

SECTION 09 01 90

PREPARING EXISTING SURFACES FOR PAINTING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes preparing and repairing existing surfaces for painting. This work may include chemical de-glossing of lead-based paint and removal of mold or mildew infested materials.
- B. Related Sections
 - 1. Section 09 90 00, Painting

1.02 REFERENCES

- A. ASTM - American Society for Testing and Materials
 - 1. ASTM D3359 - Test Methods for Measuring Adhesion by Tape Test
 - 2. ASTM D4258 - Surface Cleaning Concrete for Coating
 - 3. ASTM D4259 - Practice for Abrading Concrete
- B. SCAQMD – South Coast Air Quality Management District
 - 1. SCAQMD-403 - SCAQMD Rule 403, Fugitive Dust
 - 2. SCAQMD-1113 - SCAQMD Rule 1113, Architectural Coatings
 - 3. SCAQMD-1140 - SCAQMD Rule 1140, Abrasive Blasting
 - 4. SCAQMD-1168 - SCAQMD Rule 1168, Adhesive and Sealant Applications
 - 5. SCAQMD-1171 - SCAQMD Rule 1171, Solvent Cleaning Operations
- C. SSPC - Steel Structures Painting Council, Surface Preparation (SP) Standards
 - 1. SSPC SP-1 - Solvent Cleaning
 - 2. SSPC SP-2 - Hand Tool Cleaning
 - 3. SSPC SP-3 - Power Tool Cleaning
 - 4. SSPC SP-6 - Commercial Blast Cleaning
 - 5. SSPC SP-7 - Brush-Off Blast Cleaning
 - 6. SSPC SP-8 - Acid Etch Cleaning (Pickling)

1.03 SUBMITTALS

- A. Action Submittals
 - 1. Product Data for each type of cleanser and accessory item.
 - 2. MSDS for mildewcide
 - 3. Manufacturer's Installation Instructions

1.04 QUALITY ASSURANCE

- A. Certification of Materials. With each delivery of materials, manufacturer shall certify that materials comply with requirements of this Section.

- B. Product Manufacturers: companies with minimum 10-years' experience manufacturing commercial quality cleaning, and surface preparation products for commercial projects similar in scale and complexity to those required for this Project.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in their original, unopened, and undamaged containers bearing manufacturers' labels, legible and intact.
 - 1. Open materials on premises in presence of the Inspector. Immediately remove rejected materials from premises. Obtain new complying materials without claim for change in Contract Sum or Schedule.
- B. Storage and Mixing of Materials. Store materials and mix only in spaces designated for this purpose by Inspector. Keep such spaces clean and take necessary precautions to prevent fire. Hang out oily rags, singly, in the open air. Stack containers so that manufacturer's labels are clearly displayed.
- C. Take necessary precautions to secure materials and equipment after the completion of each day's work to prevent damage, theft and vandalism.

1.06 PROJECT CONDITIONS

- A. Maintain surface and ambient temperatures above 45-degrees-F for 24 hours before, during and for at least 48 hours after applications, unless permitted otherwise by manufacturer's instructions.
- B. Provide lighting level sufficient to conduct operations.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cleansers, chemical de-glossers, and related materials shall comply with applicable requirements of the Food and Drug Administration's (FDA) Lead Law requirements of the California Air Resources Board (CARB), and the Environmental Protection Agency (EPA).
 - 1. Cleansers, chemical de-glossers, and related materials shall be suitable for the use intended and compatible with the finish scheduled.
- B. Mildewcide: commercially prepared fungicide, biocide, or anti-microbial agent suitable for killing mold and mildew and scrubbing surface manifestations of infestation from material.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to be repaired and prepared.
 - 1. Determine, by field testing, whether scheduled finishes are compatible with existing coatings to ensure proper adhesion.

2. For field test, apply a Finish Sample of scheduled finish over approximately 1/2 of Surface Prep Field Sample. Finish Sample shall be at least 3-feet square and be located in direct sunlight for an exterior application; allow Sample to dry for 1 week. Test adhesion using ASTM D3359.

- B. Do not begin installation until unsatisfactory conditions are corrected. Beginning installation means acceptance of existing conditions and preparatory work of others.

3.02 PROTECTION

- A. Protect work of other trades and existing adjacent surfaces or areas, whether to be coated or not, against damage from this work. Correct damage by cleaning, repairing, replacing and recoating as acceptable to the Inspector. Leave in an undamaged condition.
- B. Provide sufficient drop cloths, shields, and protective equipment to prevent spray, over-spray or droppings from fouling surfaces, furniture, equipment, cabinets, etc.
- C. Protect prefinished surfaces, lawns, shrubbery, and adjacent surfaces against damage.
- D. Protect surfaces, equipment and fixtures from damage resulting from use of fixed, movable and hanging scaffolding, planking and staging.
- E. Place waste materials, cloths, and material that may constitute a fire hazard in closed metal containers and remove daily from the site.
- F. Remove electrical plates, surface hardware, fittings and fastenings, and items attached to the finish surface, prior to preparation operations. Inventory and mark for storage. Do not use solvents, which may remove permanent lacquer finish, to clean hardware or other items.
- G. Provide signs, barricades and other devices required to protect newly prepared surfaces.
- H. After each day's work, take precautions to secure equipment and supplies to prevent damage, theft, and vandalism due to access by unauthorized persons.
- I. Do not paint over cover name plates, cable or device identification labels, codes, or required signage, etc.

