



chemical solutions to concrete problems



# SILCOSEAL SELECT

New generation, chemically active cure and bondbreaker for tilt-up, lift slab and precast construction.

## How it works

SILCOSEAL SELECT is a new generation cure and tilt-up bondbreaker. In contrast to most conventional cure and bondbreakers, SILCOSEAL SELECT does not contain any wax or hydrocarbon resins and, as a result, does not depend on a physical barrier deposited on top of the casting slab to prevent bonding. Instead, SILCOSEAL SELECT consists of a special formulation of chemically reactive organic compounds in a predominately water based solvent system which chemically react with calcium hydroxide, a byproduct of the cement hydration reaction, present in the concrete surface pores. The reaction products are amorphous gels which, in conjunction with other combined special organic compounds in SILCOSEAL SELECT, effectively seal concrete surface pores. Moisture entry or exit is restricted, allowing good retention of concrete mixing water to assist in providing proper cement hydration and concrete curing, minimizing concrete surface cracking and crazing. Properly applied, SILCOSEAL SELECT positively prevents the bonding of tilt wall panels to casting slab floor surfaces.

## Applications

- Use as a cure and bondbreaker in tilt-up, lift slab and precast concrete construction.
- 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 flatwork where the use of conventional resin based curing compounds is impractical.

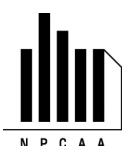
## Advantages

- SILCOSEAL SELECT is more effective than all other previous versions of SILCOSEAL.
- Provides improved resistance to the “osmotic effect” by restricting the natural tendency for water to migrate from freshly placed panel concrete through the bondbreaker film and into the less moist casting slab. Reducing the “osmotic effect” greatly improves panel concrete surface appearance resulting in a smooth, uniform surface profile, colour and appearance.
- 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 surface defects and reduces panel resurfacing/patching costs.
- SILCOSEAL SELECT is not classed as a flammable dangerous good, reducing transport and storage costs.

- Does not contain any wax or hydrocarbon resins like many conventional bondbreakers which often leave a difficult-to-remove residue on wall panel and casting slab surfaces. When this residue is not properly removed, it often causes floor and exterior wall panel paint and coating adhesion problems.
- SILCOSEAL SELECT dries faster than all other previous versions of SILCOSEAL due to a special blend of fast-drying solvents.
- Excellent resistance to washoff from normal rain showers and dew when applied directly to previously uncoated concrete surfaces.
- Dust, dirt and mud can be easily removed from casting slab floor surfaces by washing with low pressure water when SILCOSEAL SELECT is used as both the cure and 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.
- Green Engineered™ – better for health and the environment.

## 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 before concrete placement.
- Carefully inspect all casting slab surfaces prior to panel concrete placement to ensure an adequate film of bondbreaker is uniformly present.
- 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 time period will require reapplication.
- 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.



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- Not recommended for application to casting slab surfaces which are frozen or when ambient temperatures are below 4°C or expected to drop below 4°C within 12 hours following application.
- 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. Best results are obtained when SILCOSEAL SELECT cure coat is applied immediately after final finishing and joint saw cutting has been completed.
- Not recommended for use in tilt-up applications where casting slab or panel concrete mix design incorporates pozzolans such as fly ash without first contacting REID for specific recommendations regarding application procedures and rates. Failure to do so may result in panel surface blemishes and/or panel sticking.
- The typical application range is 5-10 m<sup>2</sup>/litre but can vary widely depending upon the specific conditions such as concrete mix design, type of finish and ambient weather conditions. For example, concrete floors which are cast during cool and humid conditions require less SILCOSEAL SELECT 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 SELECT CURE COAT. IF UNSURE, CONTACT REID FOR SPECIFIC RECOMMENDATIONS.

