LockDown EVB™

XL Brands®

CMP FORMULATED TECHNOLOGY

100% SOLIDS MOISTURE-VAPOR-BARRIER COATING

LockDown EVB™ 100% Solids Moisture-Vapor-Barrier Coating is a single-coat, two-component, epoxy formulation that dramatically reduces moisture-vapor transmission and surface alkalinity from substrates. **LockDown EVB™** perm rate is ≤0.1, and passes ASTM F3010-18, moisture mitigation system for use under resilient flooring for indoor applications. It has zero VOC (as calculated per SCAQMD Rule 1113), low odor, and is solvent free. The unique formulation of **LockDown EVB™** exhibits a gel-like end-of-pot-life indicator. Material left to cure in the pail will get hot but will not smoke excessively. It is extremely durable and can be used as a wear layer.

KEY FEATURES

- Single coat, rapid cure, 100% solids epoxy formulation
- Low odor, solvent free, zero VOC
- Passes ASTM F3010-18

MOISTURE & PH PROTECTION

When properly installed, LockDown EVB™ is designed for the most challenging concrete slabs, reducing unlimited moisture-vapor emission rates to < 3 lbs. per 1,000 ft^2 per 24 hours (per ASTM F 1869), or from 100% RH (per ASTM F 2170) to 75% RH equivalent. This non-flammable, low-odor, non-blushing formulation requires no solvent wiping or sand broadcasting and has no application window in which floor covering adhesives must be applied to achieve a strong bond. LockDown EVB™ is formulated to be effective in reducing the surface alkalinity of concrete slabs to pH levels of 9 or lower, as recommended by the Carpet and Rug Institute and the Canadian Carpet Institute, making it ideal for bonding with most adhesives.

ULTIMATE VERSATILITY

XL Brands® LockDown EVB™ can be used over properly prepared concrete, radiant-heat flooring, and cement-based terrazzo prior to the installation of carpet, vinyl/VCT, engineered or solid hardwood, porcelain, marble, granite, or ceramic tile floor covering.

LockDown EVB™ 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).

DIRECTIONS FOR USE

Read and understand technical and safety data sheets 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.

SURFACE PREPARATION

Please refer to and follow industry standards for flooring material being installed (i.e., NWFA, MFMA, TCNA, NTCA, ICRI, etc.) prior to using this material. Various flooring materials have vastly different substrate preparation and installation requirements, which is important to consider for a successful installation regardless of flooring material being installed.

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 shotblasting or diamond grinding.

PLEASE NOTE: Concrete substrate should NOT be smooth and reflective; it must have a concrete surface profile of CSP 1-3 (similar to broomed concrete or cinderblock texture), as defined by International Concrete Repair Institute (ICRI), Guideline No. 03732. Surface areas requiring patching or leveling must be treated using PrepStar™, Level-1™, 210™, or RampStar™ on top of LockDown EVB™, according to label instructions. AS-100™ primer must be used prior to the installation of these cementitious products and placed directly on top of the LockDown EVB™ once it has properly cured.

CONCRETE MOISTURE TESTING

Prior to the application of LockDown EVB™, testing of concrete moisture must be performed using either "Anhydrous Calcium Chloride" testing per ASTM F1869, or "In Situ Relative Humidity" testing per ASTM F2170. If water-vapor transmission rate is above 25 pounds per 1,000 square feet per 24 hours following ASTM F1869, or if RH is greater than 99% following ASTM F2170, please contact XL Brands® immediately before proceeding.

FOR APPLICATIONS OVER GREEN CONCRETE

XL Brands® LockDown EVB™ 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"). For maximum penetration of the LockDown EVB™, the concrete must have a wood float finish (using a wood bull float, not magnesium). A wood bull float opens the top of the slab to allow bleed water out, whereas a magnesium float seals the slab, which keeps the bleed water in. **REQUIRED:** After the concrete has been placed and allowed to set hard enough to walk on, leaving no footprints and no bleed water, the floor **MUST** be swept with a medium- to-stiff-bristle broom to remove any laitance and/or loose cement.

