

ChemMasters

Installation Guidelines

SpallGuard WB is a penetrating, chemically reactive oligomeric alkylalkoxy siloxane moisture and water repellent for concrete and masonry.

1.0 General

1.1 Scope

This specification covers the performance characteristics and application procedures for providing a penetrating, chemically reactive oligomeric alkylalkoxy siloxane moisture and water repellent for concrete and masonry. SpallGuard WB contains a special beading agent to enhance water resistance and a catalyst to ensure that the optimum chemical reaction necessary for water repellency occurs.

1.2 Material Description

The material shall be a penetrating, chemically reactive oligomeric alkylalkoxy siloxane moisture and water repellent for concrete and masonry. It should prevent chloride ion penetration from deicing chemicals, acid precipitation or marine environment, eliminate spalling of new concrete surfaces due to freeze/thaw cycling, penetrate deeply and chemically react with concrete and masonry components for long lasting protection, seal pores and capillaries of substrate preventing liquid absorption while allowing vapor transmission.

1.3 Typical Applications

- A. Horizontal or vertical, exterior cured concrete and masonry
- B. Residential, commercial, industrial and municipal applications
- C. All types of concrete flatwork, parking lots and structures, driveways, plazas, patios and walkways
- D. Median barriers, bridge decks and piers, ramps, pavements
- E. Marine structures, vehicular repair and wash down facilities, loading docks

1.4 Limitations

- A. Do not apply when surface or ambient temperature is below 40° F./4° C. or above 100° F./38° C.
- B. Do not apply to wet or damp surfaces or if rain is expected within 4 hours of application.
- C. If joints or channels are to be filled at a later date, tape or mask prior to application to prevent adhesion problems.

D. SpallGuard WB is a penetrating sealer designed to reduce the intrusion of water and salts. It is not a waterproofing membrane and thus cannot be expected to bridge cracks or joints in the concrete.

E. All label precautions and the MSDS must be fully understood before using this product.²

1.5 Quality Assurance

The repair contractor shall have experience and proficiency specific to the repair type and shall be approved by the engineer and the material supplier. The material supplier shall provide job service as required to assure proper handling and installation of materials. The field representative shall instruct as needed to assure that handling, mixing, placing and finishing of materials are in accordance with specifications.

1.6 Delivery, Storage and Handling

The product shall be delivered in the original, unopened containers. It shall be labeled with the manufacturer's name, product name and lot number. Materials should be stored at the job site under dry conditions and at a temperature of 40°F (4°C) to 90°F (32°C).

1.7 Environmental Requirements

All materials used for the repair work shall be VOC compliant. The manufacturer shall supply the appropriate material safety data sheets upon request.

1.8 Site Conditions

Coverage is dependent upon surface texture and porosity.

2.0 Materials

2.1 Approved Materials and Manufacturers

2.1.1 Product Standard

Spall Guard WB, as manufactured by ChemMasters, 300 Edwards Street, Madison, Ohio, 44057-3112, 1-800-486-7866, is considered to conform to the requirements of this specification and shall be the sealer used. Spall Guard WB is a penetrating, chemically reactive oligomeric alkylalkoxy siloxane moisture and water repellent for concrete and masonry. SpallGuard WB contains a special beading agent to enhance water resistance and a catalyst to ensure that the optimum chemical reaction necessary for water repellency occurs.

2.1.2 Substitutions

No submittals for substitutions will be accepted after the bid date. All submittals must be made in writing to the engineer with supporting technical data sheets and test data showing complete equivalent performance.

2.2 Packaging/Coverage/Estimating

2.2.1 Packaging

SpallGuard WB and SpallGuard WB Concentrate are packaged in 5 U.S.gallon/18.9 liter metal pails, shipped 36 per pallet shrink wrapped and 55 U.S.gallon/208 liter drums, shipped 4 per pallet.

2.2.2 Coverage/Estimating:

A. Coverage is dependent upon surface texture and porosity. Ft.²/gal M²/L

1. Brick 100-150 2.5-3.7
2. Cement Stucco 100-150 2.5-3.7
3. Concrete 100-150 2.5-3.7
4. Exposed Aggregate 100-150 2.5-3.7
5. Precast 125-150 3.0-3.7

2.2.3 Storage:

A. Store SpallGuard WB in tightly closed containers in cool, dry area away from direct sunlight or sources of heat.

B. SpallGuard Plus Concentrate must be stored at temperatures between 50°-90° F./10°-32° C. Do not allow concentrate to freeze.

