

APPENDIX N - SECTION 09900 - PAINTING SPECIFICATION GUIDE

PART 1 - GENERAL

1. Description

1.1. A/E Note: The A/E is responsible for color selection and coordination for all interior and exterior finishes, including all factory pre-finished equipment and surfaces. For pre-finished products, the A/E shall indicate in the contract documents the colors and finishes selected from the equipment or product manufacturer's standard color palette. The A/E also may select optional manufacturer's custom colors and finishes where appropriate to a specific project.

1.2. Work referred to in this section includes surface preparation and field application of a finish paint coating throughout the construction area on:

- A. Exposed surfaces of exterior and interior materials and equipment, including mechanical and electrical (also incorporates color-coding) pipes, ducts, conduits, surface wiring, fire hose and extinguisher cabinets and other equipment, unless specifically excluded in the contract documents.
- B. Designated existing surfaces having an existing paint finish.
- C. Designated equipment and/or products that have a factory finish where specifically designated on the contract drawings.
- D. Patches and disturbed paint finish, both inside and outside of the construction area, resulting from operations under the Contract.

1.3. Unless otherwise indicated, finish field painting is not required for:

- A. Non-ferrous metal, stainless steel or plated metal finishes.
- B. Glass, plastics, floors, acoustic materials, face brick, stonework, chalkboards and other surfaces not normally requiring a painted finish.
- C. Concealed or inaccessible surfaces such as pipe or duct shafts, elevator shafts, crawl spaces and attics.
- D. Surfaces specifically excluded by notation on the drawings.

1.4. The term "paint," as used herein, includes paints, stains, varnishes, sealers, fillers and other fluid coatings applied by brush, roller or spray.

1.5. See Appendix GG - Definitions of Low VOC Content Levels.

2. Related Work Specified Elsewhere

A. Contract Documents: All complimentary documents to this Project Manual, including drawings and schedules

- B. Hazardous Materials Procedures - Document 01110
- C. Special Project Procedures - Document 01120
- D. Substitutions - Documents 00100, 00700, 00800, 01300 and 01600
- E. Prime coat, if included as project specific requirement for:

- 1. Structural steel - Division 5
- 2. Miscellaneous metals - Division 5
- 3. Exterior and interior architectural woodwork - Division 6
- 4. Custom casework - Division 6
- 5. Standard steel doors and frames - Division 8
- 6. Miscellaneous metal doors and frames - Division 8
- 7. Wood doors - Division 8
- 8. Shop-primed and field-finished mechanical equipment - Division 15
- 9. Shop-primed and field-finished electrical equipment - Division 16

- F. Prime and finish coats, if included as project specific requirement, for:

- 1. Metal casework - Division 12
- 2. Toilet enclosures - Division 10
- 3. Preformed metal roofing and siding - Division 7
- 4. Pre-finished mechanical equipment - Division 15
- 5. Pre-finished electrical equipment - Division 16

- G. Substrate sealer under wall coverings (if included as project specific requirement) - Division 9

3. Submittals: Submittals must be in accordance with Conditions of the Contract and Division 1 - specification sections:

3.1. Product data must verify compatibility with substrates and conditions to be encountered. Provide manufacturer's technical information, including label analysis and instructions for handling, storing and application of each material proposed for use. List each material and cross-reference the specific coating, finish system and application. Identify each material by the manufacturer's catalog number and general classification.

3.2. Provide a full range of colors, sheen and textures for the architect to select. Furnish 1-inch by 3-inch by 6-inch samples of wood finishes applied to wood of the same species specified.

3.3. Submit a finish schedule that describes compliance with the project drawings and finish schedules. Indicate all surfaces to be painted and type and color to be applied to each. Identify each material by the manufacturer's catalog number and general classification.

3.4. Include a certification that proves that the manufacturer's supplied products comply with state and federal regulations on controlling the use of Volatile Organic Compounds (VOC).

4. Quality Assurance

4.1. Provide all materials that a single manufacturer makes or recommends.

4.2. If requested by the university, prepare stepped samples that define each coat of selected finishes for review on clearly labeled 8-inch by 10-inch Moresst Card surfaces to simulate actual conditions. Review shall be for color, sheen and texture only. Do not proceed until samples are approved.

4.3. Prepare demonstration panels by duplicating the finish of the approved samples at the job site on wall surfaces and building components that the architect and the owner's representative designate. Panels shall consist of an area of at least 100 square feet, and a complete window or door assembly. Simulate finished lighting conditions for review of in-place work. Advise the architect and the owner's representative when panels are ready for review. Preserve approved panels, which will be used as the standard for quality of workmanship on remaining work. Do not proceed with additional applications until panels are approved.

