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Guide Specification

SECTION 03 39 23.13 CHEMICAL COMPOUND MEMBRANE CONCRETE CURING

This guide specification has been prepared by Multicoat Corporation to assist design professionals in the preparation of a specification section covering the application of a water soluble, inorganic, hardening, sealing and dustproofing compound for treatment of uncovered concrete floor surfaces (Meets U.S. EPA Architectural Coatings Rule, VOC <100 g/l, Concrete Curing Compounds). It may be used as the basis for developing either a project specification or an office master specification.

Since it has been prepared according to the principles established in the Manual of Practice published by The Construction Specifications Institute (CSI), this guide specification may be used in conjunction with most commercially available master specifications systems with minor editing.

The following should be noted in using this guide specification:

- Editing notes to assist users are included within bordered boxes. Delete these notes prior to final printing.
- Optional text requiring a selection by the user is enclosed within brackets, e.g.:
“Section [01 33 00] [____].”
- Items requiring user input are enclosed within brackets, e.g.: “Section [____ ____].”

This guide specification is available in both hard copy and a variety of electronic formats to suit most popular word processing programs and operating platforms. Please contact Multicoat Corporation at (877) 685-8426 for additional copies or for information on available electronic formats.

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Application of water soluble. Inorganic hardening, sealing and dustproofing product for treatment of uncovered concrete floor surfaces.

DELETE SECTIONS BELOW NOT RELEVANT TO THIS PROJECT; ADD OTHERS AS REQUIRED.

B. Related Sections:

1. Section 03 30 00 – Cast-In-Place Concrete.
2. Section 03 41 20: Weather Protection
- 3.

1.2 REFERENCES

- A. Corps of Engineers Specification: CEGS 03300 4-79
- B. ACI 308: Standard Specification for Curing Concrete

1.3 SUBMITTALS

- A. Comply with Section [01 33 00] [____].

B. Product Data: Submit manufacturer's technical bulletins and MSDS on each product.

C. Quality Control Submittals:

1. Provide protection plan of surrounding areas and non-cementitious surfaces.

1.4 QUALITY ASSURANCE

A. Comply with Section [0140 00] [___ ___].

B. Qualifications:

1. Applicator: Experience in application of similar systems and products on projects of similar size and scope.
Successful completion of a minimum of 3 projects of similar size and complexity to specified Work.
2. Manufacturer: Minimum 5 years of experience in manufacturing of surface hardener.
3. A mock up or test installation is recommended.

1.5 DELIVERY, STORAGE AND HANDLING

A. Comply with Section [01 60 00] [___ ___].

B. Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.

C. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

D. Store tightly sealed materials off ground and away from moisture, direct sunlight, extreme heat, and freezing temperatures.

E. Store in unopened packaging in clean, dry environment protected from sunlight at 40 degrees F (4 degrees C) to 85 degrees F (29 degrees C). Prevent material from freezing.

1.6 PROJECT CONDITIONS

A. Environmental Requirements:

1. Ensure that substrate surface and ambient air temperature are minimum of 35 degrees F (minus 7 degrees C) and rising at application time and remain above 35 degrees F (minus 7 degrees C) for at least 24 hours after application. Ensure that frost or frozen surfaces are thawed and dry.
2. Do not place surface hardener in areas without roof cover.
3. Allow surfaces to attain temperature and conditions specified before proceeding with surface hardener application.
4. Perform Work of this Section in well-ventilated areas.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Subject to compliance with requirements, provides products from the following manufacturer:

Multicoat Corporation
23331 Antonio Parkway
Rancho Santa Margari, CA 92688
www.multicoat.com

B. Substitutions: Comply with Section [01 60 00] [___ ___].

C. Specifications and Drawings are based on manufacturer's proprietary literature from Multicoat Corporation. Other manufacturers shall comply with minimum levels of material, color selection, and detailing indicated in Specifications or on Drawings. Architect will be sole judge of appropriateness of substitutions.

2.2 MATERIALS

- A. Water soluble sealer/densifier, that when applied in accordance with manufacturers application recommendations will produce a dense surface resistant to abrasion, moisture, tire marking and provides added gloss to the floor finish.
 - 1. VOC Content: None
 - 2. Color: Clear
 - 3. Acceptable Product: Multicoat Vapor Shield by Multicoat Corporation

PART 3 - PART 3-EXECUTION

3.1 EXAMINATION

- A. Comply with Section [01700] [_____].