This supersedes and replaces in its entirety all previously published versions of this document.
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A calcium chloride test cannot be done prior to application of LockDown EVB™, but 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 16–24 hours after application of LockDown EVB™ at 70° F (21°C). Dry time will vary depending on the temperature of the concrete slab.

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 with a second mixing blade, pre-mix Part B (HARDENER)—do not use the same mixing blade to pre-mix both parts. 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 B into Part A while mixing with a third mixing blade. Mix for one minute until a homogenous mix (uniform color/no streaks) is obtained. Do not overmix as the pot life will be reduced. Pot life is 30 minutes at 70°F (21°C) and is reduced by higher temperatures. The unique formulation of LockDown EVB™ exhibits a gel-like end-of-pot-life indicator. Material left to cure in the pail will get hot, but will not smoke excessively. Mix full units only; do not mix partial components or alter components in any way. Material components should be a minimum of 60°F (15°C) at time of mixing.

INSTALLATION

Make sure the concrete substrate is at least 5°F (-15°C) above the dew point and ambient room temperature is between 40°F and 90°F (4°C to 32°C). To achieve proper coverage, protection, and application of material, lay out jobsite into 100 ft² per gallon "grids" for existing cured concrete, or 75 ft² per gallon "grids" for green concrete (<28 days old). 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 or squeegee to coat the substrate with LockDown EVB™. Let the coating cure a minimum of 12 hours prior to installation (until it is tack free to the touch); this may vary due to temperature and humidity. For required application rate, please refer to the COVERAGE section. The surface of LockDown EVB™ must be tack free prior to application of floor covering adhesives, primers, or patch/underlayments. For surfaces with pinholes present in the concrete, the use of a nylon bristle brush is recommended to assist in working LockDown EVB™ into these small voids. Re-coat in 6–8 hours if needed.

APPLICATION

FOR CRACK/JOINT TREATMENT

Chase only non-moving (static) cracks and control joints 1/4" x 1/4" with a diamond V-blade. Clean thoroughly and fill with LockDown EVB™ using a U-shaped squeegee. Larger cracks of 1/8" to 1/4" can be prefilled with broadcast sand. Fill all cracks to rejection. Alternatively, a measured amount of mixed LockDown EVB™ can be combined with a cement-based product to create a trowelable epoxy mortar that can be applied into cracks. This is NOT a crack repair, but it will prevent LockDown EVB™ from leaking into an open substrate for the coating to be applied. XL Brands® AS-100™ primer must be used prior to the installation of these cementitious products.

FOR "DYNAMIC" JOINTS/CRACKS WITH MOVEMENT

Remove any existing sealant or debris. Treat all dynamic joints (i.e., expansion, isolation, control) with LockDown EVB™ by applying a layer into the joint with a paintbrush to completely coat the walls of the cavity. Once dry, fill the joint with sand and backer rod while leaving the top 1/8" to 1/4" of joint for proper treatment with a high-quality urethane sealant, like Bostik 915FS™ or 955-SL™.

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.

CHEMICAL & PHYSICAL PROPERTIES			
Use Environments	Residential		Yes
	Offices/Light Commercial		Yes
	Heavy Commercial		Yes
	Offices		Yes
	Hospital		Yes
	Wet Areas		Yes
	Exterior		No
Substrates	Below	Concrete	Yes
		Green Concrete	Yes
		Cement-Based Terrazzo	Yes
	Above	Gypsum Underlayments[1]	Yes
		Cement Patch/ Underlayment[2]	Yes
Flooring Types	Hardwood		Yes
	Sheet Vinyl		Yes
	Luxury Vinyl Tile		Yes
	Cork		Yes
	Carpet		Yes
	Porcelain		Yes
	Ceramic Tile, Marble, Stone		Yes
Cured Physical Properties	Cure Time[3]	Re-coat	6-8 hours
		Prior to floor covering	12 hours
		Final cure	48 hours
	Water Vapor Permeability[4]		≤ 0.1
	ASTM F 3010-18		Passes
	Concrete Moisture Vapor Limits for subfloor moisture vapor protection:		
	ASTM 1869 Calcium Chloride Method		≤ 25 lbs/ 1,000 ft²/24 hrs
	ASTM 2170 Relative Humidity Test		≤ 100% RH
	Pull-Off Adhesion Strength ASTM D-7234-05		>480 psi, No Failure
	Service Temperature		-40°F to 150°F (-40°C to 66°C)
Uncured Physical Properties	Viscosity (Color)		
	Part A (Blue)		600 cps
	Part B (White)		1,000 cps
	Mixed (Light Blue)		700 cps
	Odor		Mild
	Pot Life[5] @ 72°F (22°C)		30 minutes
	Density (lbs/gallon)		9.47
	Percentage of Water[6]		0%
	Application Temperature		40°F to 90°F (4.4°C to 32°C)
	Maximum Relative Humidity of the Room		85%
Chemical Properties	Chemistry Type		100% Solids Epoxy
	VOC Compliant (calculated per SCAQMD Rule 1113)		Yes (0 g/L)
	Flash Point		> 200°F (93°C)

