

GUIDE SPECIFICATION

CONCRETE FINISHES SECTIONS 3, 9

WATER-BASED POLISHED AND DYED CONCRETE FLOOR

PART 1 – GENERAL

1.1 SUMMARY

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to Work of this Section.
- B. Section Includes:
 - 1. Water-based Polished Concrete Dye floor finish for Interior use.
 - 2. Approved Densifier
 - 3. Approved Stain Protection
 - 4. Approved Cleaner
- C. Related Sections:
 - 1. Division 3 Section “Cast-In-Place” for general applications of concrete.

1.2 SUBMITTALS

- A. Product Data: Manufacturer’s technical data sheets and installation instructions for each product specified.
- B. Samples for Initial Selection or Custom Color Samples Provided by Manufacturer per Specifier’s Requirements: Manufacturer’s color charts showing full range of colors available.
- C. Qualification Data: For firms indicated in “Quality Assurance” Article, including lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer of dye and densifier products shall have minimum 3 years experience in the production of chemical dyes and densifiers.
- B. Installer Qualifications: Minimum [1] [_____] years experience in dyeing applications on polished concrete and has successfully completed not less than [5]

[] projects comparable in scale and complexity. Applicator should be Certified by Manufacturer.

- C. Substitutions: The use of any products other than those specified shall be considered providing that the [Contractor] [Construction Manager] requests its use in writing within 21 days prior to bid date. This request shall be accompanied by:
 - 1. A certificate of compliance, along with product and installation data, from the material manufacturer stating that the proposed products meet or exceed the requirements specified for application of a water-based dye to polished concrete with densifier.

- D. Regulatory Requirements:
 - 1. Products shall comply with the United States Clean Air Act for maximum Volatile Organic Compound (VOC) content as specified in PART 2 of this section.

- E. Source Limitations: Obtain each specified material from same source and maintain high degree of consistency in workmanship throughout Project.

- F. [Mockups]:
 - 1. Provide under provisions of Division 1 Section [“Quality Control.”] [].
 - 2. At location on Project selected by [Architect] [], prepare [mockup] [4 by 4 feet (1.2 by 1.2 m)] [] for review and approval.
 - 3. Construct [mockup] using processes and techniques intended for use on permanent work, including curing procedures. Include samples of control, construction, and expansion joints in [mockup] panels.
 - 4. [Mockup] shall be dyed and densified by the individual workers who will actually be performing the work for the Project.
 - 5. Obtain written approval of the [mockup] from Architect [] before start of work.
 - 6. Retain approved [mockup] through completion of the Work for use as a quality standard for finished work.
 - 7. Approved [mockup] may become part of the completed Work if undisturbed at time of Substantial Completion.
 - 8. Remove [mockup] when directed.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver the specified products in original, unopened containers with legible manufacturer’s identification and information.

- B. Store specified products in conditions recommended by the manufacturer.

1.5 PROJECT CONDITIONS

- A. Environmental Conditions: Maintain an ambient temperature of between 50° and 90°F during application and at least 48 hours after application.
- B. Protection: Precautions shall be taken to avoid damage or contamination of any surfaces near the work zone. Protect completed dye work from moisture or contamination.
- C. All equipment must be diapered and have non-marking tires. Do not allow pipe cutting or welding to be performed on the slab. Do not use red or blue chalk lines, as they may permanently stain concrete. Orange is recommended.
- D. No other trades will be allowed in the areas being worked on due to possible safety and floor contamination issues.

1.6 PRE-JOB CONFERENCE

- A. One week prior to the placement of Water-based Dye and Densifier a meeting will be held to discuss the project and application of materials.
- B. It is suggested that the [Architect,] [_____] [General Contractor,] [Construction Manager,] Subcontractor and a Manufacturer Representative to be present.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Manufacturer: American Decorative Concrete Supply Company (ADCSC), 120 Commercial, Lowell, Arkansas 72745. Office 479-725-0033, Fax 479-725-0031. Contact Carl Cabot at 503-288-3097 or ccabot@adcsc.com.

2.2 MATERIALS

- A. Water-based Polished Concrete Dye: AmeriPolish Water-based dye by ADCSC is an environmentally friendly dye formulated to penetrate concrete and cementitious surfaces to provide a translucent color enhancement of the concrete or cementitious surface in conjunction with densified and polished concrete.
 - 1. Colors: As selected by [Architect] [_____].