3.03 PREPARATION OF EXISTING PAINTED SURFACES - GENERAL

- A. Assign experienced workers, skilled in their trades to this work. Surface preparation shall comply with standards of the Painting and Decorating Contractors of America.
- B. Prepare ceilings, then walls.
- C. Remove posters, art work, and appliques, remove residual adhesive, fill tack and nail holes, and clean as specified in this Section.

- D. Remove surface contaminants such as oils, grease, loose paint, cracking, blistering, peeling, or flaking paint, dirt, foreign matter, rust, and other surface contaminants that will interfere with adhesion of scheduled finish, without damaging the substrates and adjacent areas; use methods referenced in ASTM D4258. Let dry thoroughly, lightly sand surfaces.
- E. Remove substrate materials infested with mold or mildew. Extend removal in all directions from infested site to nearest natural break or support that will facilitate patch and repair. Handle and discard removed materials as hazardous waste. Haul debris, off-site, to disposal facility legally franchised to accept such materials.
- F. In existing rooms and areas where alterations occur, clean existing transparent wood finishes. Retouch abraded surfaces and apply 1 coat of polyurethane varnish to exposed surfaces.
- G. Coat knots and pitch streaks that show through old finish with knot sealer before refinishing.
- H. Advise District a minimum of 72 hours in advance of any preparation operation which will generate excessive noise or dust such as sandblasting.
 - 1. All sandblasting shall be done with green-friendly product(s) and process.

3.04 PREPARATION OF INTERIOR SURFACES - NON LEAD PAINT

- A. Wood, Plaster, and Metal Surfaces, with sound, low sheen, finish coating. Strip and completely remove wax, if any, before washing. Wash with TSP (trisodium phosphate), to remove dirt, grease and other foreign materials, rinse with clean water and then sand and dust off.
- B. Wood, Plaster, and Metal Surfaces, with checked, cracked, blistered, scaled, loose, and alligatored paint. Remove defective finish down to bare substrate with hand-tools, chemical stripper, or both, hand sand, and dust clean. Wash remaining sound finish as above. Feather the edges of paint removal into the existing finishes to remain to maintain proper and uniform finish.
- C. Wood Doors and Cabinet Work scheduled for reapplication of transparent finishes. Strip existing finish, sand surfaces thoroughly with a 5/0, 180 grit, sandpaper and dust clean.
- D. Gypsum Board. Remove contamination from surfaces and prime to show defects, if any. Fill defects in surfaces flush with adjacent surfaces. Feather edges of patch into the existing adjacent surface. Repair cracks, holes, gouges, and damaged spots larger than 1/4-inch with joint compound.
- E. Concrete and Unit Masonry Surfaces. Remove dirt, salt- or alkali-residue, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering or corroding metals by thoroughly wetting with water and washing with a solution of sodium metasilicate. Allow to dry.

- F. Existing glossy paint films must be cleaned and dulled (de-glossed) before repainting. Wash thoroughly as specified and dull by sanding.

3.05 PREPARATION OF INTERIOR SURFACES - LEAD PAINT

- A. Checked, Cracked, Blistered, Scaled, Loose, and Alligatored Paint. Removed defective finish down to bare substrate with chemical stripper.
- B. Sound Finish Coating. Strip and completely remove wax, if any, before washing. Wash with TSP (trisodium phosphate), to remove dirt, grease and other foreign materials, rinse with clean water and let dry.
 - 1. Dull (de-gloss) existing finish with chemical de-glosser; control application and flow of de-glossing agent.
- C. Collect, handle, and dispose of waste as required by the authorities having jurisdiction for hazardous (lead containing) waste. Workers shall isolate work area and wear protective clothing as required by OSHA.

3.06 PREPARATION OF EXTERIOR SURFACES WHERE EXISTING (NON-LEAD) COATING IS COMPATIBLE WITH SCHEDULED NEW FINISH

- A. Examine surfaces for cracking, blistering, peeling or flaking of existing paint. Remove loose, unsound, and non-adhering paint, feather edge at transitions. Repair existing surfaces and prepare surfaces for new finishes as scheduled. Lightly sand surfaces prior to painting.
 - 1. Remove surface contaminants such as oils, grease, loose paint, dirt, foreign matter, rust, mold, mildew, efflorescence, and other surface contaminants that will interfere with adhesion of subsequent coats without damaging the substrates or adjacent areas by methods referenced in ASTM D4258.
 - 2. Glossy surfaces of existing paint films must be cleaned and washed thoroughly as specified and dull by sanding before painting. Degloss glossy and previously enameled surfaces by sanding or abrasive cleanser to provide a roughened surface or "tooth" for proper adhesion of scheduled finish.

