

GUIDE SPECIFICATION

Manufacturer:

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SECTION 09870

CHEMICALLY STAINED CONCRETE FLOORS

This guide specification has been prepared by QC Construction Products, in printed and electronic media, as an aid to specifiers in preparing written construction documents for colored concrete floor slabs using a chemically etching colored stain.

Edit entire master to suit project requirements. Modify or add items as necessary. Delete items which are not applicable. Words and sentences within brackets [_____] reflect a choice to be made regarding inclusion or exclusion of a particular item or statement. Where a value, word, or phrase is followed by a bracket, the preferred value, word, or phrase occurs first, with the other choices following inside the brackets. This section may include performance, proprietary and descriptive type specifications. Edit to avoid conflicting requirements.

This guide specification is written around the Construction Specifications Institute (CSI), Section Format standards references to section names and numbers are based on MasterFormat 95.

For specification assistance on specific product applications, please contact our offices above or any of our local product representatives throughout the country. Additional technical information is available in our CSI formatted Product Information Bulletins.

QC Construction Products reserves the right to modify these guide specifications at any time. Updates to this guide specification will be posted to the manufacturer's web site and/or in printed matter as they occur. QC Construction Products makes no expressed or implied warranties regarding content, errors, or omissions in the information presented.

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Provisions established within the General and Supplementary General Conditions of the Contract, Division 1 - General Requirements, and the Drawings are collectively applicable to this Section.

1.2 SECTION INCLUDES

Edit the "Section Includes" paragraph to briefly describe the content of the section. After editing section, refer back to this paragraph to verify no conflicts occur.

- A. Concrete floor slabs colored using a chemically etching stain.
- B. Surface finishing and sealing.

1.3 RELATED SECTIONS

Sections paragraph below to suit project requirements; Delete sections that will not be used.

- A. Section 07920 - Joint Sealants: Sealant for joints.

1.4 QUALITY ASSURANCE

Include quality assurance requirements below, which are consistent with the size and scope of the project and extent of work of this section. Only request qualification statements you intend to review, and which are necessary to establish qualifications of the product, manufacturer, or installer.

- A. Perform work in accordance with ACI 301.
B. Obtain materials from same source throughout.

1.5 SUBMITTALS

Include submittal requirements below, which are consistent with the scope of the project and extent of work of this section. Only request submittals, which are necessary for review of design intent.

Do not request submittals if drawings sufficiently describe the products of this section or if proprietary specifying techniques are used. The review of submittals increases the possibility of unintended variations to drawings.

- A. Submit product data under provisions of Section 01300.
B. Include data on joint filler, chemical stains, and curing/sealing compounds.
C. Submit manufacturer's instructions under provisions of Section 01300.
D. Provide field samples of surface colors and textures specified for architect approval prior to beginning work, 48 x 48 inch in size illustrating paving finishes.

PART 2 PRODUCTS

2.1 PRODUCTS

- A. Chemical Stain: Metallic salts in water based solution, with acidic properties; Patina Stain by QC Construction Products.
B. Chemical Stain Intensifier: Use prior to applying Patina Stain by QC Construction Products to remove surface minerals, latents, while cleaning the concrete and opening the pours to accept the stain.
1. [QC Con-Clean by QC Construction Products.]

QC Construction Products has a broad line of concrete sealers to enhance the beauty of stained concrete and minimize the damaging effects of petroleum based contaminants and overall effect of weathering. Refer to manufacturer's product usage recommendations. Contact manufacturer for suggested maintenance coatings for periodic renewal of finish. The following is a brief description of each sealer recommended for chemically stained concrete:

QC Ultra Seal or Solvent Seal VOC III: Solvent based, non-yellowing, penetrating sealer, to protect against dusting, staining, and dirt.

QC Solvent Seal18 or 27: Same as above, but do not comply with some VOC regulations.

QC Cemseal: Water based, 100% acrylic emulsion, with excellent resistance to penetration of oil, gas, and water.

QC Surpro SB & WB: A two-part polyurethane that forms a high-solids coating. SB = Solvent-Based, WB = Water-Based. These are the most durable of all the QC Sealers.

QC Interior Floor Finish: A water-based, high-solids sacrificial finish to be used as a maintenance top coat for interior architectural or gray concrete surfaces.

