PRODUCT DATA

SILCOSEAL CLASSIC

Solvent-based chemically active cure and bondbreaker for tilt-up, lift slab, and precast construction.

VOLATILE ORGANIC COMPOUND (VOC) REGULATORY COMPLIANCE

	USEPA	OTC I	OTC II	AZ-MCAQMD	CARB - 2000	CARB - 2007	CARB-20/SCAQMD	CANADA
SILCOSEAL CLASSIC	■	☐	☐	☐	☐	☐	☐	☐
SILCOSEAL CLASSIC FAST DRY	■	☐	☐	☐	☐	☐	☐	☐

HOW IT WORKS

In contrast to most conventional cure and bondbreakers, SILCOSEAL CLASSIC does not contain any wax or hydrocarbon resins and, as a result, does not depend on a physical barrier deposited on top of casting slab to prevent bonding. Instead, SILCOSEAL CLASSIC is formulated with organic compounds that react chemically with excess limes present in the concrete surface to form metallic soaps which, when properly applied, eliminate wall panel sticking. Site-cast wall panels separate easily and completely without the need for pry bars or wedges commonly used with membrane-forming bondbreakers.

APPLICATIONS

- Use as a cure and bondbreaker in tilt-up, lift slab and precast concrete construction when weather conditions do not allow for the use of water-based products.
- Use to cure the top side of tilt wall panels to prevent the formation of shrinkage cracks.
- Use as a cure only on all types of interior, smooth-troweled concrete where the use of conventional resin-based curing compounds is impractical.

ADVANTAGES

- Being chemically active and highly effective, SILCOSEAL CLASSIC supplies part of the reaction product necessary for clean separation and the concrete provides the remaining portion. The amount of SILCOSEAL CLASSIC necessary to achieve the proper cure and bondbreaking function is typically less when compared to the use of hydrocarbon resin or wax-type bondbreakers. The savings in application time and material costs make SILCOSEAL CLASSIC more economical to use than competing bondbreakers, irrespective of unit costs.
- SILCOSEAL CLASSIC is an excellent value-engineered alternative when protection from the “osmotic effect” is not required.
- Achieves exceptional wall panel surface appearance.
- Leaves no residue or resulting staining on wall panel or casting slab floor surfaces when properly applied.
- Achieves a crisp, positive release that minimizes panel defects and reduces panel resurfacing/patching costs.
- Does not contain any wax or hydrocarbon resins like many conventional bondbreakers that often leave a difficult-to-remove residue on wall panel and casting slab surfaces. When this residue is not properly removed, it causes floor and exterior wall paint and coating adhesion problems.
- Meets the moisture retention properties of ASTM C309 when applied to a steel-troweled surface prepared in accordance with CEN/TS 14754.
- Because it is solvent-based, SILCOSEAL CLASSIC FAST-DRY dries faster than SILCOSEAL CLASSIC and water-based versions of SILCOSEAL and is not affected by high humidity.
- Excellent resistance to washoff from normal rain showers and dew when applied directly to previously uncoated concrete surfaces.
- SILCOSEAL CLASSIC is used both as a cure and a bondbreaker.
- Resistant to sunlight-induced oxidation damage that can necessitate the reapplication of competitive bondbreakers even when panel concrete placement is delayed a few days.
- Also available in a low-VOC version called SILCOSEAL EX containing a special blend of VOC exempt solvents that meet the OTC I, OCT II, and Canadian VOC requirements.

⚠ PRECAUTIONS ⚠

- Not recommended for use as a bondbreaker on broom-finished or rough-finished concrete surfaces.
- Not recommended for application over any other manufacturer’s inorganic silicate based floor sealer, hardener or organic resin-based curing, sealing, or combination cure and seal product. Failure to follow this recommendation can result in panel surface defects or panel sticking.
- If a delay of more than 2 weeks occurs between the final bondbreaker application coat and panel concrete placement, it will be necessary to check for a sufficient bondbreaker film on the casting slab. If the bondbreaker film is insufficient, the bondbreaker must be reapplied as necessary after concrete placement.
- Verify that product is within the “USE BY” date stated on product packaging. Do not use expired product. The use of expired product may result in poor performance or failure.
- Not recommended for application over or in conjunction with any other manufacturer’s tilt-up bondbreaker.
- Not recommended for application in the rain or if rain is anticipated within 12 hours of application. Surfaces exposed to rain or running water within this period will require reapplication.
- It is not recommended to use a pressure washer to clean the casting/floor slab surface after the application of SILCOSEAL CLASSIC and prior to the wall panel concrete being placed. If necessary, a low-pressure garden hose with a non-aggressive spray nozzle may be used to remove contamination and debris

Cure & Bondbreaker

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chemical solutions to concrete problems

Tilt-Up Partner Products — chemical Compatibility

prior to placing wall panel concrete.

