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888-839-2661 | sales@vexcon.com | 7240 State Road | Philadelphia, PA 19135 vexcon.com

STARSEAL[®] CLEAN LIFT

TILT UP • PRECAST • ASTM C-309 • LOW VOC • ACI 308

DESCRIPTION

STARSEAL CLEAN LIFT is a membrane forming cure and non-reactive bond breaker. This product is specifically formulated as an economical water base low VOC product for Tilt-Up and pre-cast concrete construction.

StarSeal Clean Lift features a propriety formulation of chemically active release agents, which form micro layers on the concrete surface. These layers are the foundation for the only chemically active bond breaker when independently tested to comply with all the requirements of ASTM C 309 (Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete)

StarSeal Clean Lift not only complies with ASTM C 309 but also can be used on any type of finished concrete slab without any additional supplemental curing. In addition, since the concrete slab is properly cured, the product will reduce surface defects such as crazing, spider cracking, plastic shrinkage, cracking dusting, curling, carbonization and “stickers” producing a repair free, smooth, and uniform panel and slab.

This quick drying material is chemically engineered to provide superior performance for easy lifting of tilt wall panels from properly designed and finished concrete casting beds.

BENEFITS

- Be in full compliance with ACI 308, ACI 305 & ASTM C-309
- Improves slab strength & durability
- Significantly reduce or eliminate incidents of crazing, shrinkage, carbonization, curling, cracking and slab “sweating”
- Maintains proper slab moisture retention regardless of concrete finish
- Significantly reduce or eliminate Osmotic effect
- Does not contain any wax or hydrocarbon resins
- Safe to use with mix designs containing pozzolans & fly ash
- Leaves no residue or staining on wall panels
- One product on job site
- Long shelf life

APPLICATION NOTES

- Prior to application, read, and follow all current (verify literature is most up to date) application instructions, special notes, and precautions in this data sheet, on the MSDS, and on the label of the container prior to use.
- It is the contractor’s responsibility to evaluate the site conditions, application and coverage rates of each project.
- Test applications should always be made by the end user/purchaser prior to overall use of the bond breaker.
- Equipment: Apply using a low-pressure pump-up type sprayer. The sprayer must be clean. If cleaning is required, use **Certi-Vex[®] Equipment Cleaner**. After, flush with water. The tip size must be able to produce a well atomized spray pattern. The sprayer must be kept under sufficient pressure to correctly atomize without streaming, tailing, or spitting. A 1/2 (0.5) gal. /minute tip is generally recommended for most applications. For larger jobs we recommend MBW Concrete Sprayer, Model # BMS 75, see TN 170 for more information.
- Thoroughly agitate before each use.
- Do not dilute.

APPLICATION FRESH CONCRETE

StarSeal Clean Lift is used on freshly placed and properly finished casting slab concrete under certain environmental site conditions and specific application instruction.

- Casting slab concrete is traditionally a tight steel troweled finish. If a texture on the wall panel is desired the casting slab can be broomed, rough texture, or a steel trowel finish. Note: A tight troweled finish is not required.
- On hot, windy or dry weather, lightly fog the slab with clean water prior to application.
- Apply immediately after completion of troweling and final finishing and after surface water has disappeared.
- Do not apply until joint saw cutting is complete.
- Apply until a uniform surface film is achieved.
- Do not over apply as this could slow dry time.

COVERAGE /ESTIMATING-CURING CONCRETE

- Apply evenly to uniform unbroken surface film.
- Typical rate of application is 300 sq.ft./gal. (7.5 m²/L) or 5.34 mils wet but can vary depending on site conditions.
- Allow to dry.