- B. Sealing and Finish Coatings:
 1. [QC Solvent Seal VOC III by QC Construction Products.]
 2. [QC Ultra Seal by QC Construction Products.]
 3. [QC Solvent Seal 18 or 27 by QC Construction Products.]
 4. [QC Cemseal by QC Construction Products.]
 5. [QC Surpro SB or WB by QC Construction Products.]
 6. [QC Interior Floor Finish by QC Construction Products.]
- C. Form release agent: As acceptable to concrete colorant manufacturer, non-staining, dissipative type.
- D. Vapor Retarding Membrane: [6] [10] mil [reinforced] polyethylene.]

2.2 JOINT FILLERS

Select one or more of the following joint fillers. "A" is used where an architectural statement needs to be made. "B" is used as backing for joint filler specified either below or in Section 07920.

- A. Redwood Boards: Construction heart grade redwood, sound and free of checks, splits or other defects, [3/4] 1-1/2] inch thick.
- B. Non-Asphaltic Joint Fillers: ASTM D1752, Type I.

Select C.1 for applications where puncture resistance of horizontal joints is not a requirement. Select C.2 for areas where a shore A modulus of 40 is desirable for horizontal joints subject to frequent foot traffic.

- C. Sealants: Two part polyurethane sealants, of grade as required to suit application, meeting ASTM C920, in manufacturer's [standard] [custom] colors, and as follows:
 1. Urethane, SL grade, as specified in Section 07920.
 2. Urethane, SL-TB grade as specified in Section 07920

PART 3 EXECUTION

3.1 CHEMICALLY STAINING CONCRETE

- A. Preparation:
 1. Verify that newly placed protected concrete surface has cured at least 14 days (we recommend the full 28 days or unpredictable results may occur.) and that non-compatible liquid curing materials were not used. QC recommends *QC Sure Cure* (surface applied curing liquid) and *water-curing or non-wrinkled kraft paper*. On new or existing (older) concrete, thoroughly clean floors with *QC Con-Clean* so that uniform penetration of the stain will occur. If absorption is not uniform and sufficient, light sanding may be required to properly prepare the floor.
 2. To test the surface to be stained, mist the surface with water from a hand-held spray bottle. Potential problems may not "wet out" uniformly. Extremely dense or burnished surfaces should be slightly abraded to better accept QC Patina Stains.
 3. Thoroughly clean concrete surfaces by sweeping, pressure washing or scrubbing using a rotary floor machine. Detergents as approved by QC Construction Products may be used to facilitate cleaning. Thoroughly rinse with clean water to remove all cleaning residue.
 4. Prepare a representative test sample, of size sufficient to represent the end product, complete with stain and sealer. Allow sample to be reviewed and approved before beginning balance of the work.
 5. Protect all surrounding landscaping and adjacent surfaces from overspray or residue run-off. Mask as required.
 6. Do not allow tape of any kind to be applied to or to come in contact with the floor, prior to or after stain has been applied.

- B. Stain Application:
1. Divide work area into smaller work sections for proper control of coverage, wet edge, and overlaps. Plan work area so that concrete wet with colorant is not tread upon.
 2. Apply chemical stain in a minimum of two coats at the rate of 200-400 S.F./gallon per coat using a pressurized sprayer, followed by working the stain into the concrete using a stiff nylon bristle brush in a circular motion. Avoid excessive puddling and lap marks. Allow 4 hours dwell time between coats. Do not rinse between coats unless contrasting colors are used in separate coats.
 3. Allow final coat to dry. Recommended minimum dry time for final coat on many surfaces is 10 hours. Dense or burnished surfaces will require a minimum of 18 hours dry time.
 4. Remove salty residue with a stiff nylon bristled-brush using *QC Concrete Degreaser & Neutralizer* to neutralize the floor until water runs clean.
 5. After concrete has been rinsed and allowed to completely dry, apply sealer, in a two-coat process as recommended by manufacturer.
- C. Apply clear sealer in accordance with manufacturer's instructions.
- D. After basecoat sealer has dried minimum 12 hours, please apply *QC Interior Floor Finish or QC Natural Beauty (3-4 coats)* to protect and maintain the floor from foot traffic and other types of wear.
- E. For sandblasting custom logos, we recommend using 3m "buttergrade" stencil/self-adhesive masking material. Please see architect for custom design. 3m material may be found at any local custom sign manufacturer.

3.2 PROTECTION

- A. Protect stained floors from construction damage until substantial completion.
- B. Contact Ross Urshan (407) 257-5967 for additional product/technical support.

END OF SECTION