- Not recommended for bondbreaker application to casting slab surfaces previously cured with polyethylene or curing blankets without first removing all salt deposits. Failure to remove all salt deposits can result in panel surface blemishes or defects.
- Not recommended for application to casting slab surfaces that are frozen or when ambient temperatures are below 40° F (4° C) or expected to drop below 40° F (4° C) within 12 hours.
- Not recommended for application without the proper sprayer and correct spray tip. See USE INSTRUCTIONS for specific sprayer and tip size recommendations.
- Not recommended for cure coat application prior to saw cutting crack control joints. SILCOSEAL CLASSIC cure coat is applied immediately after final finishing and joint saw cutting has been completed.
- Not recommended for use in tilt-up applications when casting slab or panel concrete mix design incorporates pozzolans, such as fly ash, without first contacting Nox-Crete for specific recommendations regarding application procedures and rates. Failure to do so may result in panel surface blemishes and/or panel sticking.

USE INSTRUCTIONS

- Request current product literature, labels, and safety data sheets from manufacturer and read thoroughly before product use.
- Site environmental conditions, substrate conditions, and construction have a major effect on product selection, application methods, procedures and rates, appearance, and performance. Product literature provides general information applicable to some conditions. However, an adequate site test application by the purchaser or installer in advance of field scale use is mandatory (irrespective of any other verbal or written representation) to verify that product and quantities purchased can be satisfactorily applied and will achieve desired appearance and performance under intended use conditions.
- Recommended spray tip sizes are 8003-LP, 8004-LP, and 8005-LP. The coarser (8005-LP) spray tip should be used on porous casting slab surfaces where additional bondbreaker is necessary to ensure sufficient film holdout. Use the less coarse (8003-LP) spray tip for application on less porous casting slab surfaces. The use of an improper sprayer and/or incorrect spray tip generally results in either over- or under-application.
- SILCOSEAL CLASSIC should be applied in accordance with recommended procedures to achieve even and uniform coverage. Equipment should be clean and dry prior to use.
- Typical drying time is 30 minutes to 3 hours, but varies with the presence or absence of a moisture barrier beneath the casting slab, climatic conditions and application rate. Extended drying times in excess of 24 hours are possible when product is applied heavily during cool weather and moisture barrier is present. Reducing the application rate and applying in multiple thin coats in lieu of one heavy coat will greatly reduce drying time.
- Avoid scouring the casting slab surface during panel concrete placement by using a deflection board.

CURE COAT APPLICATION

- Apply to the point of rejection and uniform surface film accumulation immediately after final finishing and joint saw cutting.
- The typical application range is 200 - 400 sf / gal (5 - 10 sm / L) but can vary widely depending on specific conditions, such as concrete mix design, type of finish, and ambient weather conditions. For example, concrete floors that are cast during cool and humid conditions typically require less SILCOSEAL CLASSIC to achieve optimum curing than do concrete floors cast during hot, dry, and windy conditions.
- Over-application can result in delays due to slow drying. Under application can result in shrinkage cracking or crazing and excessively porous and weakened slab surfaces.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO EVALUATE THE VARIOUS CONDITIONS ON EACH PROJECT AND TO DETERMINE THE CORRECT APPLICATION RATE OF THE SILCOSEAL CLASSIC CURE COAT. IF UNSURE, CONTACT NOX-CRETE FOR SPECIFIC RECOMMENDATIONS.
- WHEN CLIMATIC CONDITIONS ARE EXCESSIVELY HOT, DRY, AND/OR WINDY DURING CONCRETE PLACEMENT OR CURING AS DEFINED BY THE AMERICAN CONCRETE INSTITUTE'S REPORT ACI 305, THE USE OF A WET CURE IS RECOMMENDED IN LIEU OF SILCOSEAL CLASSIC TO PROVIDE ADDITIONAL PROTECTION FROM SLAB OR PANEL MOISTURE LOSS.

BONDBREAKER APPLICATION

- Casting slab areas should be well-cured, smooth, and dense.
- Remove all dust, dirt, saw cut residue, standing water, and other contaminants prior to applying bondbreaker coats with a broom, leaf/air blower, or low-pressure garden hose. **Do not pressure wash the surface.**
- The number of bondbreaker coats and related application rate required to achieve complete, uniform coverage of casting slab varies with concrete mix design, placing and finishing procedures, weather conditions, etc. Because of this, it is not possible to prescribe application rates or procedures inclusive of all site variables.
- Best results are obtained when successive coats of SILCOSEAL CLASSIC are applied at right angles (perpendicular) to each other.
- An adequate application is indicated by the presence of a dry, soap-like feel uniformly apparent to touch over the entire treated area with no indication of greater accumulations in low spots or depressions. Following bondbreaker application and immediately prior to panel concrete placement, be certain casting slab surfaces evidence the dry soap-like feel, but do not evidence over-application of SILCOSEAL CLASSIC as indicated by a slippery or grease-like feel to the touch. Over-application may result in retardation of panel skin or dusting, surface irregularities and/or discoloration, as well as unreacted bondbreaker residue on panel and floor surfaces.
- Typically, more porous casting slab surfaces resulting from conditions such as improper curing, the addition of pozzolans such as fly ash, or that received a more open or less tight finish, will require more SILCOSEAL CLASSIC than slab surfaces that are less porous.