2. Colors: As indicated on the AmeriPolish Water-based Dye Color Chart.
- B. Densifier:
1. [Densifier:] AmeriPolish water-based dyes are compatible with most commercial densification products that are manufactured to be used with concrete polishing diamonds.
 2. [Densifier] Perform test to ensure dye and densifier compatibility prior to beginning the project installation.
- C. Water-based Stain Repellant: AmeriPolish ProGuard™ Stain Shield.
- D. Conditioning Cleaner for dyed and polished concrete: AmeriPolish ProGuard Conditioning Cleaner.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: [Contractor] [Construction Manager] shall examine areas and conditions under which work will be performed and identify conditions detrimental to proper and timely completion of work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. New Concrete:
1. Newly placed concrete shall be sufficiently cured for a recommended 28 days.
 2. Do not use liquid curing materials; those that leave a bond barrier to dye and densifier penetration, especially dissipative cures. Cure concrete flatwork with new, unwrinkled, non-staining, high quality curing paper or a breathable curing blanket. Do overlap paper or blankets. Tape seams. Placement of wood on curing slab may leave “ghosting” on slab, or tannin stains if allowed to get wet.
 3. Surfaces shall be cured using the same method and different sections (pours) should chemically dyed when the concrete is the same age.
 4. Follow AmeriPolish Technical information for diamond grinding steps required prior to application of water-based dye. This information may be downloaded from www.adesc.com.
 5. Immediately prior to dyeing, thoroughly clean the concrete. Sweep surfaces, and scrub using a rotary floor machine and white brush or pad. Use quality commercial cleaning product, such as AmeriPolish ProGuard Conditioning Cleaner, formulated for polished concrete, to facilitate cleaning. Rinse surfaces after cleaning until rinse water is completely clean. Allow floor to dry completely prior to application of floor stain.

B. Existing Concrete:

1. Perform test of slab by first cleaning concrete to ensure that surfaces are completely penetrable before receiving the initial application of water-based dye.. Test surfaces to receive water-based dye by spotting with water. Water should immediately darken the substrate and be readily absorbed. If water beads and does not penetrate or only penetrates in some areas, additional surface preparation and testing shall be performed. Perform a test to determine what level of grinding diamonds will be required to completely remove any potential bond barrier. If no bond barrier is apparent, then proceed to diamond grinding level as agreed upon by [Construction Manager] and/or [Architect].
2. Follow AmeriPolish Technical information for diamond grinding steps required prior to application of water-based dye. This information may downloaded from www.adcsc.com.
3. Immediately prior to dyeing, thoroughly clean the concrete. Sweep surfaces, and scrub using a rotary floor machine and white brush or pad. Use quality commercial cleaning product, such as AmeriPolish ProGuard Conditioning Cleaner, formulated for polished concrete, to facilitate cleaning. Rinse surfaces after cleaning until rinse water is completely clean. Allow floor to dry completely prior to application of floor stain.

3.2 APPLICATION OF WATER-BASED DYE

- A. Concrete surfaces shall be dry and properly prepared as described above. Protect surrounding areas from over-spray, run-off and tracking. Divide surfaces into small work sections using wall, joint lines, or other stationary breaks as natural stopping points.
- B. Apply water-based dye at the coverage rate recommended by the manufacturer and use application equipment described in the manufacturer's printed technical literature. The color of the liquid water-based dye is not necessarily indicative of the final color produced on the concrete substrate as the dye is translucent and final color achieved will be influenced by the color of the concrete slab onto which the dye is applied.
- C. The standard application timing for the first application is following the completion of the 200 grit resin diamonds. Apply the water-based dye to the substrate with the Patriot SpraySafe System utilizing the green #4 conical tip. Download application instructions at www.adcsc.com.
- D. Drying time depends on concrete porosity, wind conditions, temperatures, and humidity levels.
- E. A second application is recommended to produce a more consistent appearance. If specified, it should be applied after the first application has dried sufficiently (normally 10 – 50 minutes after application depending on temperature and humidity),

the slab has then been cleaned per manufacturer instructions, and the 400 grit resin diamond step has been completed.

3.4 APPLICATION OF COMMERCIAL DENSIFIER FOR POLISHED CONCRETE

- A. Concrete must thoroughly cleaned of water-based dye residual with water and white pad or brush prior to application of commercial densifier specifically manufactured for use with polished concrete.
- B. [Densifier] Densifier shall be tested for compatibility with water-base dye.
- D. Apply according to manufacturer's written instructions.
- E. Following application and curing of Densifier, complete final diamond polishing steps to level as approved in test sample.

3.5 APPLICATION OF STAIN SHIELD

- A. Following final diamond polishing steps, clean floor with water and white pad or Brush, and allow to thoroughly dry prior to application of AmeriPolish ProGuard Stain Shield. Apply two light "film" applications of Stain Shield, allowing floor to dry between applications. Following final application, burnish floor with a high-speed burnisher and white or light guerilla pad. Download complete application instructions from www.adcsc.com .

3.5 PROTECTION

- A. Protect floor from traffic and water for at least 72 hours after final application of Stain Shield.

3.6 MAINTENANCE

- A. Maintain water-base dyed and densified floors by sweeping dry soils and particulate on a scheduled rotation. Clean spills when they occur and rinse dirt off with water. Wet-clean heavily soiled areas by mopping or by scrubbing with a rotary floor machine equipped with a white brush and AmeriPolish ProGuard Conditioning Cleaner. Download instructions from www.adcsc.com . DO NOT use a cleaner that contains sulfides or hydroxides, as these will attack concrete.

3.7 APPLICATORS

- A. For a list of certified applicators, contact AmeriPolish at 479-725-0033 or visit the website at www.adcsc.com.

END OF SECTION

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