BOND BREAKER APPLICATION TO CASTING SLAB

- Concrete cured with StarSeal Clean Lift should be completely cleaned of dust, dirt, contaminants, and foreign objects prior to the bond breaker application.
- If casting of concrete panels is delayed for more than 2 weeks after the final bondbreaker application it will be necessary to check for a sufficient bondbreaker film on the casting slab. A slightly slippery soapy feel must be present and water beading up on the surface. If the bondbreaker film is insufficient, the bondbreaker must be reapplied as necessary before concrete placement.
- When the cured casting slab has been approved, apply bond breaker coats.
- The first coat of StarSeal Clean Lift should be applied at a rate of 500-600 sq. ft. /gal. (3.2-2.67 mils wet) 90° to the application direction of the cure coat and allowed to dry tack free but slightly slippery to the touch.
- After the first coat is dry, a second coat should be applied in the same manner, at a rate of 700-800 sq. ft. / gal. (2.28-2.00 mils wet) 90° to the application direction of the first coat.
- The film should have a slightly darkened continuous and uniform soap like feel.
- The typical effective coverage rate after curing for all combined bond breaker coats is 300-370sq. ft./gal.
- Do not apply to reinforcing steel or inserts.

CASTING SLAB TESTING

- Prior to placing concrete StarSeal Clean Lift must be checked by the application of water droplets to several well representative areas on the casting slab surface.
- If water beads, similar to how a newly waxed car would look, and does not penetrate or soak into the casting slab and has a uniform slightly darkened appearance, the application is sufficient to proceed with concrete placement.
- If water soaks into the casting slab surface or a noticeable light color change is apparent additional material should be applied to the light areas prior to placing of concrete.

SPECIFICATIONS/COMPLIANCE

- VOC <350 grams/liter or <2.92 #/gallon
- Meets VOC levels throughout the United States:
 - USEPA AIM - Bond Breaker
 - OTC/LADCO/MRPO – Bond Breaker
 - CEPA/EC – Bond Breaker
 - CARB & SCAQMD Rule 1113 – Bond Breaker
- LEED NC category: - This product may contribute credits.
 - EQ 4.2 – Low Emitting Materials
 - MR 5.1/5.2 – Regional Materials
- Meets the requirements of ASTM C-309, Type 1, Class B, Bee Lab Report 1110-3
- CSI reference 03 47 13 – Tilt-Up Concrete

DRY TIMES/WEATHER & CLIMATE CONDITIONS

- Drying time for the first coat is 60 minutes at 70°F (21° C), with dry time for the second coat approximately 40 minutes at 70°F.
- Relative humidity, surface and air temperature will affect dry time. High humidity and lower temperatures will extend dry times. Low humidity and high temperatures will reduce dry times.
- Surface temperatures can vary significantly from ambient. Do not apply if surface temperatures are below 40°F (4° C) or above 85°F (29° C). For temperatures below or above these ranges see Technical Notes TN194 & TN195, Hot and Cold Weather Application Guides.
- Material should be conditioned to 60°F – 75°F prior to application.
- Do not apply in cases of high wind, rain or if rain is forecast within 12 hours of the application. If this occurs additional coats may be necessary.

CLEANING PROCEDURES/CASTING SLAB

- The casting slab must be properly cleaned prior to applying any coating or densifier. Typical cleaning requires the use of **Certi-Vex HD Floor Cleaner** (See specific VEXCON product data sheet for proper cleaning instructions). Use with a Ride-On or Walk Behind scrubber equipped with Nylogrit brushes, black stripping pads or grit impregnated pads.
- Over application may require additional cleanings or the use of stripping material such as **Certi-Vex Concrete Stripper**.
- When the concrete is clean, dry, and water absorbent, the concrete is ready for application of coating or hardening.

COATING or DENSIFYING/HARDENING

- Vexcon manufactures a complete product line of compatible floor treatments including high performance coatings, floor hardeners, polished concrete and cure and seals. For more information, see Vexcon's Tilt-Up sales brochure.
- Apply **PowerCoat® Epoxy Flexible Joint Sealant** to control joints.

DENSIFYING/HARDENING FLOOR SLAB

- Floor slabs to be densified/hardened with **StarSeal PS** after wall panel erection, follow instructions per product data sheet(s).
- Floors to be treated with StarSeal PS as part of new slab placement; after finishing and saw cuts are completed, apply StarSeal PS per the product data sheet(s). Once the slab has no standing water or StarSeal PS left on the surface apply bond breaker cure coat per instructions above.