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- IT IS THE CONTRACTOR'S RESPONSIBILITY TO EVALUATE THE VARIOUS CONDITIONS ON EACH PROJECT AND TO DETERMINE THE CORRECT APPLICATION RATE OF THE SILCOSEAL CLASSIC BONDBREAKER COATS. IF UNSURE, CONTACT NOX-CRETE FOR SPECIFIC RECOMMENDATIONS.
- CAUTION: THE PRIMARY REASON FOR PANELS STICKING TO CASTING SLABS IS AN INADEQUATE FILM OF BONDBREAKER ON THE CASTING SLAB SURFACE AT THE TIME OF PANEL CONCRETE PLACEMENT. IT IS YOUR RESPONSIBILITY TO VERIFY THAT A CONTINUOUS FILM OF BONDBREAKER CAN BE FELT ON THE CASTING SLAB SURFACE AS PREVIOUSLY DESCRIBED IMMEDIATELY PRIOR TO PLACEMENT OF PANEL CONCRETE.
- Rain occurring prior to product drying will necessitate reapplication of bondbreaker.
- Do not apply to reinforcing steel or lifting inserts.
- Avoid spray drifts, runs, or puddles. Promptly wipe up any material excesses that can lead to subsequent adhesive failure of floor coatings and wall paints.
- When using SILCOSEAL CLASSIC for sand bed casting, contact Nox-Crete for specific written recommendations.
- To avoid wood sugar-related concrete retardation and dusting at panel edges and feature strip locations, use Nox-Crete's CLEAR PRE-FORM to seal all wood that may contact panel concrete, including edge forms, blockout forms and chamfer and feature strips prior to bondbreaker application.

Casting Slabs Cured with SILCOSEAL CLASSIC

- Apply successive coats of SILCOSEAL CLASSIC until the casting slab surface appears uniformly dark in appearance for at least 2 - 3 hours following the last coat. If the treated slab appears light in color either generally or in spots within 2-3 hours of last application, excessive slab porosity is indicated. Reapply SILCOSEAL CLASSIC to all light-colored areas. If areas of light color or dry appearance persist, thoroughly wet affected areas with water to fill concrete surface pores, squeegee off excess water and then immediately re-apply SILCOSEAL CLASSIC.
- The typical effective coverage rate for all combined bondbreaker coats applied to new casting slabs previously cured with SILCOSEAL CLASSIC is 200 - 400 sf / gal (5 - 10 sm / L). The application rate can vary widely depending upon the specific conditions. Do not over- or under-apply.

Casting Slabs Previously Cured and Sealed with DURO-NOX

- Casting slabs previously treated with a DURO-NOX liquid floor hardener will require a lesser amount of SILCOSEAL CLASSIC to perform the bondbreaker function. Over-application of SILCOSEAL CLASSIC can result in panel surface dusting, surface irregularities and/or discoloration.
- Liquid floor hardeners interfere with the normal chemical reaction of SILCOSEAL CLASSIC and treated floor/casting slab surfaces. As a result, under these circumstances, SILCOSEAL CLASSIC may be subject to removal by rainfall or contact with water. Verify the presence of an adequate bondbreaker film as indicated by a dry, soap-like feel uniformly apparent to the touch over the entire treated area, with no indication of greater accumulations in low spots or depressions as described above before placing panel concrete.
- **The typical effective coverage rate for all combined bondbreaker coats of SILCOSEAL CLASSIC applied to casting slabs treated with a liquid floor hardener is 300 - 500 sf / gal (10-12.5 sm / L).** The application rate can vary widely depending upon the specific conditions. Do not over- or under-apply.

