

This Manu-Spec® utilizes the Construction Specifications Institute (CSI) *Project Resource Manual* (PRM), including *MasterFormat™*, *SectionFormat™* and *PageFormat™*. A Manu-Spec is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets []; delete optional text in final copy of specification. Specifier Notes precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate product model numbers, styles and types are used in Specifier Notes and in the specification text. Article titled "Acceptable Material." Metric conversion, where used, is soft metric conversion.

This Manu-Spec specifies a penetrating concrete curing, densifying and hardening agent for use on new and existing concrete slabs. This product is manufactured by Curecrete Distribution, Inc. Revise Manu-Spec section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat* for other section numbers and titles.

SECTION 03 35 00 CONCRETE FINISHING

PART 1 GENERAL

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Section 01 42 19 - Reference Standards may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section.

1.1 SUMMARY

A. Section Includes:

1. Single application cure-densifier-hardener for new and existing concrete floors.
2. Precautions for avoiding staining concrete before and after application.

B. Related Section:

1. Cast-In-Place Concrete: Division 03 Cast-In-Place Concrete sections.

1.2 REFERENCES

A. American National Standards Institute (ANSI):

1. ANSI B101.1 Test Method for Measuring Wet SCOF of Common Hard-Surface Floors.
2. ANSI B101.3 Test Method for Measuring Wet DCOF of Common Hard-Surface Floors.

B. ASTM International (ASTM):

1. ASTM C779 Standard Test Method for Abrasion Resistance of Horizontal Concrete Surfaces.
2. ASTM C805 Standard Test Method for Rebound Number of Hardened Concrete.
3. ASTM D3359 Standard Test Methods for Measuring Adhesion by Tape Test.
4. ASTM F150-06(2018) Standard Test Method for Electrical Resistance of Conductive and Static Dissipative Resilient Flooring.
5. ASTM G23 Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials (Withdrawn 2000).

- C. National Floor Safety Institute (NFSI):
 - 1. Certified as High Traction by the National Floor Safety Institute (NFSI), Phase 2 testing.
- D. USGBC LEED Version 4
 - 1. Indoor VOC Emission Test; California Department of Public Health CDPH/EHLB/Standard Method Version 1.2, 2017.
- E. Health Product Declaration Collaborative (HPD)
 - 1. HPD v1.0.
 - 2. HPD v2.1.
- F. Additional Testing Methods
 - 1. Mohs Pencil Hardness Test.
 - 2. Modified Phenolphthalein Test.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor, either before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Section [01 33 00 - Submittals Procedures].

1.3 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Section [01 33 00 - Submittal Procedures] [_____].
- B. Test Reports: Provide concrete mix design and cement mill certificate(s)
- C. Product Data: Submit product data, including manufacturer's Spec-Data® sheet, installation instructions and technical bulletins for specified products.
- D. Certificates: Manufacturer's certification that the installer is acceptable.
- E. Maintenance Data: Maintenance instructions, including precautions for avoiding staining after application.

Specifier Note: Article below should include prerequisites, standards, limitations and criteria that establish an overall level of quality for products and workmanship for this section. Coordinate article below with Division 01 Quality Assurance Section.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Acceptable to the manufacturer.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Section 01 41 00 - Regulatory Requirements. Repetitive statements should be avoided.

- B. Regulatory Requirements: In accordance with Section [01 41 00 - Regulatory Requirements] [_____].

Specifier Note: Article below should include special and unique requirements. Coordinate article below with Division 01 Product Requirements Section.

1.5 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 01 Product Requirements section.
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.
- D. Handling: Protect materials from dirt, corrosion, oil, grease and other contaminants.

PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions, as applicable. Use of such phrases as "or equal," "or approved equal," or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.1 MATERIAL

Specifier Note: Paragraph below is an addition to CSI SectionFormat and a supplement to Manu-Spec. Retain or delete paragraph below per project requirements and specifier's practice.

- A. Manufacturer: Curecrete Distribution, Inc.
 - 1. Contact: 1203 Spring Creek Place, Springville, UT 84663-0551; Telephone: (800) 998-5664, (801) 489-5663; Fax: (801) 489-3307; Email: info@ashfordformula.com; Website: www.ashfordformula.com.
- B. Cure-Densifier-Hardener: Ashford Formula is a transparent, chemically reactive, water-based treatment that penetrates into the concrete surface, forming a chemical reaction of crystalline growth that fills in the natural pores and voids in the concrete surface.
 - 1. Manufacturer shall provide a current Environmental Product Declaration, issued by an accredited Program Operator
 - 2. Abrasion Resistance to Revolving Disks: At least a 32.5% improvement over untreated samples when tested in accordance with ASTM C779.
 - 3. Surface Adhesion: At least a 22% increase in adhesion for epoxy when tested in accordance with ASTM D3359.
 - 4. Hardening: As follows when tested in accordance with ASTM C39:
 - a. After 7 Days: An increase of at least 40% over untreated samples.
 - b. After 28 Days: An increase of at least 38% over untreated samples.
 - 5. Rebound Number: An increase of at least 13.3% over untreated samples when tested in accordance with ASTM C805.
 - 6. Electrical Resistance: To ASTM F150.
 - 7. Light Exposure Degradation: No evidence of adverse effects on treated samples when tested in accordance with ASTM G23.
 - 8. Test Method for Measuring Wet SCOF of Common Hard-Surface Floors in accordance with ANSI B101.1.
 - 9. Test Method for Measuring Wet DCOF of Common Hard-Surface Floors in accordance with ANSI B101.3.
 - 10. Certified as High Traction by the National Floor Safety Institute (NFSI), Phase 2 testing.
 - 11. Certified Compliant according to California Department of Public Health CDPH/EHLB/Standard Method Version 1.2, 2017.