PAINT/COATING TILT PANELS

- Vexcon manufactures a complete product line of compatible architectural finishes available in many formulations, finishes and textures. For more information on these as well as other Tilt-Up products, see Vexcon's Vertical Surfaces and Tilt-Up sales brochures.
- After proper cleaning, Vexcon coatings can be applied immediately to the wall panels. (See specific Vexcon product data sheet for proper surface preparation instructions.)
- Walls should be cleaned by power washing to remove all dirt, contaminants and any excess bond breaker residue. Power washing with a minimum of 3500 psi with an oscillating tip is recommended.
- To repair surface imperfections such as bug holes and cracks, use **Certi-Vex Patch FP** or **Certi-Vex Patch RTU**.
- To repair construction damage use **Certi-Vex Patch FS**.

SPECIAL NOTES

- Verify that all product data and MSDS are current.
- Concrete that has not been properly finished may not have proper surface properties, limiting the performance of StarSeal Clean Lift.
- Proper curing application is important to eliminate absorption of the bond breaker by the casting or waste slab.
- Not recommended when casting slab has been cured with curing blankets or plastic coverings without proper surface cleaning.
- After proper cleaning, residual StarSeal Clean Lift, when properly applied on the casting slab, will not prevent the bonding of tile or carpet adhesives to the concrete slab.
- The concrete casting slab, waste slabs and tilt wall panels must be properly designed, finished in accordance with industry standards and guidelines including those of ASTM and ACI.
- Not recommended for application without proper spray equipment.
- Over application may result in material residue on panels and floor.
- The instructions provided apply to general site conditions such as concrete mix designs, finishing techniques, and site ambient conditions. Test applications should always be made by the end user/ purchaser prior to overall use of the bond breaker.
- Improper concrete mix designs, overly porous or weak casting or waste slab concrete, failure to properly finish and/or cure the concrete and/or uneven or improper application and insufficient mixing of the bond breaker can lead to panel sticking.
- Storage/Handling: Store in tightly sealed original factory container. Keep from freezing and exposure to moisture. Store at room temperature prior to use. Special care should be taken to keep dirt, water and contaminants away from the openings of containers.
- Shelf Life: If properly stored and handled in its original sealed container, one year from date of manufacture. Always rotate your stock.
- Proper application of Vexcon material is the responsibility of the installer or user. Telephone consultation and/or field visits by Vexcon personnel are for the sole purpose of making technical recommendations only, and not for providing quality control or supervision on location.
- Warranty: All products are sold subject to Vexcon's published materials Limited Warranty and Terms and Conditions of Sale available at vexcon.com.
- Use of this product is limited to contractors with tilt-up experience.

SHORT SPECIFICATION

03 47 00: Basis of design: VOC compliant membrane forming, non-reactive bond breaker system which meets ASTM C-309 and ACI 308, compatible with Vexcon wall panel paint/coating materials as manufactured by Vexcon Chemicals.

PHYSICAL PROPERTIES

- | | |
|--------------------|----------------------------|
| • Flash Point | >200°F (>93°C) |
| • Viscosity | 10-12 seconds, #4 ford cup |
| • Solids | >28% |
| • Appearance (wet) | Milky White |
| • Appearance (dry) | Clear |

PACKAGING

Packaged in 5-gallon pails and 55-gallon drums.

HEALTH AND SAFETY

- Use only with adequate ventilation.
- If swallowed, do not induce vomiting.
- Use of gloves, goggles and other protective clothing is advised when using this product.

Vexcon MSDS BB110 is an integral part of the safety and application of our product. A short synopsis is provided in this product data sheet. Before using this Vexcon product it is advisable to obtain a copy of MSDS from your distributor or by contacting Vexcon Chemicals.

CONTACT US @

Additional product information, technical assistance and customer service is available by contacting Vexcon directly, or our distributors.

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| • vexcon.com | • sales@vexcon.com |
| • techservice@vexcon.com | • Voice: 888.839.2661 |
| • customerservice@vexcon.com | • Fax: 215.332.9997 |