

Butterfield Color® Perma-Cast® Sierra Stain™ – Guide Specification

NOTE** This Section is based on systems of

NOTE** Butterfield Color®

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NOTE** This guide specification is intended to be used by a qualified construction specifier. It should not be used without appropriate modifications.

NOTE** Notes for review by specifier begin with “NOTE**.” Optional text requiring a selection is enclosed within brackets, e.g., “Color shall be [gray] [white].” Items requiring specifier input are indicated by a blank line enclosed within brackets, e.g., “Color: [_____].” Delete specifier notes and non-applicable optional text in final specification.

NOTE** Specification Section numbers and Section titles are according to The Construction Specifications Institute MasterFormat™ 1995 edition and indicated within brackets for MasterFormat™ 2004 edition.

GUIDE SPECIFICATION

NOTE ** Retain one Section number and title below and revise footer Section number and Section title to match.

SECTION 02769 [32 13 16.25]

STAINED CEMENT CONCRETE PAVEMENT [STAINED CONCRETE PAVING]

SECTION 03362 [03 35 40]

CHEMICALLY STAINED CONCRETE

SECTION 09930 [09 93 50]

CONCRETE FLOOR STAIN

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

NOTE** Delete optional text below for exterior concrete pavement or interior concrete floor that is not required.

1. Stained concrete for [pavement] [floors].
2. Sealer.

B. Related Sections:

NOTE** Delete subparagraphs below that are not required; add others as required.

1. [Division 2 Section “Cement Concrete Pavement”] [Division 32 Section “Concrete Paving”] for stained cast-in-place concrete pavement.
2. Division 3 Section “Cast-in-Place Concrete” for interior stained cast-in-place concrete.
3. Division 3 Section “Cementitious Stampable Overlay” for stained cementitious stampable overlays.
4. Division 3 Section “Concrete Resurfacing” for stained overlay cementitious toppings.

1.2 SUBMITTALS

- A. Submit according to Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data: For each product indicated.
- C. Samples for Initial Selection: Manufacturer's color charts.
- D. Qualification Data: For Installer and manufacturer specified in Quality Assurance Article, including names and addresses of completed projects, architects, and owners.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Two year's experience with projects of similar scope and quality.

NOTE ** Delete paragraph above or below.

- B. Installer Qualifications: Trained and approved by Manufacturer of stain products.
- C. Manufacturer's Qualifications: Three year's experience manufacturing products required.
- D. Source Limitations: Obtain products from same source throughout Project.

NOTE ** Older concrete, typically exterior concrete exposed to rain or runoff may be weathered beyond the possibility of staining. Determine ability of substrate to react with stain with field samples prior to start of final work. If substrate cannot react with stain, an alternative coloring method is recommended.

- E. Field Samples: Locate at site and obtain approval before start of final work. Field samples shall be minimum [4 by 4 feet (1.2 by 1.2 m)] [_____].
 1. If stain does not visibly fizz, additional cleaning is required, or pH of concrete is too low to react with stain.
 2. Demonstrate range of colors, finishes, and workmanship, including sealing procedures.
 3. Approved field samples set quality standards for comparison with remaining work.
 4. [Remove field samples when directed.] [Approved field samples may become part of the completed Work if undisturbed at completion of Project.]

NOTE ** Delete paragraph below if preinstallation conference is not required.

- F. Preinstallation Conference: Conduct conference at site to comply with requirements of Division 1 Section “Project Meetings.”

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original packaging with labels intact.
- B. Store in clean, dry and protected location, according to manufacturer's requirements.

1.5 PROJECT CONDITIONS

- A. Environmental Requirements: Comply with stain manufacturer's instructions.
 - 1. Do not apply stain if concrete substrate temperature is not between 50 to 85 deg F before and during installation.
 - 2. Do not apply stain if air temperature is not between 50 and 85 deg F during installation, and for at least 48 hours after installation.
 - 3. In hot weather, install stain in early morning or when surfaces are shaded.
 - 4. Do not install stain if rain is predicted within 24 hours after installation.
 - 5. Substrates shall be uniformly dry, and free of standing water.

PART 2 - PRODUCTS

2.1 STAIN MATERIALS

- A. Stain: Chemically reactive penetrating stain designed for permanently color concrete [floors] [pavements].
 - 1. Product: Butterfield Color® Perma-Cast® Sierra Stain™.
 - 2. Colors: As selected by [Architect] [_____] from manufacturer's full range.

NOTE ** Delete subparagraph above if colors are selected and indicate color number in subparagraph below. Add a schedule if multiple colors are required. Delete subparagraph below if colors are not selected.

- 3. Colors: Provide the following color[s]:
 - a. Color [1] [_____]: BAS-[_____].

- B. Water: Potable.

2.2 SEALING MATERIALS

- A. Clear, Solvent-Borne, Membrane-Forming Sealing Compound: ASTM C 309, non-yellowing, VOC-compliant, high-gloss, clear liquid.
 - 1. Product: Butterfield Color® Clear-Guard™ Cure & Seal.

