

BID SPECIFICATIONS

INTERIOR AND EXTERIOR PAINTING SERVICES SECTION 09 90 00

PART 1-GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and the application of paint systems on
 1. INTERIOR/EXTERIOR substrates.
 2. The following INTERIOR/EXTERIOR substrates: Steel

1.2 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 2: Not more than 10 units at 60 degrees and 35 units at 85 degrees, according to ASTM D 523
- C. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- E. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- F. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- G. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.
- H. EG: Ethylene Glycol. Ethylene glycol is listed as a hazardous air pollutant (HAP) by the U.S. EPA
- I. Blocking: Two painted surfaces sticking together such as a painted door sticking to a painted jamb.
- J. RAVOC: Reactivity adjusted VOC 'Reactivity' means the ability of a VOC to promote ozone formation.
- K. PDCA: Painting & Decorating Contractors of America www.pdca.org
- L. SSPC: Scopes of SSPC Surface Preparation Standards and Specifications. www.sspc.org
- M. Owner – usage of the term "Owner" shall be construed to mean the actual owner of the Property or a duly authorized representative of the owner.
- N. Property – usage of the term "Property" shall be construed to mean the property location identified in paragraph 1.1 B. 1. of this specification at which location the work shall be performed.

1.3 ACTION SUBMITTALS

- A. **Product Data:** For each type of product. Include preparation requirements and application instructions.
- B. **Samples for Initial Selection:** For each type of topcoat product.
- C. **Samples for Verification:** For each type of paint system and each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, no smaller than 7 inches by 10 inches (177.8 mm by 254 mm) or larger than 8.5 inches by 11 inches (215.9 mm by 279.4 mm).
 - 2. Label each Sample for project, owner's agent, general contractor, painting contractor, paint color name and number, paint brand name, "P" number if applicable, and application area.
- D. **Product List:** For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas.
 - 2. VOE content.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials from the same product run that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Ten [10] percent, but not less than [1 gal. (3.8 L)] of each material and color applied.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly *covered* containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C) or more than 120 deg F (49 deg C).
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

- A. Surfaces must be clean and moisture free. Prime and paint as soon as possible. Do not apply paints in snow, rain, fog, or mist. No painting shall be done immediately after rain or foggy weather or when the temperature is below 50°F. Substrate temperature must be 5 °F or more *above* dew point temperature while painting and during the coating's cure time. *Avoid* painting surfaces while they are exposed to a full, hot sun.
- B. Painting contractor should follow proper painting practices and exercise judgment based on his or her experience and project specific conditions as to when to proceed.

PART 2 - PRODUCTS

2.1 PAINT, GENERAL

- A. **Material Compatibility:**
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- B. **VOC Content:** Provide materials that comply with VOC limits of authorities having jurisdiction.

C. Colorants: The use of colorants containing hazardous chemicals, such as ethylene glycol, is prohibited.

D. Colors: SELECT ONE

1. Where color is selected prior to bid submittal, Contractor shall bid [one (1)], [two (2)], or more finish coats, as appropriate to the color selected, and shall expressly state number of finish and prime coats and type (full or spot) of prime coat.
2. When the final color has not been selected prior to bid submittal, Contractor may need to bid additional coats when submitting their bid. The Owner should be aware that if a color is chosen following the bid process and the color is significantly different from original color, a change order for an additional finish coat might be required.

2.2 SOURCE QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure.

1. Owner may engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
2. Testing agency will perform tests for compliance with product requirements.
3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove non-complying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will comply with requirements to use compatible products and systems as described in Paragraph 2.2. A. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

Interior Substrates:

1. Concrete: 11 percent or less.
2. Masonry (Clay and CMU): 11 percent or less.
3. Wood: 8 percent or less.
4. Plaster: 5 percent or less.
5. Gypsum Board: 5 percent or less. Exterior

Substrates:

6. Concrete: 11 percent or less.
7. Masonry (Clay and CMU): 11 percent or less.
8. Wood: 15 percent or less.
9. Plaster: 5 percent or less.

- C. Portland Cement Plaster Substrates: Verify that plaster is fully cured, including pH testing to determine that alkalinity is within limits established by the manufacturer.
- D. Interior and/or exterior Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- E. Concrete floors require a calcium chloride test to measure hydrostatic pressure. Consult floor coating manufacturer with test results prior to beginning surface preparation.
- E. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- F. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions applicable to substrates and paint systems indicated.
- B. Scraping or sanding surfaces of older buildings (especially pre-1978) may release dust containing lead or asbestos. **EXPOSURE TO LEAD OR ASBESTOS CAN BE VERY HAZARDOUS TO YOUR HEALTH.** Always wear appropriate personal protective equipment during surface preparation, and finish cleanup of any residues by water-washing all surfaces. For more information call EPA's National Lead Information Hotline at 1-800-424-LEAD, or visit www.epa.gov/lead or/asbestos, or contact your state or local Health Department.
- C. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- D. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and re-prime substrate with compatible primers or apply bond coat as required to produce paint systems indicated.
- E. Where mildew is present, remove mildew by scrubbing with a commercial mildew remover, or, with a solution of one (1) part household bleach mixed in three (3) parts water by volume. The solution should be left on the surface for a minimum of twenty (20) minutes, rinsed thoroughly with clean water to remove any residue, and then allowed to dry completely prior to application of patching/caulking/prime/finish coat systems.
- F. Moisture: All areas that may cause paint failure due to moisture shall be addressed and eliminated. This would include, but is not limited to:
 - 1. Gutters and downspouts not working properly.
 - 2. Previous coats of paint not adhering properly.
 - 3. Wood checking (cracks and splits in wood).
 - 4. Deteriorated caulking.