3.2 SURFACE PREPARATION:

- A. New Concrete
 - 1. Properly finish freshly placed concrete surfaces.

After the concrete has been placed, consolidated, struck off, and leveled, do not work the concrete further until ready for floating. Begin floating when the water sheen has disappeared and when the surface has stiffened sufficiently to permit the operation. During or after the first floating, check the planeness of the surface with a ten foot straightedge applied at not less than two different angles. Cut down high spots and fill low spots, and produce a surface with a Class B tolerance throughout. Refloat the slab immediately to a uniform sandy texture. . Surface is ready for application when it is damp but not wet and when it can no longer be marred by foot traffic

3.3 APPLICATION

Multicoat Vapor Shield is not a curing compound (film forming product), but should fully saturate the concrete surface for best results. Follow manufacturer's application recommendations. Acquire and review most current manufacturers published data. Including MSDS and warranty.

- A. NEW CONCRETE
 - 1. Apply Multicoat Vapor Shield undiluted to finished, damp concrete surface with low pressure sprayer after all surface water has evaporated and the surface will not be damaged or blemished by the application procedure.
 - 2. Keep the treated surface area wet with Multicoat Vapor Shield for thirty (30) minutes by spraying additional product and/or brooming excess material. Do not allow dry spots to occur. Prevent drying of surface for twenty (20)-thirty (30) minutes.
 - 3. As Multicoat Vapor Shield begins to penetrate and react, mist the surface lightly with clean water and brush, broom or scrub with non-aggressive brush or pad into surface to aid penetration/reaction.
 - 4. After thirty (30) minutes, depending on temperature and humidity, Multicoat Vapor Shield will begin to gel. Keep all treated surfaces moist, and continue brushing/scrubbing action for 5-15 minutes. Note: Surface can be slippery.
 - 5. Flush the surface with water and squeegee to remove excess material and all impurities present on the surface. Rinse with generous amounts of water to enhance product performance. Finish with a damp mop. Multicoat Vapor Shield is environmental safe and may be flushed directly into drains.
 - 6. DO NOT allow Multicoat Vapor Shield residue to dry on the surface. Any product allowed to dry on the surface may cause white residue that can be difficult to remove.
- B. EXISTING CONCRETE (Cured)
 - 1. For best results, apply to concrete cured seven (7) days or longer.

2. Assure surface is clean and free of contaminants (waxes, curing membrane, oil, etc). The surface must be thoroughly cleaned and swept with a broom to remove any loose dirt. It should then be wetted and scrubbed with an approved cleaner/degreaser or other cleaning compound. The abrasive action removes the film of consolidated dirt and exposes the true wearing surface. The surface should then be scrubbed, again, with soapy water and flushed with fresh water. To get the best penetration the floor should be allowed to dry thoroughly for a minimum of 24 hours, depending on atmospheric humidity.
3. The surface being treated should be pre-dampened prior to application of the sealer. Apply undiluted Multicoat Vapor Shield to saturation level by sprayer, broom, squeegee or floor scrubber.
4. Keep the treated surface area wet with product for thirty (30) minutes by spraying additional product and/or brooming excess material from low areas.
5. Do not allow dry spots to occur. Prevent any drying of surface for twenty (20) to thirty (30) minutes. Use brooms or floor scrubber with non-aggressive pad or brushes to aid in penetration.
6. After twenty (20) to thirty (30) minutes, depending on temperature and humidity, Multicoat Vapor Shield will begin to gel.

Keep all treated surfaces moist, and continue brushing/scrubbing action for 5-15 minutes. Note: Surface can be slippery.

7. Flush the surface with water and squeegee the surface to remove excess material and all impurities present on the surface. Rinse with generous amounts of water to enhance product performance. Finish with a damp mop. Multicoat Vapor Shield is environmental safe and may be flushed directly into

drains.

DO NOT allow Multicoat Vapor Shield residue to dry on the surface. Any product allowed to dry on the surface may cause white residue that can be difficult to remove.

B. Drying Time

Multicoat Vapor Shield penetrates in approximately thirty (30) –sixty (60) minutes depending on temperature and humidity. Allow each application to penetrate thoroughly before proceeding with additional applications.

Allow twenty four hours after application before opening to wheeled traffic.

Following drying, gloss development can be enhanced by buffing and or additional floor scrubbing.

3.4 CLEANING

- A. Clean tools immediately after use with clean water.
- B. Clean up and properly dispose of debris remaining on Project site related to application.
- C. Remove temporary coverings and protection from adjacent Work areas.