Existing Casting Slabs

- Verify concrete surface is free of substances that could adversely affect product performance.
- If a membrane-forming curing or sealing compound was used, it will be necessary to remove the coating from the casting slab surface prior to applying bondbreaker. Use Nox-Crete's BIO-CLEAN PLUS to chemically remove all coating residue.
- Apply successive coats of SILCOSEAL CLASSIC until the casting slab surface appears uniformly dark in appearance for at least 2-3 hours following the last coat. If the treated slab appears light in color either generally or in spots within 2-3 hours of last application, excessive slab porosity is indicated. Reapply SILCOSEAL CLASSIC to all light-colored areas. If areas of light color or dry appearance persist, thoroughly wet affected areas with water to fill concrete surface pores, squeegee off excess water and then immediately re-apply SILCOSEAL CLASSIC.
- The typical effective coverage rate for all combined bondbreaker coats applied to an existing clean and unsealed casting slab is 200 - 400 sf / gal (5 - 10 sm / L). The application rate can vary widely depending upon the specific conditions. Do not over- or under-apply.

STRIPPING

- To remove residual bondbreaker from casting slab floor surfaces resulting from over application of the bondbreaker, pretreat the areas to be stripped with Nox-Crete's BIO-CLEAN PLUS. Scrub the treated surfaces using a floor-scrubbing machine equipped with nylo-grit scrub brushes. Squeegee off the excess BIO-CLEAN PLUS residue, rinse thoroughly with water and squeegee dry.
- To clean panel surfaces, pretreat the areas to be cleaned with a detergent solution consisting of 0.5 lbs (225 g) of trisodium phosphate in 1 gal (3.8 L) of water. Rinse the detergent solution off with water using a minimum 4,000 psi power washer.
- Determine adequacy of the surface preparation of panels and casting slabs with appropriate site test to verify acceptable adhesion, appearance and performance of paints, coatings, adhesives, sealers, sealants, grouts, etc. prior to application. See ACI 551 for specific recommendations.

TECHNICAL DATA

	Silcoseal Classic	Silcoseal Classic (Fast Dry)
Color	Red Liquid	Red Liquid
Clarity	Clear	Clear
Bulk Density	6.70 lbs / gal (807 g / L)	7.26 lbs / gal (871 g / L)
VOC	726g / L	785 g / L
VOC Classification	Bondbreaker Low Solids	Bondbreaker Low Solids
Viscosity	43 SUS @ 100° F (37° C)	46 SUS @ 100° F (37° C)
Flash Point	72° F PMCC	73.4° F PMCC
Gel Point	Below 0°F (-18°C)	Below 0°F (-18°C)

TEST DATA

Meets the moisture retention properties of ASTM C309 when applied to a sheet steel surface prepared in accordance with CEN / TS 14754.

PACKAGING

Product is packaged in 5 gal (19 L) pails, 20 liter pails, 55 gal (208 L) drums and 200 liter drums.

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SHELF LIFE

The shelf life is 1 year. Use before the date “USE BY” indicated on the packaging of the product.

HANDLING / STORING

The product is a flammable liquid. Store in a dry place in a temperature range of 40° F (4° C) to 100° F (38° C). SILCOSEAL CLASSIC is not affected by freezing and does not require warming before use. **Drums stored outdoors must be protected from the accumulation of water on the drum head. Following each liquid removal, tightly reseal all container bungs or caps promptly to prevent loss of necessary volatile solvents.**

CAUTION: FAILURE TO PROPERLY STORE PRODUCT CAN RENDER IT UNSUITABLE FOR USE.

AVAILABILITY AND TECHNICAL SERVICES

In addition to corporate offices in Omaha, Nebraska, Nox-Crete, Inc. maintains regional offices and distribution centers in major markets around the world. For technical or technical information, call 800-669-2738 or 402-341-2080.

LIMITED WARRANTY

NOTICE-READ CAREFULLY

CONDITIONS OF SALE

Nox-Crete offers this product for sale subject to, and Buyer and all users are deemed to have accepted, the following conditions of sale and limited warranty which may only be varied by written agreement of a duly authorized corporate officer of Nox-Crete. No other representative of or for Nox-Crete is authorized to grant any warranty or to waive limitation of liability set forth below.

WARRANTY LIMITATION

Nox-Crete warrants this product to be free of manufacturing defects. If the product when purchased was defective and was within use period indicated on container or carton, when used, Nox-Crete will replace the defective product with new product without charge to the purchaser.

Nox-Crete makes NO OTHER WARRANTY, either express or implied, concerning this product. There is NO WARRANTY OF MERCHANTABILITY. In no case shall Nox-Crete be liable for special, indirect or consequential damages resulting from the use or handling of the product and no claim of any kind shall be greater in amount than the purchase price of the product in respect of which damages are claimed.

INHERENT RISKS

Nox-Crete MAKES NO WARRANTY WITH RESPECT TO THE PERFORMANCE OF THE PRODUCT AFTER IT IS APPLIED BY THE PURCHASER, AND PURCHASER ASSUMES ALL RISKS ASSOCIATED WITH THE USE OR APPLICATION OF THE PRODUCT.

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