

# **SPECIFICATION: PATINA SOLUTION**

## **MINERAL LIFE INT'L PATINA SPECIFICATION AND APPLICATION FOR CONCRETE SLAB**

### **CHEMICALLY STAINED CONCRETE FLOOR**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

###### **A. Section Includes:**

1. Chemically stained concrete floor finish
2. Seal coats

##### **1.02 SUBMITTALS**

A. Contractor shall submit specified manufacturer's complete technical data sheets for all products to be used, including installation instructions.

##### **1.03 QUALITY ASSURANCE**

A. **Manufacturer Qualifications:** Manufacturer of specified stain and sealer shall have a minimum 10 years experience in the production of the specified products.

B. **Contractor Qualifications:** Contractor must have a minimum 3 years experience in staining applications and successfully completed not less than 6 projects comparable in scale and complexity.

###### **1. Statement of Contractor Qualifications**

a. Submit list of at least 6 completed projects including project name, project address and owner contact information.

###### **C. 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.

##### **1.04 MOCKUPS AND FIELD SAMPLES**

A. Prepare field sample at project site for architects review and approval.

1. Samples shall be constructed on site and shall be 4'x4'.

2. Construct sample-using processes and techniques intended for use on permanent work, including curing procedures. Include samples of control, construction, and expansion joints in sample panels.

3. Sample shall be stained and sealed by the individual workers who will actually be performing the work for the project.

4. Obtain written approval of the sample from project Architect before start of work.

5. Retain approved samples through completion of the work for use as a quality standard for finished work.

### **1.05 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.

### **1.06 JOB SITE CONDITIONS**

- A. Environmental Conditions: Maintain an ambient temperature of between 50° F 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 stain work from moisture or contamination.
- C. The surface of the concrete may need to be scuff sanded to receive stain.
- D. For staining overlay floors-scuff sanding is necessary.

## **PART 2 PRODUCTS**

### **2.01 ACCEPTABLE MANUFACTURERS**

A. Floor Stain: Chemical Stain shall be a reactive water-based solution of metallic salts which react with the calcium hydroxide in the cured concrete substrate to produce permanent, variegated or translucent color effects.

PATINA SOLUTION as manufactured by the Mineral Life Int'l, Inc. of Miami, Florida, is considered to conform to the requirements of this specification.

B. Sealer: Base sealer shall be a solvent-based clear sealer specially formulated for protecting chemically stained concrete floors. MMA Satin Seal from Mineral Life Int'l is considered to conform to the requirements of this specification. Two coats of a sealer are recommended.

A minimum of one coat of a waterborne maintenance finish shall be applied to the surface of the Mineral Life Patina.

1. Colors: Colors to be selected by Architect from manufacturer's standard colors.

C. Substitutions: The use of any products other than those specified will be considered providing that the contractor requests its use in writing within fourteen (14) days prior to bid date. This request shall be accompanied by:

1. A certificate of compliance from the material manufacturer stating that the proposed products meet or exceed the requirements for this specification.
2. Documented proof that the proposed material has a ten (10) year proven record of performance for staining concrete substrates, confirmed by at least five (3) local projects that the Architect can examine.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

A. Verification of Conditions: Contractor 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.

### **3.02 PREPARATION**

#### A. New Concrete

1. Newly placed concrete should be sufficiently cured to allow the concrete to become reactive, a minimum 14 days.
2. If one or more of the following colors are being used, the minimum cure time of the concrete shall be 28 days to meet water vapor transmission requirements.
  - a. Turquoise patina solution
  - b. Mineral Green patina solution
  - c. Malachite patina solution
  - d. Jade patina solution
  - e. Bronze patina solution
3. Liquid curing materials shall not be used. Concrete flatwork should be cured with new and unwrinkled, non-staining, high quality curing paper or visqueen.
4. All surfaces should be cured by the same method and different sections (pours) chemically stained when the concrete is the same age
5. Immediately prior to chemically staining, the concrete must be thoroughly cleaned. The surface should be swept, then pressure washed or scrubbed using a rotary floor machine. Use of suitable, high quality commercial detergents will facilitate cleaning. The surface must be rinsed after cleaning until the rinse water is completely clean. Allow floor to dry completely prior to application of floor stain.

### **3.03 APPLICATION OF CHEMICAL STAIN**

- A. All concrete surfaces must be dry and properly prepared as described above. Surrounding areas must be protected from over-spray, run-off and tracking. The surface should be divided into small work sections using wall, joint lines, or other stationary breaks as natural stopping points.
- B. Chemical Stains should be applied full strength (undiluted) at the coverage rate recommended by the manufacturer and using application equipment described in the manufacturers printed technical literature. The color of the liquid chemical stain will have no resemblance to the final color produced on the concrete substrate.
- C. The chemical stain should be transferred to the substrate by brush or spray (with a garden, manual pump sprayer).

D. The reaction time depends on wind conditions, temperatures, and humidity levels.

E. When multiple coats of one or more colors are required, washing and drying between colors is desirable to evaluate the color prior to the next coat.

F. After the final coat of chemical stain has remained on the surface for a minimum of four (4) hours, all residue must be removed by wet scrubbing. The wash water can be mixed with sodium carbonate (baking soda) at the rate of 8 oz. per five gallons of water. The surface must be rinsed after scrubbing until the rinse water is completely clean. Run off may stain the adjacent areas or harm plants. It should be collected by wet vacuuming or absorbed with an inert material.

G. Allow to dry completely before applying clear sealer.

### **3.04 APPLICATION OF CLEAR SEALER**

A. Allow the concrete substrate to completely dry.

B. The surface shall be sealed with a clear sealer produced by the manufacturer of the chemical stain.

C. Apply at the following rates:

1. Airless Sprayer: Between 300-400 square feet per gallon

2. Lambswool Flat Applicator (Interior applications only): 800-1000 square feet per gallon

3. Variable Speed Buffer: Between 800-1000 square feet per gallon. Always buff wet material until slight drying of material is achieved.

D. Maintain a wet edge at all times.

E. Allow sealer to completely dry before applying additional coats.

F. Apply second coat of sealer at 90° to the direction of the first coat using the same application method and rates.

### **3.05 PROTECTION**

A. Protect floor from traffic for at least 72 hours after final application of sealer.

### **3.06 MAINTENANCE**

A. Chemically stained and sealed floors should be maintained by sweeping. Spills should be cleaned when they occur and dirt rinsed off with water. Heavily soiled areas may be wet-cleaned by mopping or by scrubbing with a rotary floor machine equipped with a scrubbing brush and a suitable, high quality commercial detergent. Interior floors that require polishing should be maintained using a compatible, premium-grade, emulsion-type, commercial floor polish, following manufacturer's instructions and safety requirements.