5. Product Handling

5.1. Deliver all materials to the job site in the manufacturer's original, unopened packages and containers that bear the manufacturer's name and label.

5.2. Product labels shall contain the manufacturer's name, product name, manufacturer's stock number and date of manufacture. The labels also shall list pigment and vehicle constituents by volume, color identification and application instructions.

5.3. Store materials in one location at the job site that is well ventilated and has a minimum ambient air temperature of 45 degrees F. The architect and the owner's representative shall approve the location. Protect the materials from damaging heat and freezing temperatures. Keep storage area clean, neat, and free of foreign materials and residue. Comply with OSHA standards and local fire regulations.

6. Job Conditions

6.1. PROHIBITED: Painting damp or wet surfaces.

6.2. PROHIBITED: Coating wood or plaster that contains more than 15 percent moisture.

6.3. PROHIBITED: Painting hot surfaces that are exposed to the sun.

6.4. Apply paint only when the temperature of the surface to be painted, the surrounding air temperature and humidity are within the manufacture-specified limits. If no limits are specified, maintain surface and air temperatures between 45 degrees F and 90 degrees F. Relative humidity shall be below 85 percent.

PART 2 - PRODUCTS

1. Paint systems used herein are specified using ICI/Glidden product numbers to establish type, quality and content of paint.
2. The specified products establish minimum qualities that substitutions must meet to be acceptable. A/E Note: To obtain acceptance of unspecified products, submit written requests to the University Architect's Office for review and approval in a timely manner to prevent any adverse effects on the project schedule or budget. Request for paint substitutions not provided in a timely manner shall be rejected.
3. Refer to Documents 00100, 00700, 00800, 01300 and 01600 for substitution and submittal procedures.

4. Material Quality

- 4.1. Provide the best quality grade of the various types of paints regularly manufactured by the acceptable paint manufacturer(s). Pigments shall be pure, non-fading and suitable for conditions of use.
- 4.2. Provide durable and washable paints. Painted surfaces shall withstand normal washing to remove ordinary soil without showing discoloration, loss of gloss, staining or other damage.
- 4.3. Where noted to be provided in the documents, the paint manufacturer shall specifically recommend materials for use on high-temperature for such use.

5. Colors and Sheen

- 5.1. Provide colors and sheen as shown on the project drawings and finish schedules.
- 5.2. Refer to Documents 00100, 00700, 0800, 01300 and 01600 for substitution and submittal procedures.

6. Additional Costs

6.1. The minimum number of coats required is indicated in this section. Apply additional finish coats until the final film is of uniform color, sheen and general appearance.

6.2. All adjacent exterior and interior surfaces with the same finish color shall match. Wall surfaces within the same room or corridor with the same finish color shall match.

6.3. Provide a base primer, sealant or other manufacturer-recommended product to existing painted surfaces that have extreme contrasts. For example, apply primer, sealant or other product to surfaces that are darker or lighter than the intended final color and sheen. This application eliminates contrasts and provides a uniform finish color and sheen for all similar adjacent surfaces.

PART 3 - EXECUTION

1. Examination

1.1. PROHIBITED: Painting before unsatisfactory conditions have been corrected.

1.2. Notify the architect and the owner's representative of detrimental conditions that might effect the application or performance of paint.

1.3. Review other sections that have an application of primer or other coating to ensure compatibility of various substrates for the entire system. Notify the architect and the owner's representative if primers, coatings or specified finish coatings are anticipated to not be compatible.

2. Preparation

2.1. Protect other surfaces, whether to be painted or not, from damage during painting. Use clean, dry drop cloths. Use masking tapes that can be removed without damaging or leaving residue on substrate.

2.2. Remove device plates, light fixture covers and similar items or provide surface-applied protection prior to preparing the surface and painting. Replace such items and remove protection after painting is completed.

2.3. Remove dust, dirt, rust, scale, grease and other surface contamination. Repair minor defects in gypsum board, plaster and concrete with Spackle or patching plaster. Repair minor defects in wood with putty that is tinted to match the stain where transparent finish is applied. Sand rough areas. Prepare other areas that the manufacturer recommends and as indicated in the paint schedule.

2.4. Touch-up bare areas and damaged shop-applied prime coats. Touch-up with the same primer as the shop coat or as the finish paint manufacturer recommends.

2.5. For previously painted surfaces, remove surface grime by washing with detergent, TSP or sal soda solution. Rinse thoroughly with clean water until all residue is removed. Sand glossy surfaces to improve bond for new coats of paint. Scrap or use a wire brush to remove loose paint and blisters. Sand edges of chips and blisters.