C. Shelf life of properly stored material is one year from date of manufacture.

2.3 Engineering Properties

The following engineering properties shall be typical of material performance when tested under laboratory conditions at 72°F (22.2°C).

2.3.1 Plastic Properties

2.3.1.1 V.O.C. Content: 0.0 gm/L

2.3.1.2 SpallGuard WB has been tested for the following performance standards:

Test Control SpallGuard WB: (%Reduction)(%Reduction)

- A. Weight Gain: NCHRP 244 0 88%
- B. Chloride Ion Content: NCHRP 244
- C. Northern Exposure 0 94%
- D. Southern Exposure 0 98.9%

2.3.1.3 Scaling Resistance (ASTM C-672): Passes

Appearance: Clear

2.3.1.4 Drying Time:

- A. @ 70° F./21° C.: 24 hours
- B. @ 50°F./10° C.: 48 hours

- C. Solids Ready-to-Use Formulation: 6-10%
- D. Concentrate: 50%

2.3.1.4 Dilution Rates of Concentrate by Volume:

Concentrate Water %Solids

- A. 1 volume 7 volumes 6%
- B. 1 volume 4 volumes 10%
- C. 1 volume 2.5 volumes 14%
- D. 1 volume 2.25 volumes 15%
- E. 1 volume 1.5 volumes 20%

2.3.1.4 Specific Gravity: 0.78-0.79 @ 25° C.

2.4 Accessory Materials as manufactured by ChemMasters, 300 Edwards Street, Madison, Ohio, 44057-3112, 1-800-486-7866, is considered to conform to the requirements of this specification.

3.0 Execution

3.1 References

- A. Complies with National Volatile Organic Compound Emission Standards for Architectural Coatings, Federal EPA Regulation 40 CFR Part 59
- B. Refer to ChemMasters MSDS and Technical Data Sheets

3.2 Surface Preparation

- A. Substrates to be sealed must be a minimum of twenty-eight days old and/or fully cured.
- B. Surface and ambient temperatures must be a minimum of 40° F./4° C. Do not apply to frozen or frosted surfaces.
- C. Surface must be clean and free from dirt, dust, laitance, oil, grease, paints, curing or sealing compounds, tilt up bond breakers or other contaminants which would prevent proper penetration.
- D. Extremely dense surfaces such as burnish trowelled floors or hard fired masonry units may be given a light acid wash to promote adequate penetration.
- E. Protect vegetation and any metal or glass adjoining substrate from overspray. If spills or overspray occur, wipe hard surfaces immediately with a cloth and mineral spirits. Thoroughly rinse vegetation with water.
- F. Repairs: All cracks and deteriorated surfaces should be repaired prior to application of SpallGuard WB. Joints and channels should be taped or filled to prevent later adhesion problems. Consult ChemMasters technical service staff for product recommendations.

3.3 Mixing:

A. SpallGuard WB is packaged ready to use and only requires stirring or agitation prior to use. SpallGuard WB Concentrate is diluted at varying volume ratios to meet individual specification requirements and levels of protection.

Pour measured volume of water into clean, large mixing container. Add measured volume of concentrate to water. Blend well using mechanical mixer and paddle or jiffler type blade. Use a slow speed and mix 3-4 minutes.

3.4 Application: Apply SpallGuard WB with a low pressure, solvent resistant, airless sprayer generating 15 psi/.1 MPa and equipped with a fan nozzle or use a roller. Follow recommended application rates listed above. On vertical surfaces, allow a 6 in./15 cm minimum rundown, not to exceed 12 in./30 cm. Excessive rundown or over application can cause discoloration of the substrate. Horizontal surfaces may be opened to traffic as soon as substrate is dry, usually 1 hour at 72° F./22° C. with 50% R.H.

3.5 Clean-up

A. Clean tools and equipment used to apply SpallGuard WB with Polyseal solvent, xylene or mineral spirits before material dries.

B. When using SpallGuard WB Concentrate, clean equipment with warm water and detergent.