

System Specification
CONCRETE RESURFACING (BROOM FINISH) SYSTEM
Division 7 Thermal and Moisture Protection and Division 9 Finishes
Section 07 18 00 Traffic Coatings and Section 09 94 00 – Decorative Finishing
and 09 97 26 - Cementitious Coatings

NOTE TO SPECIFIER:

Concrete Resurfacing (Broom Finish) System provides an economical alternative to the removal and replacement of existing concrete. This system creates a flexible and durable finish that can be used to re-level, renovate, resurface and create decorative patterns and designs. It can be integral pigment or a topical stained or coated and protected with an impervious clear sealer.

PART 1 – GENERAL

- 1.1 Related Work Specified in Other Sections (Delete if Not Applicable):
- 1.1.1 Concrete Resurfacing (Broom Finish) System: Is a broom textured cementitious overlayment system that is bonded direct to properly prepared concrete. The portland cement concrete substrate shall be placed, finished and leveled in accordance with industry standards.
- a. New portland cement concrete shall be placed in accordance with American Concrete Institute, ACI 302.2R Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials.
 - b. Per ACI 302.2R the new concrete is to be placed directly on the subgrade moisture barrier in accordance with ASTM E1745 Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs.
 - c. Existing portland cement concrete must be cored to determine if it was placed (in accordance with ACI 302.2R) on an adequate positive side moisture barrier. If not, the existing concrete surface will most likely require a positive side moisture mitigation primer.
 - d. Surface preparation shall meet International Concrete Repair Institute's ICRI Guideline No. 310.2R – Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings and Polymer Overlays, unless superseded by the Manufacturer's Application Instructions.
- 1.1.2 Testing Moisture Levels and Allowable Moisture Limits:
- a. Moisture Vapor Transmission testing per ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Substrate Using Anhydrous Calcium Chloride. Limit is three pounds per 1,000 square feet in 72 hours. If the moisture limit exceeds the manufacturer's published limits a manufacturer's approved moisture mitigation primer shall be required.
 - b. Relative Humidity testing per ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes. Limit is a Relative Humidity of 75% or less in 72 hours. If the relative humidity limit is exceeded a manufacturer's approved moisture mitigation primer shall be required.

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1.1.3 Concrete Condition:

- a. A maximum height variation not to exceed 1/4 inch in 10 feet.
- b. No curing agents, other additives and contaminants which might prevent a bond must be removed.
- c. Concrete is to be free of sodium silicate and potassium silicate sealers or densifiers. If they are present they must be removed.
- d. Concrete or cementitious overlayers must be sound and durable, if not they must be repaired.

1.1.4 Concrete Condition:

- a. A maximum height variation not to exceed 1/4 inch in 10 feet.
- b. New concrete shall be moisture-cured for a minimum of 7 days and be cured for a minimum of 28 days in accordance with ACI 308R-01 Guide for Curing Concrete.
- c. No curing agents, other additives and contaminants which might prevent a bond must be removed.
- d. Concrete is to be free of sodium silicate and potassium silicate sealers or densifiers. If they are present they must be removed.
- e. Concrete or cementitious overlayers must be sound and durable, if not they must be repaired.

1.2 Quality Assurance:

1.2.1 Acceptable Manufacturer:

- a. Materials shall meet or exceed the Specification minimum or maximum physical and mechanical properties.
- b. Materials shall be manufactured by single manufacturer.
- c. Material manufacturer must provide Application Instructions, clearly stating that the submitted products meet the requirements of the Specification.
- d. Alternative material suppliers must submit Technical Data Sheet, Application Instructions and Certification of Compliance at least twenty-eight (28) days prior to bid. Submittals made after the required stated lead-time, shall be considered non-responsive and rejected.

1.2.2 Acceptable Installer:

- a. Acceptable installers shall have a written endorsement from the manufacturer stating that they are qualified to install the materials in this specification.
- b. Acceptable installers shall submit a letter from the material manufacturer and signed by an officer of the company stating that the installer is in good financial standing with the material manufacturer.
- c. Acceptable installer shall perform all work in accordance with the material manufacturer's Application Instructions.
- d. The installer must furnish a detailed list of projects of similar magnitude to the one specified that they have completed in the last three years. The package must include a list of specific contacts, job titles, addresses and the phone number of contacts.

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1.3 Submittal:

1.3.1 Samples:

- a. The installer shall submit a maximum of three samples, minimum 6” x 6” for each color specified and the samples shall be clearly labeled.
- b. ADA (Americans with Disabilities Act) Compliant to Dry or Wet, Flat or Ramp, if required.

1.3.2 Maintenance Literature:

- a. The installer shall submit a copy of the material manufacturer’s recommended care and maintenance procedures.

1.3.3 Quality Assurance Certification:

- a. Material shall be delivered to the job-site in unopened containers, properly labeled by the supplier, including product name, component(s), batch or lot number.
- b. Material manufacturer shall furnish through the installer, current Safety Data Sheets, which shall comply with current state, providence, federal government or military requirements.

1.4 Delivery, Storage and Handling:

1.4.1 Delivery of Material:

- a. Material shall be delivered to the job-site undamaged and protected from damage after delivery by the General Contractor or the installer.
- b. Material shall be delivered to the job-site in unopened containers, properly labeled by the manufacturer and with the proper Safety Data Sheet per 1.3.3.
- c. Proper Labels, include:
 - 1) Manufacturer’s Name and Address
 - 2) Product Name and/or Number
 - 3) Component Reference’
 - 4) Mix Ratio (if applicable)
 - 5) CHEMTREC Emergency Response Information
 - 6) Lot or Batch Number(s)

1.4.2 Storage of Material:

- a. Materials shall be stored in a covered area, out of the elements (including direct sunlight) that is clean, dry and heated (if required) and maintained between 60⁰F – 90⁰F.