2.6. Test the first coat of paint by applying it in an inconspicuous area. Allow it to dry overnight. If the paint wrinkles or lifts, remove the existing coat. Apply primer according to the manufacturer's instructions.

2.7. Finish wood doors and windows according to the paint manufacturer's instructions and recommendations. Remove handling marks and other field-derived deterioration via sanding by hand in the direction of the wood grain. Apply sanding sealer and lightly sand before staining any area that the paint manufacturer recommends.

3. Application

3.1. PROHIBITED: Painting over UL or other code-required labels, as well as painting over equipment identification and nameplates.

3.2. PROHIBITED: Painting operating portion of valves, dampers, sensing devices, controls, motors or similar devices.

3.3. Carefully mix and prepare paint materials according to the manufacturer's directions. Maintain containers by keeping them clean and free of foreign materials and residue.

3.4. Stir materials before and during application to ensure uniform color and density.

3.5. Apply materials according to the manufacturer's directions. Use applicators and techniques that are best suited to the substrate and type of material being applied. Sand lightly between coats.

3.6. Apply materials at the manufacturer's recommended spreading rate to ensure that the dry film meets the thickness that the manufacturer recommends.

3.7. Apply materials under adequate illumination. Provide a surface free of brush marks, laps, roller skids and other surface imperfections.

3.8. Allow sufficient time for each coat to dry before applying the next coat.

3.9. Tint each undercoat to produce a 50 percent lighter color than subsequent coats. The tint allows the painter to identify the layers of coats wherever they are specified.

3.10. All custom colors must be ICI/Glidden-approved for tinting, and not contain VOCs.

3.11. Roller-applied coats or spray-applied coats shall equal the quality of brush-applied coats. Do not spray over wet surfaces or use a roller to build up the thickness of the film so it is greater than what the manufacturer recommends.

3.12. Lightweight and regular concrete masonry that is coated with an epoxy shall have a pinhole free surface at finish.

4. Miscellaneous Items

4.1. Open window sash for painting. All sash edges and frame surfaces that are exposed shall be painted. Leave sash open until paint is dry. Fully open and close sash after paint is dry to ensure that it has complete range of motion. Remove excess paint and apply a second coat if required.

4.2. Open access panels for painting and leave open until thoroughly dry.

5. Protecting and Cleaning

5.1. PROHIBITED: Discarding material that cannot be recycled on university property.

5.2. Ensure that existing finish work and other surfaces that have been worked on are protected against damage, whether they are being painted or not.

5.3. Erect barricades and "Wet Paint" signs to protect painted finishes.

5.4. Upon completion, remove temporary coverings. Clean glass and other surfaces that are spattered or smeared with paint using materials and methods that will not scratch, stain or damage such surfaces.

5.5. At the end of each workday, remove empty cans, rags, rubbish and other discarded materials from the job site. Recycle all applicable materials when possible. Legally dispose of all materials that cannot be recycled.

5.6. Refer to Division 1, sections 01600 and 01700 for more information on cleaning requirements.

6. Schedule of Interior Finishes

6.1. Use products that emit very low levels of VOC and very little odor (preferably products that do not emit VOCs). Refer to Appendix GG - Definition of Low VOC Content.

6.2. For pre-painted plaster and drywall, apply one coat of Latex Primer Lifemaster 2000 #LM 9116 and one coat of Lifemaster 2000 #LM 9200.

6.3. For new plaster or drywall, apply one coat of Latex Primer Lifemaster 2000 #LM 9116 and one coat of Lifemaster 2000 #LM 9200.

6.4. For ceilings, apply one coat of Latex Primer Lifemaster 2000 #LM 9116 and one coat of Lifemaster 2000 high hiding white #LM 9300.

6.5. For galvanized metal, apply one coat of Devflex Waterborne DTM Primer #4020 and one coat of Lifemaster 2000 #9200.

6.6. For other previously painted ferrous metal:

6.6.1. Apply one coat of Devflex Waterborne DTM Primer #4020 and one coat of Devflex Waterborne Gloss Enamel #4208 for waterborne systems with low VOC.

6.6.2. Apply one coat of Devguard Alkyd Tank and Structural Primer #4160 and one coat of Devshield Alkyd Gloss Enamel #4328 for alkyd systems.

6.7. For other ferrous metals and aluminum:

6.7.1. Apply one coat of water-based Epoxy Primer, Tru-Glaze #4030 and two coats of water-based Epoxy Finish, Tru-Glaze #4408 gloss or #4406 semi-gloss

6.7.2. Tenants shall be given 48 hours of notice prior to using materials. Work with occupants on scheduling when building is at low occupancy.