NOTE ** Delete paragraph below if matte finish for sealer is not required.

- B. Flatten Paste: Manufacturer's standard product designed to reduce sealer gloss finish to matte finish.
 - 1. Product: Butterfield Color® Flatten Paste.

NOTE ** Delete paragraph below if slip-resistive additive is not required for interior concrete.

- C. Slip-Resistive Additive: Finely graded aggregate or polymer additive designed to add to sealer for slip-resistant surface.

2.3 MIXING

- A. Combine equal parts of stain with water in a plastic container and mix well, according to manufacturer's instructions.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrate and conditions for compliance with requirements.
- B. Do not proceed with stained concrete installation until unacceptable conditions are corrected.

3.2 SUBSTRATE PREPARATION

NOTE ** Delete paragraph below if concrete is not new.

- A. Allow concrete to cure minimum 21 days before staining.
- B. Protect surfaces not to be stained from over-spray, run-off, and tracking.
- C. Clean substrates thoroughly using trisodium phosphate (TSP) and water with a scrub brush, according to manufacturer's instructions. Do not use acidic cleaners to clean substrates before staining.
- D. For hard troweled surfaces, open surface of substrates by sanding with 80-grit sanding disk or black scrubbing pad. Test sanding in an unobtrusive location to assure that sand and aggregate are not exposed by excessive sanding.
- E. Test substrates by spotting with water. If water beads, or does not penetrate surface, continue preparing substrates.
- F. Rinse substrates until rinse water is clean. Collect cleaning residue by wet vacuuming or squeegee to drains.
- G. Allow substrates to dry thoroughly prior to application of stains.
- H. Divide substrates into small areas by natural stopping points, such as walls and joint lines.
- I. Protection: Protect substrates during the construction period as follows:
 - 1. Use safe-release blue painter's masking tape. Do not use adhesive or duct tape.
 - 2. Prevent petroleum products from staining substrates.
 - 3. Diaper hydraulic equipment.

4. Do not park vehicles on substrates.
5. Do not permit pipe-cutting equipment on substrates.
6. Do not place steel reinforcing bars on substrates to avoid rust stains.
7. Notify other trades of protection requirement before and after stain application.
8. Do not use red or blue chalk for snapping lines. Use orange chalk only.
9. Do not store stacks of lumber, drywall, chemicals or construction debris on substrates.

NOTE ** Delete paragraph below if scoring is not required. Select optional text for time of scoring. If only one stain color, score after staining.

- J. Scoring: Score concrete surfaces [before] [after] staining with diamond blades to a depth of 1/8-inch (3.2 mm). Rinse until rinse water is clean.

3.3 STAINING

- A. Apply stain to concrete surfaces by acid-resistant sprayer or acid-resistant natural fiber brush, immediately scrubbing into surface in a random circular motion, according to manufacturer's instructions.
- B. Maintain a wet edge, working newly applied stain into edges of adjacent wet edges of previously treated surfaces. Maintain consistent saturation throughout application. Do not splash, drip, or puddle stain on substrates to prevent darker effects.

NOTE ** Delete paragraph below if staining vertical surfaces is not required.

- C. Apply stain to vertical surfaces in similar manner, from bottom working upward, avoiding excessive rundown of material on substrates to prevent darker streaks.
- D. After initial application of stain has reacted 4 hours minimum, test surface to determine if sufficient color has been applied to match field samples.
 1. Remove residue from small section by wet scrubbing and rinsing.
 2. If test indicates color is not sufficient, apply additional stain, allow to dry, and retest.
- E. When color is sufficient, neutralize stain by mopping with a solution of one pound of baking soda mixed in 5 gallons of water. Remove stain residue by wet scrubbing with water and a stiff, acid-resistant brush. Do not use soap. Rinse until rinse water is clean.
 1. Collect rinse water by vacuuming or absorbing with inert material. Dispose of stain residue, rinse water, and absorbent materials legally.

3.4 SEALING

- A. Sealer Application: After stained and rinsed concrete has thoroughly dried, uniformly apply sealer in continuous operation by sprayer or short nap roller according to manufacturer's instructions. After initial application is dry and tack free, apply a second coat.
 1. Do not over apply or apply in a single heavy coat.

NOTE ** Delete subparagraph below if flatten paste not required for reducing sealer gloss finish to matte finish.

2. Thoroughly mix flatten paste in sealer according to manufacturer's instructions. Stir occasionally to maintain uniform distribution of paste.

NOTE ** Delete subparagraphs below for interior concrete. For interior applications subject to wetting, consider slip-resistant floor wax over sealer.

3. Thoroughly mix slip-resistant additive in sealer according to manufacturer's instructions. Stir occasionally to maintain uniform distribution of additive.
4. Verify adequacy of slip resistance before opening up surfaces to traffic.

3.5 PROTECTION

- A. Protect stained concrete from damage or deterioration until date of Substantial Completion.

END OF SECTION

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