1.4.3 Handling:

- a. Material shall be handled only by the approved installer, in accordance with industry standards and compliance with Safety Data Sheet(s) requirements.

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1.5 Access:

1.5.1 Installer shall be provided free and unencumbered access to all areas deemed necessary by the installer in order to execute the work in accordance with this Specification.

1.5.2 Material manufacturer shall be granted free and unencumbered access to observe the substrate prior to installation, during the installation and after the installation.

1.6 Warranty:

1.6.1 The manufacturer guarantees that the products are free from manufacturing defects and complies with their published specification.

PART 2 – PRODUCTS

2.1 Manufacturer:

- A. Arizona Polymer Flooring, 4565 W. Watkins St., Phoenix, Arizona 85043, Phone: 623.435.2277.
- B. Concrete Resurfacing (Broom Finish) System.
- C. Crack and control joint filler and repair materials, if needed, shall meet the manufacturer's recommendations.

2.1.1 Concrete Resurfacing (Broom Finish) System creating a beautiful decorative skid-resistant and cooler walking surface. S-9300 Bond-Kote Gray or S-9302 Bond-Kote White which can be integral pigment or a topical stained or coated and protected with an impervious clear sealer.

chemical and wear resistant.

- a. Apply S-9300 or S-9302 (with or without integral pigment color from Super-Krete Color-Bond) direct to properly prepared concrete at the thickness recommended per the manufacturer's Application Instructions.
- b. Apply optional topical colorants from S-9500 Color-Stain per the manufacturer's Application Instructions.
- c. Apply sealer S-8350 Supra-Seal VOC, S-8400 Supra-Seal Plus, S-8500 Clear Seal Low Gloss, S-8600 Clear Seal Plus per the manufacturer's Application Instructions.
- d. Optional, apply polyurethane SK-P100 or SK-P100 VOC or SK-P501 per the manufacturer's Application Instructions.

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2.2 Physical Properties:

2.2.1 Physical Properties S-9300 Bond-Kote Gray or S-9302 Bond-Kote White:

TYPICAL PHYSICAL PROPERTIES
7 Days at 75⁰F (24⁰C)

| | |
|-------------------------------|-----------|
| 1. Compressive Yield Strength | 6,500 psi |
| 2. Bond Strength | 235 psi |
| 3. Specific Gravity | 3.15 |
| 4. Volatile Organic Compound | 0 % |

2.3 Mix all components in accordance with the material manufacturer's recommendations.

PART 3 – EXECUTION

3.1 Inspection:

3.1.1 Examine areas to receive the Concrete Resurfacing (Broom Finish) System:

- a. Pre-existing defects in the concrete or cementitious overlayments substrate must be corrected.
- b. Deviation from the concrete and cementitious overlayment part of this Specification requires resolution prior to placement of the Concrete Resurfacing (Broom Finish) System.
- c. If the substrate is found to be in non-conformity of (concrete or cementitious overlayment) the substrate specification, correct the non-conforming substrate prior to placement if the Concrete Resurfacing (Broom Finish) System.
- d. The installer shall start work after other trades have corrected the defects.

3.2 Installation:

3.2.1 Substrate: Prepare the substrate to receive Concrete Resurfacing (Broom Finish) System in accordance with the manufacturer's recommendation and Application Instruction.

3.2.2 Surface Cleaning: - The surface cleaning system shall be S-12000 Heavy Duty Degreaser. Performance of this product is required to ensure the maximum chemical reaction within the pores of concrete. Required pH of this cleaning product is 11.5.

3.2.3 Concrete Treatment: Concrete hardener, densifier, moisture vapor reducer: The moisture vapor reduction and chemical encapsulation treatment shall be a combination of S-1300 Pene-Krete and S-3900 Bond-Kote Gray or S-9302 Bond-Kote White.

3.2.4 Crack Treatment: Cracks shall be addressed prior to installation. Please refer to the Super-Krete Products Crack Repair Guide.

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- 3.2.5 Toppings: The portland cement-based underlayment or topping S-9300 Bond-Kote Gray or S-9302 Bond-Kote White shall be based upon the specified finished appearance. All portland-cement based underlayment or topping is a single-component, ready-mix material for mixing quality control.
- 3.2.6 Water for mixing shall be clean, potable and not exceed 70° F.
- 3.2.7 Placing the Concrete Resurfacing (Broom Finish) System:
- a. Mix and place per manufacturer's Application Instructions.
 - b. Work shall be inspected and accepted, or a punch list of corrections shall be issued by the General Manager or Project Manager or Owner or End-User.
- 3.3 Cure and Protection:
- 3.3.1 Protect the Concrete Resurfacing (Broom Finish) System from damage from other trades in accordance with the material manufacturer's recommendations.
- 3.4 Cleaning:
- 3.4.1 Cleaning Concrete Resurfacing (Broom Finish) System in accordance with the material manufacturer's recommendation using Super-Krete S-200 Super-Scrub and clean water.
- 3.4.2 Cleaners not recommended by the material manufacturer may have a deleterious effect on the appearance (color, gloss, etc.) or they may affect the performance (softening, loss of texture, etc.). Prior to using a cleaner not recommended by the material manufacturer, test the cleaner in an isolated area to determine its affect.

END OF SECTION

This Specification was prepared by:

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