). If this condition is suspected to be present, do not use this product.

**STORAGE/SHELF LIFE:**

Shelf life is two years from date of manufacturing in unopened original packaging. Store at temperatures between 4° C and 32° C (40° F to 90° F). DO NOT ALLOW MATERIAL TO FREEZE.

**SAFETY**

Refer to Flextile Material Safety Data Sheet for detailed health and safety information

**AVAILABILITY and COSTS:**

4020 MOISTURE BARRIER is available from Flextile Ltd. and its distributors in kit containing 0.7L (0.19 US Gal) of Part A Resin and 3L (0.8 US GAL) of Part B Hardener.

Cost: Data supplied upon request

**WARRANTY:**

Flextile warrants that this product is of merchantable quality and is suitable for the purpose for which it is intended. Flextile's liability under this warranty shall be limited to replacement of its product found to be defective or, at its option, a refund of the purchase price.

**MAINTENANCE:**

No maintenance is required except where damages result from unforeseen circumstances. Repair procedures shall be directed by Flextile or its distributors.

**TECHNICAL SERVICES**

Flextile maintains a well-equipped laboratory able to test its products in conjunction with the products with which they are used.

Technical assistance for use of Flextile products is available upon request.

**RELATED REFERENCES**

Current editions of TTMAC 09 30 00 & TCNA Ceramic Tile Installation Manuals.

*For job specific installation systems, recommendations, project warranty information, or for assistance with installation specifications, please contact Flextile's technical department.*

Toronto, ON – Email: [mzerey@flextile.net](mailto:mzerey@flextile.net)

Toll Free 1-800-699-3623

Tel 1-416-255-1111

Fax 1-416-255-1729

Montreal, QC – Email: [mzerey@flextile.net](mailto:mzerey@flextile.net)

Toll Free 1-800-699-3623

Tel 1-514-345-8666

Fax 1-514-345-8825

Burnaby, BC – Email: [mboldt@flextile.net](mailto:mboldt@flextile.net)

Toll Free 1-888-236-4486

Tel 1-604-420-4914

Fax 1-604-420-0936

[www.flextile.net](http://www.flextile.net)