[1] Dry, above grade
[2] After Universal Primer™ Pro
[3] The higher the temperature, the faster the cure.
[4] Per ASTM E-96 Standard Test Methods for Water Vapor Transmission of materials. Ratings are g/m2-24 hour-mmHG.
[5] May vary due to temperature.
[6] Per ASTM E203-01 Standard Test Method for water using Volumetric Karl Fischer Titration Method. Results rounded to the nearest tenth. Test Method has error range of +/- 0.2%.

BROADCAST PRIMING APPLICATIONS

Coverage Rates for Priming: Porous Concrete/Self-Leveler: 250 ft^2/ 2.5 gallon kit. Standard Concrete: >250 ft^2/ 2. 5 gallon kit.

NOTE: To ensure proper coverage, measure and mark out section for each LockDown EVB™ kit, depending on the application. Immediately after mixing, pour out and spread LockDown EVB™ evenly with a notched squeegee or split-tip broom and back roll with a 3/8" non-shed roller. Frequently check the coverage and film thickness; porosity and surface profile will affect coverage. On very porous substrates, pre-dampening and maintaining a surface-saturated-dry condition during installation can aid in preventing pinholing and make spreading easier. Immediately after back rolling, broadcast clean, dry, 50-60 mesh sand at the rate of 3/4-1 lb/ft^2 to "beach" the surface. None of the LockDown EVB™ should be visible after the broadcast. After 16 hours, sweep and vacuum the excess sand. The surface is ready for topping; no additional priming is required.

NOTE: Always use a NIOSH-approved dust mask when handling or broadcasting sand.

CLEANUP

Immediately clean all tools and equipment with soap and water or a mild solvent. 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 usually begin after 12 hours of cure time (once the surface is tack free to the touch); this may vary due to temperature and humidity. DO NOT INSTALL OVER LockDown EVB™ IF IT IS STILL TACKY. THIS WILL RESULT IN A COATING FAILURE.

COVERAGE

For applications over green concrete or installations with substrate moisture-vapor emission rate of 25 lbs. per 1,000 ft^2 per 24 hours or 100% RH: Required coverage is 75 ft^2 per gallon, which yields a cured film thickness of ~22 mils. For fully cured concrete (>28 days old), required coverage is 250 ft^2 per 2.5 gallons, which yields a cured film thickness of ~16 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. Failure to achieve the proper mil thickness may result in coating failure and voided warranty.

LIMITATIONS

For applications involving a wet-set adhesive installation of resilient floor covering or a non-breathable floor covering with a water-based adhesive, then a self-leveling underlayment, such as Level-1™, 210™, or a cementitious patch, such as PrepStar™ or RampStar™, must be installed at a minimum 1/8" layer on top of LockDown EVB™ Moisture-Vapor-Barrier Coating according to label instructions. AS-100™ primer must be used prior to the installation of these cementitious products. Failure to apply this cementitious layer will result in the adhesive not drying and remaining wet/uncured.

