1. PRODUCT DATA
Date of Preparation: March 1, 2015
Product Name: 300-C Concentrate — Water-Base Siloxane water Repellent
Producer: Diedrich Technologies, A Hohmann & Barnard Company, 310 Wayto Road, Schenectady, NY 12303
Company Contact: Ken Eglin
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Email: KenE@h-b.com  Web: www.diedrichtechnologies.com

This product is manufactured for Commercial/Industrial use. Not recommended for: Household use.

2. PRODUCT DESCRIPTION
DIEDRICH 300-C Concentrate Water Repellent is VOC compliant, water dilutable, penetrating, breathable solvent-free microemulsion concentrated alkoxy siloxane material, specially formulated for use on precast and site cast concrete, clay and concrete masonry, sandstone and stucco surfaces where surface darkening is unacceptable. **300-C is not recommended for polished or unpolished marble, travertine, limestone and polished granite, gypsum, plaster or synthetic resin paint.** Reduces bonding of airborne dirt and hydrocarbons as well as water damage caused by freeze/thaw cycles. Provides protection against efflorescence and exhibits excellent resistance to ultraviolet rays and chlorine ions.

Exceeds requirements of NCHRP 244, meets SSW 110C Federal Specification and ASTM E514 (test results on last page).

Advantages:
- VOC compliant - contains no organic solvent.
- Concentrate - minimize storage, transportation and container disposal requirements.
- Dilutions of up to 19 parts fresh water are possible.
  One gallon of concentrate can treat up to 4000 sq. ft.
- Alkaline Stable - suitable for new concrete.
- Deep penetration - ideal on vertical or horizontal surfaces.
- Ideal for on-site or in-plant treatment of precast concrete or GFRC.

Technical Data:
Solids: 100% concentrate
Appearance: Clear yellow/orange liquid
Specific Gravity: 1.0
Flash Point:
  - 90°F (in concentrate)
  - >208°F (in 1:9 dilution)
  - >208°F (in 1:14 dilution)
VOC: 318g/l (EPA Method 24 - ASTM 2369) @ 100% concentrate

3. LIMITATIONS
Air and surface temperatures must be 40°F (7°C) or higher at time of application. Repointing should be done and allowed to dry before application. Caulking and sealant work must be done prior to application of diluted 300-C and allowed to dry 6 to 12 hours for curing (or until material is set) in accordance with manufacturer’s instructions. Protect surrounding non-masonry surfaces such as glass, anodized aluminum, painted surfaces, etc. Any inadvertent drips, splashes or sprays should be removed with water immediately before solution dries as they may bond to the surface. Application of the product should not occur when rain is expected within 4 hours. Do not allow product to freeze, store at room temperature (65°F).

Once diluted with water the 300-C Concentrate product must be applied within 24 hours for maximum effectiveness. Product will not prevent water penetration through structural cracks, defects or open or missing joints. Variations in texture and porosity of the substrate will affect coverage, appearance and performance of the product.

4. PRECAUTIONS
Protect all adjacent non-masonry surfaces. Adjacent vegetation should be protected by covering to protect in the event of over-spray and/or excessive runoff.

Caution: Product must be diluted with clean, fresh water only. Workers should wear chemical splash goggles to prevent contact with eyes. Do not breathe vapors or spray...
7. COVERAGE
*Coverage rates indicate average per gallon of concentrate.

ARCHITECTURAL CONCRETE BLOCK:
- Smooth: 600-985 sq. ft.
- Burnished: 600-1200 sq. ft.
- Ribbed: 600-850 sq. ft.

CONCRETE:
- Brick, Tile, Pavers, Cast-In-Place: 600-850 sq. ft.
- Precast Panels: 1500-2000 sq. ft.

FIRED CLAY:
- Brick Paver, Terra Cotta & Tile: 1250-1750 sq. ft.

GRANITE:
- Unpolished & Slate: 2000-4000 sq. ft.
- Sandstone: 750-1000 sq. ft.

8. DILUTION:
DIEDRICH 300-C is to be diluted with clean, fresh water only. Mixing containers must be clean, dry and free of any contaminates. As the 300-C Concentrate is added to water a milky white solution will result. To produce a uniform dispersion of the concentrate in the water lightly but thoroughly mix the solution.

DILUTION RATIOS = SOLIDS %

VERTICAL SURFACES:
- Porous: 1 part concentrate: 9 parts water = 10%
- Semiporous: 1 part concentrate: 14 parts water = 7%
- Dense: 1 part concentrate: 19 parts water = 5%

HORIZONTAL SURFACES:
- Porous: 1 part concentrate: 4 parts water = 20%
- Semiporous: 1 part concentrate: 7 parts water = 15%
- Dense: 1 part concentrate: 9 parts water = 10%

9. APPLICATION:
Surface and air temperature must be above 40°F (7°C) when being applied. To insure uniformity and even solids distribution, the product must be thoroughly mixed before application. Spray apply from the bottom up to assist in uniform distribution of the sealer.
Application Technique: There is a human tendency to use quick arm movements while spraying a mist to the point darkening the substrate. This is not sufficient to apply the amount of material required to achieve optimum product performance. The best method is a "wet on wet" application. This involves a mist application, using slow arm movements to break surface tension which results in a darkening of the surface. This is followed by spraying again using slow arm movements, applying enough material that a 6” to 8”(20cm) controlled rundown (floodcoat) occurs on a vertical surface. On a horizontal surface apply enough product so the surface stays wet for a few minutes prior to penetration. This is the proper procedure required for ultimate performance in accordance with DIEDRICH specifications. Spray application is best achieved with the DIEDRICH ACID EXPRESS APPLICATOR PUMP, a low pressure 40 psi corrosive resistant sprayer.