2.2 PRODUCT SUBSTITUTIONS

- A. Substitutions: Substitutions in accordance with Section [01 25 13 - Product Substitution Procedures] [No substitutions permitted] [_____].

2.3 ADDITIONAL PRODUCTS/SYSTEMS

- A. Joint Filler: CreteFill Pro 85MI, semi-rigid, 2-component, self-leveling, 100% solids, rapid curing, polyurea control joint and crack filler with an 85 Shore-A hardness.
- B. Cleaning Solution: CreteClean Plus with Scar Guard
- C. Oil Repellent Sealer: RetroPel
- D. Stain Protector: RetroGuard
- E. Spall Repair: CreteFill Pro Spall Repair
- F. Crack Repair: CreteFill Pro Crack Repair EZ Shave
- G. Densification Enhancer: PowerPrep LC (low-carbon type concretes)
- H. Carbonation Rescue: SnapBack

PART 3 EXECUTION

Specifier Note: Paragraph below is an addition to CSI SectionFormat and a supplement to Manu-Spec. Retain or delete paragraph below per project requirements and specifier's practice.

3.1 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.2 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared and are suitable for application of product.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.3 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. If the Ashford Formula was used as a cure, but the concrete later exhibits softness, dusting, or excessive porosity, apply PowerPrep LC as directed, wait for the floor to thoroughly dry (usually 2-3 hours), then re-apply the Ashford Formula.
- D. If the Ashford Formula is being used after the concrete has been cured by some other means, examine the floor to ensure soundness of the wearing surface.
 - 1. Conduct Mohs Pencil Hardness Test. If reading is above 4, continue Ashford Formula installation; if 4 or less, process in 1 of 2 ways:
 - a. Apply PowerPrep LC, then densify with the Ashford Formula 2-3 hours later.
 - b. If carbonation is suspected, conduct a modified phenolphthalein test to determine if the concrete surface is carbonated; if positive, apply the 2-part SnapBack system as directed.
 - i. NOTE: If positive for carbonation, it may be necessary to have a core and petrographic analysis to determine depth of carbonation.
- E. Do not use frozen material. Thaw and agitate prior to use.
- F. If construction equipment must be used for application, diaper all components that might drip oil, hydraulic fluid or other liquids.

3.4 INSTALLATION

- A. New Concrete: Apply cure-densifier hardener to new concrete as soon as the concrete is firm enough to work on after troweling; with colored concrete, wait a minimum of 30 days before application.
 - 1. Spray on at rate of 200 ft²/gal (5 m²/L).
 - 2. Keep surface wet with cure-densifier-hardener for a minimum soak-in period of 30 minutes without allowing it to dry or become slippery. If slipperiness occurs before the 30 minute time period has elapsed, apply additional cure-densifier-hardener, as needed, to keep the entire surface in a non-slippery state for the first 15 minutes; for the remaining 15 minutes, mist the surface as needed with water to keep the material in a non-slippery state. In hot weather conditions, follow manufacturer's special application procedures.
 - 3. When the treated surface becomes slippery after this period, lightly mist with water until slipperiness disappears.
 - 4. Wait for surface to become slippery again, and then flush entire surface with water to remove all cure-densifier-hardener residue.
 - 5. Squeegee surface completely dry, flushing any remaining slippery areas until no residue remains.
 - 6. Wet vacuum or scrubbing machines can be used in accordance with manufacturer's instructions to remove residue.
- B. Existing Concrete: Apply cure-densifier-hardener only to clean, bare concrete.
 - 1. Thoroughly remove previous treatments, laitance, oil and other contaminants.
 - 2. Saturate surface with cure-densifier-hardener; respray or broom excess onto dry spots.
 - 3. Keep surface wet with cure-densifier-hardener for a minimum soak-in period of 30–40 minutes.
 - 4. If most of the material has been absorbed after the 30 minute soak-in period, remove all excess material, especially from low spots, using broom or squeegee.
 - 5. If most of the material remains on the surface after the 30 minute soak-in period, wait until the surface becomes slippery and then flush with water, removing all cure-densifier-hardener residue. Squeegee completely dry, flushing any remaining slippery areas until no residue remains.
 - 6. If water is not available, remove residue using squeegee.

3.5 PROTECTION

- A. Protect installed floors for at least 3 months until chemical reaction process is complete.
 - 1. Do not allow traffic on floors for 3 hours after application.
 - 2. Do not allow parking of vehicles on concrete slab.
 - 3. If vehicles must be temporarily parked on slab, place drop cloths under vehicles during entire time parked.
 - 4. Do not allow pipe cutting using pipe cutting machinery on concrete slab.
 - 5. Do not allow temporary placement and storage of steel members on concrete slabs.
 - 6. Clean up spills immediately and spot-treat stains with degreaser or oil emulsifier.
 - 7. Clean floor regularly in accordance with manufacturer's recommendations.
- B. Suggested Protection Products.

NOTE: Whichever system is chosen, it must be either all breathable or all non-breathable materials. Floor protection must be maintained during construction; therefore, it is typically the responsibility of the General Contractor.

1. GoldiLox
2. Skudo
3. Ram Board

END OF SECTION