- If using pressure-sensitive adhesives, a cementitious layer is not required to be placed over the LockDown EVB™ if the products are used properly (according to label instructions) and allowed adequate time to 'flash off' prior to the installation of the floor covering. Failure to allow these adhesives to reach their intended high-tack state will result in the adhesives not drying and remaining wet/uncured.
- Cementitious patch/underlayment products, such as PrepStar™, Level-1™, 210™, LiquiCem™, or RampStar™ must be installed on top of the LockDown EVB™ according to label instructions. AS-100™ primer must be used prior to the installation of these cementitious products on top of LockDown EVB™.
- 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 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 under this system.
- Thoroughly clean surface to remove any substance that could interfere with the bond, including dirt, paint, oil, grease, laitance, efflorescence, and any other surface contaminants that may inhibit proper bond.
- Completely remove cutback adhesive residue, curing compounds, and sealers by shotblasting.
- Do not use in areas subject to hydrostatic head.
- All substrate preparation and testing procedures must conform to ASTM 710 guidelines and comply with the floor covering manufacturer's specifications.
- Substrate must have a properly installed vapor retarder under the concrete substrate slab (per ASTM E 1745).
- Installation failures due to outside sources of water, moisture, or ground water intrusion, caused by faulty (or lack of) vapor retarder under the concrete substrate slab (per ASTM E 1745), hydrostatic pressure, sprinklers soaking the ground at the building foundation, overflow drains not directed away from the foundation, flooding, or other natural disasters or weather conditions will void the warranty.
- This is not a waterproofing or anti-fracture membrane. Contact XL Brands® for a waterproofing membrane solution if necessary.
- Do not use acid etching to prepare substrate surface.
- Do not thin/dilute product with water or solvent.
- Do not apply to surfaces with visible/standing moisture.
- Concrete must be a minimum temperature of 40°F (4°C) and a maximum of 90°F (32°C).
- Concrete surface must be at least 5°F (-15°C) above the dew point.
- Do not apply to concrete that is in direct sunlight or is increasing in temperature. Apply as the concrete slab is cooling to reduce outgassing and the appearance of pinholes. Pinholes will compromise the coating and cause it to fail.
- XL Brands® LockDown EVB™ is not designed to be used as a penetrant to treat concrete slabs that contain Alkali Silica Reaction (ASR). If this condition is suspected to be present, do not use this product.

STORAGE AND SHELF LIFE

Shelf life is one year from date of manufacturing in unopened, original packaging. Store at temperatures between 60°F and 90°F (15.5°C and 32°C). DO NOT ALLOW MATERIAL TO FREEZE.

PACKAGING

2.5 Gallon Kit contains 203 fl. oz. (6 L) of Part A Resin and 118 fl. oz. (3.5 L) of Part B Hardener.

VOLATILE ORGANIC COMPOUNDS

0 g/L (as calculated per SCAQMD 1113)

ELIGIBLE LEED® CREDITS

Low-Emitting Materials (EQ 4.1)

HEALTH AND SAFETY

Always refer to the Safety Data Sheet (SDS) prior to use for proper handling, cleanup, and spill containment. SDS may be obtained by calling 706-508-5907.

KEEP OUT OF THE REACH OF CHILDREN

FOR PROFESSIONAL USE ONLY

NOT LABELED FOR CONSUMER USE

LIMITED WARRANTY

Limited Warranty found at www.bostik.com/us or call 800.726.7845. TO THE MAXIMUM EXTENT ALLOWED BY LAW, BOSTIK DISCLAIMS ALL OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. UNLESS OTHERWISE STATED IN THE LIMITED WARRANTY, THE SOLE REMEDY FOR BREACH OF WARRANTY IS REPLACEMENT OF THE PRODUCT OR REFUND OF THE BUYER'S PURCHASE PRICE. BOSTIK DISCLAIMS ANY LIABILITY FOR DIRECT, INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES TO THE MAXIMUM EXTENT ALLOWED BY LAW. DISCLAIMERS OF IMPLIED WARRANTIES MAY NOT BE APPLICABLE TO CERTAIN CLASSES OF BUYERS AND SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. It is the buyer's obligation to test the suitability of the product for an intended use prior to using it. The Limited Warranty extends only to the original purchaser and is not transferable or assignable. Any claim for a defective product must be filed within 30 days of discovery of a problem, and must be submitted with written proof of purchase.

BOSTIK / XL BRANDS® HOTLINE

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