

# Rust-Oleum® Industrial Brands Specification

## Coating Specification for Rust-Oleum Virtual Solutions Coating Solution 18

A water based coating system

High Performance 5300 System Water-Based Epoxy  
For Concrete Substrates in Moderate and Severe Industrial  
Environments

Specification Prepared by: Rust-Oleum Technical Service, March 2011

This is a general coating specification. Changes to this specification may void any product warranties. Contact your Rust-Oleum representative or Rust-Oleum Technical Service if modifications are required to better meet your needs.



## **PART I GENERAL**

### **1.01 SCOPE OF WORK**

- A.** Provide all materials and labor necessary to install Rust-Oleum High Performance 5300 System Water-Based Epoxy in strict accordance with project drawings, specifications and current Rust-Oleum Corporation application instructions.

### **1.02 RELATED WORK BY OTHER (SELECT AS NEEDED)**

- A.** Division 3 Concrete
- B.** Division 4 Masonry
- C.** Division 5 Metals
- D.** Division 6 Wood
- E.** Division 7 Thermal & Moisture Protection
- F.** Division 10 Specialties
- G.** Division 11 Special Construction

### **1.03 SYSTEM DESCRIPTION**

- A.** The 5300 System Water-Based Epoxy is a VOC-compliant, 2 component, waterbased epoxy coating system manufactured by Rust-Oleum Corporation, located at 11 Hawthorn Parkway, Vernon Hills, IL 60061 (847) 367-7700. The 5300 System Water-Based Epoxy is intended for use in interior, exterior, over properly prepared surfaces in moderate industrial environments. The 5300 System Water-Based Epoxy refers to a coating system composed of primers, finishes and tint bases.

### **1.04 ENGINEERING AND DESIGN REQUIREMENTS**

- A.** The Design Architect and Project Engineer shall be responsible for all decisions pertaining to design, detail, and structural capability. Rust-Oleum Corporation has written specifications, technical data and application information to assist in the design and engineering processes.
- B.** Equivalent materials of other manufacturers may be substituted on approval of the engineer or designer. These requests for substitution shall include manufacturer's literature for each product giving the name, resin type, descriptive information, volume solids, and recommended dry film thickness. A list of a minimum of ten (10) projects where the coating system has been applied and performed to expectations for at least three (3) years service is also required. No requests for substitution shall be considered that lower system film thickness, number of coats and/or change the resin type of the specified coating. Equivalent product substitutions will be accepted only from the Contractor and will be considered only after the contract has been awarded.
- C.** Custom colors are available for a nominal charge per color set-up from Rust-Oleum Corporation.
- D.** The 5300 System shall be used only in conformance to the air quality legislation applicable at the location of use.
- E.** The 5300 System is not suitable for water immersion applications.

### **1.05 SURFACE PREPARATION AND APPLICATION DESCRIPTION**

- A.** Substrate cleaning, surface preparation, coating application and dry film thickness shall be as specified and shall meet or exceed Rust-Oleum Corporation's recommendations.

- B. All application equipment shall be clean and maintained in proper working order in accordance with the equipment manufacturers' recommendations.
- C. The 5300 System shall be applied in accordance with the air and surface temperature limits and work areas shall be reasonably free of airborne dust during application and drying time.

#### 1.06 PERFORMANCE REQUIREMENTS

- A. The 5300 System has the following physical properties and these are published on the Rust-Oleum Corporation Technical Data Sheet.

|                                                       | <b>Finishes</b>          |
|-------------------------------------------------------|--------------------------|
| <b>Volume Solids</b>                                  | 38%                      |
| <b>Recommended Dry Film Thickness (DFT)</b>           | 1½-2½ mils               |
| <b>Practical Coverage (assumes 15% material loss)</b> | 200-350 sq ft/gal        |
| <b>VOC</b>                                            | <250 g/l (<2.08 lbs/gal) |
| <b>Dry Time (@ 70F/21C and 50% RH)</b>                |                          |
| <b>Tack Free</b>                                      | ½-1 hours                |
| <b>Handle</b>                                         | 2-5 hours                |
| <b>Recoat</b>                                         | 1-2 hours                |

#### 1.07 QUALITY ASSURANCE

- A. Applicator Qualifications:
  1. Shall be knowledgeable in the proper installation of the Industrial Water-Based Epoxy and experienced in the application of a water based epoxy coating.
  2. Shall provide a minimum of one (1) year workmanship warranty for the application of the 5300 System.
  3. A list of Certified Rust-Oleum Corporation Coating Applicators is available from Rust-Oleum Corporation.
- B. Pre-, Mid-, and Post-Job Conferences shall be scheduled at discretion of the Project Engineer, Design Architect, or General Contractor.

#### 1.08 SUBMITTALS

- A. Product Data: 5300 System, application and related equipment information.
- B. Color Cards: Supply color cards of specified materials showing range of colors.
- C. Applicator: If applicable, provide certified contractor documentation showing proof of familiarity with the 5300 System.

#### 1.09 DELIVERY STORAGE AND HANDLING

- A. Deliver the 5300 System on-site in Rust-Oleum Corporation's labeled, original, unopened containers.

- B. All materials shall be stored inside or under cover at ambient temperature. Keep materials dry, protected from elemental damage, and protect from freezing.