Vertical Surfaces - The appropriately diluted DIEDRICH 300-C Concentrate requires a wet on wet application and should be applied with low pressure (50 psi maximum) airless spray equipment. Apply a flood coat with a minimum of 4 to 8 inches rundown. Allow first application to penetrate surface for 2-3 minutes. Apply a second coat again using the 6 to 8 inch rundown. If application is to be by brush or roller extra care should be taken to assure sufficient material is applied to saturate the surface thoroughly. Heavy runs or drips should be brushed out if they do not penetrate.

Horizontal Surfaces – When application is to horizontal surfaces the appropriately diluted DIEDRICH 300-C Concentrate should be applied in a single saturating application (equivalent to a wet on wet application). Care must be taken to assure sufficient material is applied. Usually the surface will remain wet for 2-3 minutes before penetrating. If pooling or puddles occur they should be broomed out until they thoroughly penetrate into the surface.

To meet NCHRP 244 Specifications one part DIEDRICH 300-C Concentrate should be blended with 5 parts water. To meet Fed. Spec SSW110C dilute one part DIEDRICH 300-C Concentrate with 7 parts water. For damp proof protection a dilution of 1 part DIEDRICH 300-C Concentrate to 20 parts water is effective. Surfaces treated with DIEDRICH 300-C Concentrate will dry to the touch in 1 hour. Treated surfaces must be protected from rainfall for a minimum of 4 hours. Up to 72 hours (approximately 4 days) may be required for treated surface to achieve full water repellency. Equipment and tools should be cleaned immediately with soap and hot water.

10. STORAGE AND SHELF LIFE:
Undiluted DIEDRICH 300-C Concentrate can be stored under normal warehouse conditions for twelve (12) months in airtight container.

11. CLEANUP:
Clean equipment and tools with hot soapy water. Over-spray can be cleaned with hot soapy water. Dried residue can be cleaned with a mild citric acid or very hot water, then scrubbed with a plastic sponge.

TEST RESULTS AND WARRANTY INFO — NEXT PAGE
**TEST RESULTS**

<table>
<thead>
<tr>
<th>Feature/Advantage</th>
<th>Test Method</th>
<th>Test Report Code</th>
<th>Concentration %</th>
<th>Solvent</th>
<th>Coverage Rate</th>
<th>Performance Level Specified</th>
<th>Performance Level Obtained</th>
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<tbody>
<tr>
<td>LOW VOC</td>
<td>EPA 24</td>
<td>D/L Laboratories 7/22/91</td>
<td>17.5</td>
<td>H₂O</td>
<td>NA</td>
<td>–</td>
<td>2.37 lbs/gal (284 g/l)</td>
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<td>High Water Repellency</td>
<td>ASTM E514</td>
<td>CTL 2/24/94</td>
<td>10</td>
<td>H₂O</td>
<td>125 ft²/gal (326 ml/m²)</td>
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<td>86% reduction in leakage rate</td>
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<tr>
<td></td>
<td>NCHRP 244 Series II</td>
<td>WJE 4/29/92</td>
<td>17.5</td>
<td>H₂O</td>
<td>125 ft²/gal (326 ml/m²)</td>
<td>–</td>
<td>80% reduction in water absorption</td>
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<td>Federal Spec. SS-W-110C</td>
<td>D/L Laboratories 4/30/92</td>
<td>15</td>
<td>H₂O</td>
<td>NA</td>
<td>1.0% MAX</td>
<td>0.3% average water absorption</td>
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<tr>
<td>Scaling</td>
<td>ASTM C672</td>
<td>CTL 5/11/95</td>
<td>17.5</td>
<td>H₂O</td>
<td>125 ft²/gal (326 ml/m²)</td>
<td>–</td>
<td>Obtained no scaling after 50 cycles (0/5)</td>
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<tr>
<td>Resistance to Chlorine Ion</td>
<td>NCHRP 244 Series II</td>
<td>CTL 5/11/95</td>
<td>17.5</td>
<td>H₂O</td>
<td>125 ft²/gal (326 ml/m²)</td>
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<td>83% reduction in Chlorine ion intrusion</td>
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<td>NCHRP 244 Series IV</td>
<td>CTL 12/31/91</td>
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<td>125 ft²/gal (326 ml/m²)</td>
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<td>96% reduction in Chlorine ion intrusion</td>
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<tr>
<td>Vapor Permeability</td>
<td>NCHRP 244 Series II</td>
<td>CTL 12/31/91</td>
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<td>H₂O</td>
<td>125 ft²/gal (326 ml/m²)</td>
<td>–</td>
<td>100% water transmission</td>
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</table>

**WARRANTY:** ALWAYS USE A TEST SAMPLE TO DETERMINE DESIRED RESULTS. PRODUCT FREEZES BELOW 32°F, AND MAY BE ADVERSELY AFFECTED BY COLD WEATHER.

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