



Pentra-Sil® (HD+C) Hardener, Densifier, and Cure

Convergent Concrete
Technologies, LLC.

Specialty Chemical Concrete
Treatments Commercial
Products Group

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nanoLithium
Patented Technologies by Advan
Nano-Lithium® (NL)
Concrete Treatment
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PRODUCT DESCRIPTION

Pentra-Sil® (HD+C) is a water-based, clear, dissipating membrane-forming curing compound, hardener and densifier that surpasses ASTM C-309 Liquid Membrane – Forming Compounds for Curing Concrete moisture retention requirements. This single component application forms a tougher, abrasion resistant surface compared to traditional methods requiring post-densification (28 days later). Excellent for commercial and industrial concrete floors that need long-term protection against heavy wear and abuse, moisture, dirt and grime buildup. This earth friendly / bio based compound contains no solvents and has a VOC content <100g/L making it compliant in all regions of the United States.

This patent pending, all-in-one lithium formula is applied to fresh concrete slabs immediately after finishing operations are complete. The unique chemistry forms a film on the surface, restricting the amount of water that can evaporate from the concrete while at the same time allowing the lithium silicate component to penetrate and react with the free-lime and unhydrated cement particles to improve both the curing and the hardening characteristics. This product also provides substantial benefits over solventbased or older water-based curing technologies because it does not need sunlight to dissipate and will begin to breakdown within 14-28 days eliminating the cost associated with cleaning hard-to-remove curing compounds.

KEY BENEFITS:

- Meets ASTM C-309 moisture retention
- Easy auto-scrub final cleanup
- Contributes to LEED EQ credit 4.2
- Cures, Hardens and Densifies in a single application immediately after finishing
- Easy to apply, ready to use liquid can be applied by either the concrete finishing contractor or sub-contractor

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- Saves money and time reducing costly labor steps in application and cleaning
- Does not need sunlight to dissipate and will begin to breakdown within 14-28 days
- Minimizes hairline cracking, dusting, spalling, and other surface defects common to improperly cured concrete
- Provides improved resistance to chemicals, oil, grease, de-icing salts, and abrasion during construction
- Provides an attractive sheen that enhances the natural appearance of concrete
- Will not contribute to surface crazing or surface ASR
- Reduces alkalinity and efflorescence

USES

For all newly placed concrete including commercial, institutional, office, business, restaurants, prisons, retail, schools, sports venues, etc.

APPLICATION

BEFORE APPLICATION, ALWAYS DO A SMALL TEST SAMPLE IN A LESS-VISIBLE AREA TO BE SURE THERE ARE NO VARIABLES OR CONTAMINANTS IN THE SUBSTRATE THAT MAY BE INCOMPATIBLE WITH THIS PRODUCT.

Mixing (DO NOT DILUTE) Stir thoroughly prior to use. Do not thin or dilute. Do not over agitate with compressed air or recirculating pump. Application equipment must be clean and free of foreign materials. Apply Pentra-Sil® (HD+C) immediately after all surface water has disappeared and surface cannot be marred and after the cuts have been completed. Remove all dust and dirt prior to applying the Pentra-Sil® (HD+C). Application of Pentra-Sil® (HD+C) too early or too late can affect the overall curing performance. Use low pressure spray, roller or brush. Apply uniformly without puddles. Spray in a uniform coat pattern and try not to overlap coats which can cause darkening. Recommend terminating at saw cuts.

DO NOT OVER APPLY OR APPLY SECOND COATS

Apply the product at a rate of 400-600 sq.ft./gal. Use a low pressure sprayer to apply a uniform layer on the surface. Do not puddle. Allow 1-2 days to completely dry before traffic. The product will begin to dissipate after 1 week. After 28 days use an autoscrubber, black pads, and water to remove any remaining cure material. If additional shine is desired apply a coat of Pentra-Finish™ (Li) followed by Burnishing with an 800-grit pad.

ESTIMATED COVERAGE

Applied at a rate of 400-600 ft²/gallon.

Coverage: Broomed surface-400 sq. ft/gal. (9.82 sq. m/L). Troweled surface-600 sq. ft/gal. (14.73 sq. m/L).

Drying Time: Depends on weather conditions and coverage, but will generally dry in 1-3 hours at 70°F (21°C). Drying times may be extended depending on application rate, temperature, humidity and project conditions. Restrict foot traffic for at least four hours. Twelve hours is preferable.

CLEAN UP

Wash equipment with soap and water. Although Pentra-Sil® (HD+C) is non-toxic and environmentally friendly, it is alkali. Use the material completely or dry it out and dispose of properly per local regulations. Do not pour down sanitary sewers or into storm drains.

SAFETY/HEALTH INFORMATION

KEEP OUT OF REACH OF CHILDREN. This product is alkali. Do not drink. If swallowed, do not induce vomiting, drink 2 glasses of water and call physician. Keep container closed tightly when not in use. Wear goggles and gloves. If splashed in eyes, rinse eyes immediately with clean water and call a physician if irritation persists. Pentra-Sil® (HD+C) will dry out and irritate the skin. Clean skin with soap and water promptly. **CAUTION:** Surfaces wet with Pentra-Sil® (HD+C) may be slippery. Additional precautions, safety information and first aid treatments are contained in the Material Safety Data Sheet.

PROPERTIES

| | |
|-------------------|---------------------------------------------|
| Specific Gravity: | 1.11 |
| pH: | 11 |
| VOC Content: | <92g/L |
| Flash Point: | N/A |
| Freeze Point: | 32°F (0°C) |
| Shelf Life: | 1 Year in unopened factory sealed container |

PACKAGING

5 Gal Plastic Pail
55 Gal Drum
275 Gal tote (IBC)

LIMITATIONS

Do not apply when ambient or concrete surface temperatures are below 40°F (4°C). Do not apply with a squeegee. Apply proper amount for jobsite conditions. Product will not protect a slab from damage by rain immediately after placement. Rain may wash product from slab before it can cure properly. Product will not fill voids or surface defects. Product will not remedy poor finishing, deficient mix design, or placement defects. In adverse conditions, follow all ACI guidelines (cold or hot weather concrete placement). Surfaces treated with Pentra-Sil® (HD+C) may become slippery under certain conditions or until dry.

WARRANTY

LIMITED WARRANTY NOTICE Every reasonable effort is made to apply exacting standards both in the manufacture of our products and in the information that we issue concerning these products and their use. We warrant our products to be of good quality and will replace or, at our election, refund the purchase price of any products proved defective. Satisfactory results depend not only upon quality products, but also upon many factors beyond our control. Therefore, except for such replacement or refund, Convergent Concrete **MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, RESPECTING ITS PRODUCTS,** and Convergent Concrete shall have no other liability with respect thereto. Any claim regarding product defect must be received in writing within one (1) year from the date of shipment. No claim will be considered without such written notice or after the specified time interval. User shall determine the suitability of the products for the intended use and assume all risks and liability in connection therewith. Any authorized change in the printed recommendations concerning the use of our products must bear the signature of the Convergent Concrete Research Director. This information and all further technical advice are based on Convergent's present knowledge and experience. However, Convergent assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent

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Refer to www.convergentconcrete.com for latest Technical Data Sheet and MSDS.

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