## Use Instructions

- Request current product literature, labels and material 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 representations) to verify that product and quantities purchased can be satisfactorily applied and will achieve desired appearance and performance under intended use conditions.
- Use the NOX-CRETE DRUM AGITATOR or other suitable mechanical agitator to adequately mix product before withdrawing from container and before each use.
- Apply using REID TOTAL SPRAY APPLICATOR. The recommended spray tip size is 8004-LP. Coarser (8005-LP) spray tips should be used on porous casting slab surfaces where additional bondbreaker is necessary to ensure sufficient film holdout. The use of an improper sprayer and/or incorrect spray tip generally results in either over or under application.
- SILCOSEAL SELECT 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 in cure coat applications when product is applied heavily during cool weather and a 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.

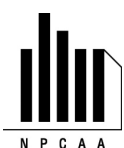
## Bond Breaker Application

- 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.
- 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 SELECT 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 SELECT 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 discolouration as well as unreacted bondbreaker residue on panel and floor surfaces.
- Typically, casting slab surfaces which are more porous resulting from such conditions as improper curing, the addition of pozzolans such as fly ash or which received a more open or less tight finish will require more SILCOSEAL SELECT than slab surfaces which are less porous.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO EVALUATE THE VARIOUS CONDITIONS ON EACH PROJECT AND TO DETERMINE THE CORRECT APPLICATION RATE OF THE SILCOSEAL SELECT BONDBREAKER COATS. IF UNSURE, CONTACT REID 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 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.



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- Avoid spray drifts, runs or puddles. Promptly wipe up any material excesses which can lead to subsequent adhesive failure of floor coatings and wall paints.
- When using SILCOSEAL SELECT for sand bed casting, contact Reid for specific written recommendations.

## Casting Slabs Cured With SILCOSEAL SELECT

- Apply successive coats of SILCOSEAL SELECT 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 colour either generally or in spots within 2-3 hours of last application, excessive slab porosity is indicated. Reapply SILCOSEAL SELECT to all light-coloured areas. If areas of light colour 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 SELECT.
- The typical effective coverage rate for all combined bondbreaker coats applied to new casting slabs previously cured with SILCOSEAL SELECT is 5-10 m<sup>2</sup>/litre. 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 curing or sealing compound was used, it will be necessary to remove the coating from the casting slab surface prior to applying bondbreaker.
- Apply successive coats of SILCOSEAL SELECT 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 colour either generally or in spots within 2-3 hours of last application, excessive slab porosity is indicated. Reapply SILCOSEAL SELECT to all light-coloured areas. If areas of light colour 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 SELECT.
- The typical effective coverage rate for all combined bondbreaker coats applied to an existing, clean and unsealed casting slab is 5-10m<sup>2</sup>/litre. The application rate can vary widely depending upon the specific conditions. Do not over or under apply.

## Cleaning

- To clean panel surfaces, pretreat the areas to be cleaned with a detergent solution consisting of 225 grams of trisodium phosphate in 3.8 litres 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 515 for specific recommendations.

## Technical Data

Colour	Light Blue Liquid
Clarity	Opaque Emulsion
Bulk Density	968.5 grams/litre
Actual Volatile Organic Compound (VOC) Content	<120 grams/litre*
* Complies with VOC requirements for Low Solids Coatings	
US Regulatory VOC Content	<600 grams/litre
Viscosity	3 cps @ 25°C
Vapour Pressure	<2.13 kPa @ 20°C
Flash Point, ASTM D-92	>78°C

Product is packaged in lined steel 19 litre pails and 208 litre drums. Drums are equipped with a 50mm centre port opening for use with the NOX-CRETE DRUM AGITATOR.

## Shelf Life

Nine months from date of manufacture. Use product before expiration date indicated on container.

## Handling/Storage

Read Material Safety Data Sheet (MSDS) prior to using. Product is a combustible liquid. Store product at temperatures above 0°C and below 38°C. Following each liquid removal, tightly reseal all container bungs or caps to include mixer port cap that seals opening for drum agitator handle promptly to prevent loss of necessary volatile solvents

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

## Availability and Technical Services

For stockists or technical information, please contact Reid on 1300-780-250.

## 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.

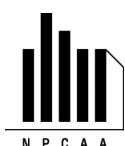
### WARRANTY LIMITATION

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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