3.07 PREPARATION OF EXTERIOR SURFACES WHERE EXISTING (NON-LEAD) COATING IS NOT COMPATIBLE WITH SCHEDULED NEW FINISH

- A. Remove entire existing coating by blast cleaning per one of the following ASTM D4259 methods. Use method that removes coatings completely.
 - 1. Dry sand-blast lightly using 16- to 30-mesh sand and oil-free air sprayer. Hold nozzle approximately 2 feet from the surface to be blasted move nozzle at a uniform rate. Surface must be clean and dry and exhibit texture similar to that of medium grit sandpaper. Vacuum or blow down to remove dust and loose particles from the surface.
 - 2. Water blasting with pressure at 2500 psi at flow of 4 to 14 gallons per minute.
 - 3. Include 72 hour advance notification to District of any dry or wet blasting activities.

3.08 REPAIRING CRACKS AT INTERIOR PLASTER AND CONCRETE SURFACES

- A. Hairline Cracks: V-groove cracks then patch with elastomeric sealant.

- B. Small to Large Cracks: Use elastomeric sealant to fill and span cracks up to 1/32-inch. A credit card thickness or greater (1/8"), fill with an elastomeric sealant (recommended by the Paint Manufacturer). Apply one coat of primer, then coat with 100-percent acrylic, elastomeric finish.
- C. Large Cracks (1/4- to 1/2-inch). Rake to 1/4-inch minimum wide, then fill with an elastomeric sealant.
 - 1. Apply 1 coat of primer, then coat with 100-percent acrylic, elastomeric finish.
 - 2. Apply a primer coat over the elastomeric coating to change absorbency to be similar to adjacent wall surface. Elastomeric sealant shall be compatible with paint applications used and manufacturer's recommendations.

3.09 REPAIRING CRACKS AT EXTERIOR PLASTER AND CONCRETE SURFACES

- A. Hairline Cracks: Apply 2 coats of elastomeric coating to bridge hairline cracks to 1/32".
- B. Small to Large Cracks: from 1/32" to 1/8" fill with an elastomeric sealant, apply 2 coats of elastomeric coating.
- C. Large Cracks: cracks from 1/4" to 1/2", raked out crack(s) to 1/4" minimum wide, fill with an elastomeric sealant, apply 2 coats of elastomeric coating.
- D. All elastomeric sealant shall be compatible with paint applications used and manufacturer's recommendations.
- E. Apply a primer coat over the elastomeric coating to change absorbency to be similar to adjacent wall surface.
- F. Finish Coat: apply final application of finish coat over patched areas to match existing adjacent texture. Use an integral-color finish stucco material with a bonding admixture mixed according to manufacturer's recommendation.
- G. Efflorescence: repair surfaces and remove deposits by wire brushing and acid etching with phosphoric acid. Rinse surfaces with water to remove any remaining residue. Prior to proceeding with any painting of these surfaces obtain the approval of the Architect and Inspector.

3.10 PREPARATION OF EXISTING MASONRY SURFACES

- A. Use the following procedures to repair existing masonry surfaces.
 - 1. Power wash, sandblast, or wire brush areas to be painted and use a mild solution such as Mi-T-M's Surface Prep. Rinse with clean water until residues have been removed from surfaces. If mold or mildew is present, meter a mildewcide into the power washer.
 - 2. Remove dirt, chalk, and surface contaminants that will interfere with adhesion of subsequent coats without damaging the substrates or adjacent areas. Washed surfaces must be thoroughly dry before proceeding with preparation or painting.
 - 3. Remove efflorescence before proceeding with preparation or painting as specified.

4. After washing surfaces, carefully examine for cracking, blistering, peeling, or flaking of the existing paint. Loose, unsound, or non-adhering paint must be removed. Prepare surfaces as specified above.
5. De-gloss previously enameled and glossy surfaces; provide a roughened surface or "tooth" for good adhesion of subsequent coats.

3.11 CLEANING, TOUCH-UP AND REFINISHING

- A. As work proceeds and upon completion, promptly remove paint where spilled, splashed, or spattered.
- B. During progress of work keep premises free from any unnecessary accumulation of tools, equipment, surplus materials, and debris.
- C. Upon completion of work remove rubbish, paint cans and accumulated materials resulting from work in each space or room. Areas shall be left in a clean, orderly condition to the satisfaction of the Owner.
- D. Upon completion of painting, clean glass and paint spattered surfaces. Remove spattered paint by washing, scrapping or other professional methods using care not to scratch or damage adjacent finished surfaces.
- E. Protect completed work until Date of Substantial Completion.

END OF SECTION