

ChemMasters

Installation Guidelines

Chemisil is a clear, water based liquid chemical floor hardener which reacts with the free lime and calcium carbonate in concrete. It fills and seals the pores and capillaries to harden and dustproof surfaces.

1.0 General

1.1 Scope

This specification covers the performance characteristics and application procedures for providing a clear, water based liquid chemical floor hardener which reacts with the free lime and calcium carbonate in concrete. The product should be suitable for use in food storage or occupied areas, and provide increased resistance to penetration of liquids and oils.

1.2 Material Description

The clear, water based liquid chemical floor hardener which reacts with the free lime and calcium carbonate in concrete shall have 0% V.O.C. content with no odor, and should be compatible with a majority of adhesives for resilient floor coverings.

1.3 Typical Applications

- A. Dusting interior or exterior concrete surfaces
- B. Horizontal or vertical applications
- C. Floor slabs, formed and poured walls
- D. Curing agent for surfaces scheduled to receive subsequent treatments, Chemisil Plus or coverings
- E. Hardens soft, punky surfaces caused by premature freezing of concrete surfaces
- F. Halts progression of deterioration caused by carbonation

1.4 Limitations

- A. Chemisil stains glass and metal. If overspray occurs, immediately wash surface with warm water.
- B. Overapplication will cause a crystalline glaze or noticeable whitening of the surface. If this occurs, flush surface with warm or hot water.
- C. Integrally colored concrete must be a minimum of 60 days old prior to application of Chemisil.

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

Chemisil, 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. Chemisil is a clear, water based liquid chemical floor hardener which reacts with the free lime and calcium carbonate in concrete.

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

Chemisil is available in 5 U.S.gallon/18.9 Liter pails, shipped 36 per pallet shrink wrapped and 55 U.S.gallon/208 Liter drums.

2.2.2 Coverage/Estimating:

A. Coverage is dependent on surface texture, degree of deterioration, rate of absorption and porosity. Optional second coat increases application rate.

Ft.²/gal. M²/L

1. Deteriorated Surfaces 200-300 5-7
2. Steel Trowelled Surfaces 500-600 12-14
3. Vertical Surfaces 400-500 10-12
4. Broomed Surfaces 300-400 7-10
5. Curing Agent 200 5
6. Surfaces to Receive Floor Covering Adhesives 500-600 12-14

2.2.3 Storage:

Protect from freezing. Store tightly sealed containers in heated area. Shelf life 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 Drying Time:

- A. Chemisil dries in 0.5-1 hours at 70° F./21° C. at 50% relative humidity.
- B. Cooler temperatures slow drying time. Allow surface to dry thoroughly prior to applying optional second coat or adhesives.

2.3.1.2 V.O.C. Content 0%

2.3.1.3 Degrees Baume: 11°

2.3.1.4 Weight 9 lbs./gal.4 Kg/L

2.3.1.5 Flash Point: None

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. Meets Federal Environmental Protection Agency Regulation 40 CFR Part 59, National Volatile Organic Compound Emission Standards for Architectural Coatings
- B. Refer to ChemMasters MSDS and Technical Data Sheets

3.2 Surface Preparation

- A. Thoroughly clean surfaces to be treated.

- B. Remove any dust, dirt, oil, grease, curing or sealing membranes or other contaminants that would prevent penetration.
- C. Allow surface to dry completely prior to application of Chemisil.
- D. Deteriorated Concrete: Apply Chemisil with an airless sprayer, brush or roller forming a continuous film. Do not over apply or allow to puddle. Allow to dry.
- E. For optimum performance, apply second coat at an increased coverage rate.
- F. Area may be opened to foot traffic when dry. Wait 24 hours before opening to wheeled or heavy traffic.

3.3 Mixing

Chemisil is ready to use and does not require special mixing. Do not dilute.

3.4 Curing

- A. No special surface preparation is required when using Chemisil as curing agent.
- B. Apply Chemisil to freshly poured concrete immediately following final finishing operations and when surface has stiffened sufficiently to support applicator.
- C. Spray Chemisil onto surface at an even rate to form a continuous film.
- D. Do not allow material to puddle. Use squeegees to redistribute material from low to high spots.

3.5 Clean-up

Clean tools and equipment with warm water and detergent.