6.8. For transparent finish/stained wood:

6.8.1. Apply one coat of Woodpride Interior Oil Wood Finishing Satin #1700, one coat of Woodpride Interior Satin Polyurethane Varnish #1902 and one coat of Woodpride Interior Satin Polyurethane Varnish #1902 with thinned 20 percent sealer for waterborne systems with low VOC.

6.8.2. Apply one coat of Woodpride Interior Oil Wood Finishing Stain #1700 and two coats of Woodpride Interior Satin Varnish #1802 for alkyd systems.

6.8.3. For alkyd systems, tenants shall be given 48 hours of notice prior to using materials. Work with occupants on scheduling when building is at low occupancy.

6.9. For pre-painted opaque finish wood:

6.9.1. Apply two coats of Devflex Waterborne Enamel #4208 or #4206 semi-gloss. If desired, add #4207 flowing agent for waterborne systems.

6.9.2. Apply two coats of Devshield Alkyd Urethane Gloss Enamel #4328 or Ultra-Hide Alkyd Eggshell Enamel for alkyd systems.

6.9.3. For alkyd systems, tenants shall be given 48 hours of notice prior to using materials. Work with occupants when building is at low occupancy.

6.10. For lightweight concrete masonry, apply one coat of Ultra-Hide Latex Block Filler #3010 Lifemaster 2000 Finish - Eggshell #LM9300 or semigloss #LM9200.

6.11. For regular weight concrete masonry, apply one coat of Ultra-Hide Latex Block Filler #3010 Lifemaster 2000 Finish - Eggshell #LM9300 or semigloss #LM9200.

6.12. Other recommended related products/sundries: Perfection Odor Away or ZAP, BIN alcohol, brushes with 50-50 cover, Wooster rollers, water-based or solvent-based Will-Bond, Penetrol additive for oil, Dev Prep, oil-based XIM.

7. Schedule of Exterior Finishes

7.1. Where possible, use products that emit very low levels of VOC (preferably products that do not emit VOCs).

7.2. For galvanized metal, apply one coat of Devflex Waterborne DTM Primer #4020 and two coats of Lifemaster-Pro Waterborne Semi-Gloss Enamel #4216.

7.3. For other ferrous metal:

7.3.1. Apply one coat of Devflex Waterborne DTM Primer #4020 and two coats of Lifemaster-Pro Waterborne Semi-Gloss Enamel #4216 for waterborne systems with low VOC.

7.3.2. Apply one coat of Devguard Alkyd Tank and Structural Primer #4160 and two coats of Devshield Alkyd Gloss Enamel #4328 for alkyd systems.

7.3.3. Apply one coat of Devran Polyamide Epoxy Primer #220 that consists of two components and two coats of Devthane Aliphatic Urethane

Gloss Enamel #389 that consists of two components for heavy-duty systems.

7.4. For unfinished wood:

7.4.1. Apply one coat of Exterior Alkyd Primer: Ultra-Hide #2110 for general applications.

7.4.2. Apply one coat of Exterior Latex Primer: Ultra-Hide #2010 for plywood.

7.4.3. Apply two coats of Exterior Latex Dulux #2201 for flat finishes, Dulux #2403 for satin finishes or Dulux #2407 for semi-gloss finishes.

7.5. For previously coated/painted wood with secure finish:

7.5.1. Apply one coat of Exterior Alkyd Primer: Ultra-Hide #2110 for general applications.

7.5.2. Apply one coat of Exterior Latex Primer: Ultra-Hide #2010 for plywood.

7.5.3. Apply one coat of Exterior Latex Dulux #2201 for flat finishes, Dulux #2403 for satin finishes or Dulux #2407 for semi-gloss finishes.

7.6. For regular weight concrete masonry, apply one coat of Ultra-Hide Latex Block Filler #3010 and two coats of Ultra-Hide Durus Masonry Finish #2220.

7.7. For regular weight concrete masonry on waterproof systems, apply one coat of Bloxfil Heavy Duty Acrylic Block Filler #4000 and one coat of Decra-flex Acrylic Elastomeric Coating #2260 smooth.

7.8. For stucco, apply two coats of Ultra-Hide Durus Masonry Finish #2220.

7.9. For stucco on waterproof systems, apply one coat of Decra-flex Acrylic Bonding Primer #3030 and one coat of Decre-flex Acrylic Elastomeric Coating #2260 smooth.

End of Appendix N - Painting Specification Guide
University of Minnesota Facilities Management
November 2002 (Revised: December 2006)