#### **1.10 PROJECT CONDITIONS**

- A. Protect adjacent work from damage and overspray during application of the 5300 System.

#### **1.11 WARRANTY**

- A. The technical data and suggestions of use are correct to the best of our knowledge, and offered in good faith. The statements of this specification do not constitute a warranty, expressed, or implied, as to the performance of these products. As conditions and use of our materials are beyond our control, we can guarantee these products only to conform to our standards of quality, and our liability, if any, will be limited to replacement of defective materials. All technical information is subject to change without notice.
- B. Special written project warranties may be issued on a request basis at the discretion of the Rust-Oleum Corporation Technical and Legal Departments and would not be contained within this specification document.

## **2. PRODUCTS**

#### **2.01 MANUFACTURER**

- A. The 5300 System shall be obtained through a Rust-Oleum distributor. To request nearest distribution source contact Rust-Oleum Corporation.

#### **2.02 MATERIALS**

- A. The 5300 System has a selection of standard color finishes, and tint bases for field tinting operations. Contact Rust-Oleum Corporation for availability of colors and container size.
- B. The 5300 System finishes are two component coatings consisting of a base component and activator which must be combined and mixed prior to use. The appropriate induction time must be observed prior to application.

## **3. EXECUTION**

#### **3.01 JOB CONFERENCES**

- A. A pre-job conference shall be at the discretion of the architect, engineer or general contractor. Coating contractor, substrate installer and other trades whose work affects the application of the 5300 System shall meet at the project site to review procedures and time schedule proposed for application of the Industrial Water-Based Epoxy and related work. Additional conferences are at the discretion of the architect, engineer, general contractor and/or owner.

#### **3.02 SURFACE PREPARATION**

- A. All cleaning and surface preparations specified are minimums.
- B. All surfaces to be coated shall be free of cracks, pits, fins, projections, or other imperfections that would interfere with the formation of a uniform, unbroken coating film. The coating contractor is to examine the substrate to determine if it is in satisfactory condition to receive the 5300 System. Obtain coating contractor's written report listing

conditions detrimental to performance of work in this specification. Do not proceed with the application of the 5300 System until unsatisfactory conditions have been corrected.

- C.** All oil, grease, and chalking shall be completely removed with biodegradable degreasers prior to mechanical cleaning begins. (Rust-Oleum 3599 Cleaner Degreaser)
- D.** All loose and deteriorating concrete must be removed.
- E.** Concrete surfaces being coated must be protected against moisture transmission from entering the uncoated side of the substrate.
- F.** Previously coated surfaces shall be repaired to be relatively free of surface imperfections. A check for loosely held, delaminating coating shall be performed as per ASTM 3359. The gloss shall be dulled by mechanical means to promote proper adhesion of the Industrial Water-Based Epoxy.
- G.** Satisfactory inspection by the Owner, General Contractor, Project Engineer, at any point in the coating process does not relieve the contractor of ownership and responsibility with regard to application long term service life.

### **3.03 MIXING AND THINNING**

#### **A. MIXING**

1. The 5300 System base components shall be thoroughly mixed to uniform color prior to the addition of the activator.

#### **B. THINNING**

1. Thinning, when necessary, shall be done with clean, ambient temperature clean, fresh water.
2. Thinning is not required for brush, roll application.
3. Thinning is not normally required for air atomized or HVLP spray. However, the 5300 System can be thinned up to 10% by volume.
4. Thin the 5300 System up to 6% by volume for airless spray application.

### **3.04 APPLICATION**

#### **A. Weather Conditions**

1. Apply when air and surface temperatures are between 60-100° F (16-38° C), the relative humidity is no greater than 80%, and surface temperature is at least 5° F (3° C) above the dew point.
2. This coating can tolerate application to damp surfaces; however, conditions must be favorable to allow the moisture to evaporate.
3. The 5300 System shall not be applied, except under shelter, during wet, damp, foggy, or windy weather. When necessary, the area to be coated should be sheltered by a temporary enclosure.

#### **B. Coating Application**

1. On bare concrete, thin the first coat 25% with fresh clean water to increase penetration into the concrete and enhance adhesion.
2. The 5300 System shall be recoated no sooner than 1 hour cure.
3. Apply one full coat of 5300 System finish at the recommended dry film thickness

4. Sags, checks, blisters, skips, teardrops, or rolled edges shall not be accepted and shall be completely removed and recoated.

**C.** Protection of surfaces

1. The Coating Contractor shall be responsible for protecting all adjacent surfaces from spills, drips, overspray, or any other form of coating damage.
2. The coating contractor and its subcontractors shall be responsible for removing spots or repairing damaged surfaces to the satisfaction of the project engineer, design architect and/or owner.

**3.05 CLEAN-UP**

- A.** Clean-up shall be done to remove all spills, drips, overspray, or other unwanted coating from all surfaces not intended to be coated.
- B.** All used rags, brushes, roller covers, and other application related materials shall be removed from the work site and disposed in a proper manner and in accordance with local waste regulations.
- C.** All equipment, staging, ladders, and other contractor materials brought onto the jobsite by the contractor shall be removed at the conclusion of the job in a timely manner.

**END OF SECTION**