Rust-Oleum® Industrial Brands Specification

Coating Specification for Rust-Oleum Virtual Solutions Coating Solution 2

A solvent based coating system

High Performance 9100/9800 System
DTM Epoxy Mastic/DTM Urethane Mastic
For Steel Substrates in a Severe Industrial Environment

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.

RUST-OLEUM®
INDUSTRIAL BRANDS

PART I GENERAL

1.01 SCOPE OF WORK

A. Provide all materials and labor necessary to install Rust-Oleum® High Performance 9100 DTM Epoxy Mastic / 9800 System DTM Urethane Mastic 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 Rust-Oleum High Performance 9100 DTM Epoxy Mastic / 9800 System DTM Urethane Mastic, is a system consisting of a two component epoxy mastic coating and a two component urethane mastic finish manufactured by Rust-Oleum Corporation, located at 11 Hawthorn Parkway, Vernon Hills, IL 60061 (847) 367-7700. The 9100/9800 System is suitable for use in a severe industrial environment and in severe weather exposures. The 9100/9800 System refers to a coating system composed of:

1. 9100 System DTM Epoxy Mastic, standard colors and tint bases
2. 9800 System DTM Urethane Mastic, standard colors 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 9100/9800 System shall be used only in conformance to the air quality legislation applicable at the location of use.

E. The 9100/9800 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 Corporationõs recommendations.

B. All application equipment shall be clean and maintained in proper working order in accordance with the equipment manufacturers' recommendations.

C. The 9100/9800 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 9100/9800 System has the following physical properties and these are published on the Rust-Oleum Corporation Technical Data Sheet.

	9100* [A]	**9800***
Volume Solids	78-81%	58-62%
Recommended Dry Film Thickness (DFT)	5-8 mils	3-5 mils
Practical Coverage (assumes 15% material loss)	125-225 sq ft/gal	160-280 sq ft/gal
VOC	<340 g/l (<2.8 lbs/gal)	<340 g/l (<2.8 lbs/gal)
Mixing Ratio	1:1 base to activator by Volume	5:1 base to activator by volume
Induction Period	None required	None required
Pot Life (@70°F & 50%RH)	2-4 hours, less at higher temperatures or with greater than 10 gallons of activated material	2-3 hours
Dry Time (@ 70F/21C and 50% RH)		
Tack Free	6-8 hours	4-6 hours
Handle	6-12 hours	6-9 hours
Recoat	16-72 hours	16-24 hours

* Activated material

[A] Using standard 9101 Activator. Physical properties will vary with the other activators. See the Technical Data Sheet for specific values.

1.07 QUALITY ASSURANCE

A. Applicator Qualifications:

1. Shall be knowledgeable in the proper installation of the 9100/9800 System and experienced in the application of two component polyurethane coatings.

2. Shall provide a minimum of one (1) year workmanship warranty for the application of the 9100/9800 System.

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: 9100/9800 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 9100/9800 System.

1.09 DELIVERY STORAGE AND HANDLING

A. Deliver the 9100/9800 System on-site in Rust-Oleum Corporation's labeled, original, unopened containers.

B. Store materials inside or under cover at ambient temperature. Keep materials dry, protected from weather, direct sunlight, surface contamination, aging corrosion, extreme temperatures and other damage.

1.10 PROJECT CONDITIONS

A. Protect adjacent work from damage and overspray during application of the 9100/9800 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 9100/9800 System shall be obtained through a Rust-Oleum distributor. To request nearest distribution source contact Rust-Oleum Corporation.

2.02 MATERIALS

A. The 9100/9800 System is a two component epoxy system that consist of a selection of standard color finishes, tint bases, and activators. Contact Rust-Oleum Corporation for availability of colors and container size.

B. The 9100/9800 System is a two component polyurethane system that consist of a selection of standard color finishes, tint bases, and an activator. Contact Rust-Oleum Corporation for availability of colors and container size.

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 9100/9800 System shall meet at the project site to review procedures and time schedule proposed for application of the 9100/9800 System 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 9100/9800 System. Obtain coating contractorôs written report listing conditions detrimental to performance of work in this specification. Do not proceed with the application of the 9100/9800 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. Surfaces of welds shall be scraped and ground as necessary to remove all slag and weld spatter.

E. At minimum all steel surfaces shall be cleaned in accordance to SSPC-SP-3 Power Tool Cleaning.

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 9100/9800 System. All previous coatings damaged by welding shall be completely removed.

G. If abrasive blast cleaning is going to be employed, the blasted profile depth shall be uniform and not greater than 20% of final total dry film thickness of the 9100/9800 System.

H. 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. All base component and pigmented activator components shall be thoroughly mixed prior to the components being mixed together. Components shall be combined only at the recommended mix ratio. Recommended induction time shall be observed prior to product application.

B. THINNING

1. Thinning shall be done in accordance with applicable local air quality regulations.

2. If needed, thinning of the 9100 System shall be done only with the Rust-Oleum 160 Thinner.

3. If needed, thinning of the 9800 System shall be done only with the Rust-Oleum 190 Thinner.

3.04 APPLICATION

A. Weather Conditions

1. Apply the 9100 System only when air and surface temperatures are between 50-100° F (10-38° C), the relative humidity is no greater than 85%, and surface temperature is at least 5° F (3° C) above the dew point.

2. If using Low Temperature Activator, 9103402, apply the 9100 System only when air and surface temperatures are between 40° and 60°F (5°-15°C) and surface temperature is at least 5°F (3°C) above the dew point. Do not apply the material if the temperature is expected to fall below 40°F in the first 24 hours of cure. Also, do not use the 9103 if the ambient temperature is above 60°F. The pot life would be greatly reduced and full performance may not be obtained. At 40°F the full cure will be achieved in 7 days.

3. Apply the 9800 System only when air and surface temperatures are between 40-100° F (5-38° C), the relative humidity is no greater than 85%, and surface temperature is at least 5° F (3° C) above the dew point.

4. The 9100/9800 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. Apply only to a clean and dry surface.

2. Apply one full coat of the 9100 System within the recommended film thickness range. Select any standard color finish, except 9115 Aluminum. The 9115 should not be used as a prime coat.

3. If the substrate was abrasive blast clean, then be sure the dry film thickness of the prime coat has completely covered the entire surface profile. Two coats of prime coat is suggested over abrasive clean steel to ensure the profile is adequately covered.

4. Apply the 9800 System finish within the recommended film thickness range, after 16 hours and prior to 72 hours after the prime coat has been applied.

5. If the application of the finish coat is delayed for any period of time which allows surface contamination to collect on the primer, then the surface shall be cleaned prior to application of the 9800 System finish.

6. 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 remove at the conclusion of the job in a timely manner.

END OF SECTION