5. Gaps between substrates.
6. Rotten wood.
7. Areas affected by water splashing.
8. Painting in inclement weather.
9. Painting a substrate where residual moisture exceeds limits stated in 3.1.B.
10. Un-caulked nail holes.

G. Pressure washing and surface preparation methods

1. Pressure wash or water blast to remove oil, grease, dirt, loose mill scale, and loose paint at pressures of 2500-3500 psi at a flow of 3.0 - 3.5 gallons per minute. This is the recommended standard for optimal efficiency.

H. Prior to application of prime/finish interior and/or exterior coat systems, provide a clean, sound surface free of dust, dirt contaminants, mildew and efflorescence by use of a power wash and hand scraping or use of mechanical grinders where necessary. Additionally, areas are to be scrubbed with a bristle brush to insure complete removal of any residual salts. Remove all labels, stickers, price tags, etc. from surfaces before priming. Wood areas stamped with ink codes must be spot primed with blocking primers. Power wash areas to be coated to ensure that new salt deposits do not occur. Failure to do so may cause adhesion issues or result in delamination and invalidate any manufacturer warranty given or implied. After cleaning if there is still chalk evident, this condition must be brought to the owner's attention in writing before any further work is done.

I. Cementitious Substrates: (concrete, stucco, masonry) Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.

1. Wire brush all loose and peeling paint and dust all surfaces before spot priming or applying finish coats. Industry standards apply to applications of cracks, voids, and repairs. Any areas of repair shall be patched and dried before coatings are applied. Cracks should be repaired as follows: 1. Cracks less than *W*" wide should be filled using Dunn-Edwards "Brush Grade Elastomeric Patch", *or equal*. 2. Cracks wider than *W*" should be cut and scraped to a "V" shape and filled with Dunn-Edwards "Trowel Grade Elastomeric Patch", *or equal*. Large cracks and holes may require repeated applications of patching materials to bring flush with adjacent substrate. Feather-in all repairs and caulking to blend with adjacent substrate.

2. Large holes in stucco / plaster/ concrete will be patched with "Rapid Set Premium Stucco Patch", *or equal* or "Rapid Set Wunderfixx Concrete Patching Compound", *or equal* in appropriate texture to blend with existing texture. Allow stucco patch to cure to acceptable pH level (10) prior to application of prime/finish coat systems. Caulk large cracks in stucco / plaster/ cement with GE-Life Time 920.

3. Spot prime over all patched areas, cracks, and holes then use an appropriate topping material to match existing surface level and texture.

J. All Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing.

- a. SSPC-SP 1, "Solvent Cleaning."
- b. SSPC-SP 2, "Hand Tool Cleaning."
- c. SSPC-SP 3, "Power Tool Cleaning."

1. All ferrous metals should be thoroughly cleaned and all loose rust or mill scale be removed by wire brush, scraper and/or power tool, such as an electric drill with a wire brush attachment. Any rust spots or bare metal should receive the appropriate prime coat. Rust inhibited primer to be

applied on all properly prepared surfaces where rust is evident. Any hard, glossy surfaces should be dulled. Previously painted ferrous metal in sound condition should be washed down with a strong detergent-type cleaner such as "Krud-Kutter" or "Simple Green", *or equal*.

2. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
3. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
 - a. All galvanized gutters and flashing should be thoroughly cleaned to remove loose and peeling paint.
 - b. Any bare galvanized metal should be wiped down with a non-petroleum solvent cleaner.
 - c. Prime bare metal with the specified galvanized metal primer.
 - d. Any rust on galvanized metal must be removed. Clean to bare metal and apply a rust inhibitive primer.
4. Aluminum Substrates: Remove loose surface oxidation.

K. Wood Substrates:

1. All deteriorated or delaminated substrates (i.e. wood, hardboard siding, T1-11) shall be replaced. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for interior and/or exterior use in paint system indicated.
2. Sand and dust surfaces that will be exposed to view.
3. Prime edges, ends, faces, under sides, and backsides of wood.
4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
5. Spot prime all patched and filled areas as well as any new wood with the appropriate primer or sealer as stated in the Finish Schedule.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations.

1. Use applicators and techniques suited for paint and substrate indicated.
2. The number of coats scheduled is the minimum number of coats required. Additional coat(s) shall be applied at no additional cost to the Owner, to completely hide base material, provide uniform color, and to produce satisfactory finish results.
3. Apply coatings without thinning except as specifically required by label directions, or required by these specifications. In such cases, thinning shall be the minimum reduction permitted.
4. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
5. Paint both sides and edges of interior and/or exterior doors and entire exposed surface of interior and/or exterior door frames.
6. Paint entire exposed surface of window frames and sashes.
7. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
8. Priming may not be required on items delivered with prime or shop coats, unless otherwise specified. Touch up prime coats applied by others as required ensuring an even primed surface before applying finish coat.

- B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
Paint the following work where exposed to view:
 - a. Equipment, including panel boards.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Tanks that do not have factory-applied final finishes.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by owner's agent, and leave in an undamaged condition.
- D. At completion of activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 EXTERIOR PAINTING SCHEDULE

- A. Prepare, paint and finish all surfaces specified and agreed upon.
- B. Provide paint finishes of even uniform color, free from cloudy or muddled appearance. Properly correct all non-complying work to the satisfaction of owner and owner's representative and the representative of the paint manufacturer.