This master should be used by designers working on Port of Portland construction projects and by designers working for PDX tenants (“Tenants”). Usage notes highlight a few specific editing choices, however the entire section should be evaluated and edited to fit specific project needs.

SECTION 099100 – PAINTING

1. GENERAL
   * + 1. DESCRIPTION
          1. This section describes painting work, generally as follows:

Exterior items and surfaces that are new, or indicated on drawings by notes or symbols, or both. In addition, paint items specified in this section to be painted which are not otherwise indicated to be painted.

Interior items and surfaces that are new, or listed on Finish Schedule, or indicated on drawings by notes or symbols, or by any of these methods. In addition, paint items specified in this section to be painted which are not otherwise indicated to be painted.

Tenants: Delete “Port” and replace with name of tenant.

If a new item or surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces whether or not schedules indicate colors. Resolve any conflicts of material colors with the Port prior to application.

Repair of existing surfaces as specified in this section.

Surface preparation, priming, and finish coats specified in this section are in addition to shop priming and surface treatment specified in other sections.

* + - * 1. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

Prefinished items include the following factory-finished components:

Glass and glazing.

Metal ceilings.

Rubber base.

Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:

Furred areas.

Ceiling plenums.

Duct shafts.

Finished metal surfaces include the following:

Anodized aluminum.

Stainless steel.

Chromium plate.

Operating parts include moving parts of operating equipment and the following:

Coiling doors.

Exposed door closer arms.

Labels: Do not paint over Underwriters Laboratories Inc. (UL), Factory Mutual (FM), or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

* + - 1. RELATED WORK SPECIFIED ELSEWHERE
         1. Division 1 for volatile organic compound (VOC) content restrictions.
         2. Division 5 for shop priming structural steel and ferrous metal.
         3. Division 8 for shop priming steel doors and frames.
         4. Division 9 for surface preparation of gypsum board and for industrial paints and coatings of steel.
         5. Painting of mechanical and electrical work is specified in Divisions 21 through 23 and 26 through 28, respectively.
      2. REFERENCES
         1. MPI: Master Painters Institute
      3. SUBMITTALS
         1. Product Data: Describe every required paint system.

Material List: Provide an inclusive list of surfaces and proposed coating materials, including anticipated minimum dry film thickness of each coat. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer’s catalog number and general classification. Include composition of pigment and vehicle, with percentages.

Manufacturer’s certification that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs).

* + - * 1. Submit 8" x 10" drawdowns for review of color and texture only. Resubmit samples as requested until required sheen, color and texture is achieved.
        2. Samples: Provide samples of all paint materials as specified in the Color Schedule article at the end of this section.
      1. QUALITY ASSURANCE

Ensure that Section 016116 is included in the project manual.

* + - * 1. Regulatory Requirements: Comply with the requirements of Section 016116, Volatile Organic Compound (VOC) Content Restrictions.
        2. Reference Standard for Workmanship: MPI.
        3. Show product name on label of containers identical with that used in product data submitted as specified above.
        4. Field Control Samples:

Request review of first finished room, space, or item of each color scheme required as a sample of selected colors, finish, texture and workmanship; under illumination equal to that expected at occupancy.

For spray or roller application, paint at least 100 sq. ft. of surface.

Consider approved samples as the project standard.

* + - * 1. The thickness of the dry paint film will be verified at various intervals and locations during the course of the painting work. At each test, several readings will be taken to determine the average mil thickness.

An area will be considered deficient where, when compared to the dry film thickness specified by the manufacturer or calculated from the recommended spreading rate, the average of 5 readings is more than 10 percent low or a single reading is more than 30 percent low.

Paint will be considered testable after twice the manufacturer’s recommended time for recoating or 24 hours, whichever is longer.

* + - * 1. Apply and reduce materials only as specified or recommended by the manufacturer’s printed instructions. Where manufacturer has made additional recommendations apparently in conflict with these specifications, allow for review and approval of additional recommendations before proceeding.
      1. PRODUCT DELIVERY, STORAGE AND HANDLING
         1. Deliver materials in original containers, materials specified by name, manufacturer or standard with labels legible and intact.
         2. Store in suitable location as directed, in accordance with label instructions.
         3. Do not store paint-soiled rags, waste, etc., on premises, except where stored in metal containers with tight metal covers.
      2. PROJECT CONDITIONS
         1. Comply with paint manufacturer’s recommendations concerning environmen­tal conditions under which coatings and coating systems may be applied.

Apply paint only when surface and air temperatures are above 50ºF.

Do not apply exterior paint in rainy weather.

Do not apply paint in direct sun or when surface is hot or under other conditions which prevent proper application and drying.

* + - * 1. Do not apply finish in areas where dust is being generated.
        2. Protect work of other trades. Correct painting related damage by cleaning, repairing or replacing and refinishing, as directed.
        3. Do not paint any moving parts of operating units, or over any equipment identification, performance rating, name or nomenclature plates or code-required labels.

1. PRODUCTS
   * + 1. ACCEPTABLE MANUFACTURERS OF PAINT MATERIALS
          1. Products shall comply with MPI standards indicated and shall be listed in the “MPI Approved Products List.”
       2. MATERIALS
          1. See painting schedule at the end of this section.
          2. Provide brands and qualities of materials for use on work exactly as specified.
          3. Provide products of a single manufacturer for coating systems applied to each type of surface.
          4. Coordination: Provide finish coats which are compatible with prime paints used. Provide barrier coats over incompatible primers where required. Submit written notification of anticipated problems using specified coatings with substrates primed by others.
          5. Paint Colors:

Colors as indicated.

Paint area of each color for observation, review and revisions before batch mixing of colors, or shipping large quantities of that color to job. Allow revisions to approved colors and textures after review of initial area of each color.

Vary top coats in shade from preceding coat without affecting finish color.

* + - * 1. Mixing and Tinting:

Job mix or job tint only if approved. Mix only in pails in suitably sized non-ferrous or oxide-resistant metal pans.

Strain to remove lumps and specks.

Use tinting colors recommended by manufacturer for the specific type of finish.

Add non-mercuric fungicidal agent to exterior finishes by manufacturer.

1. EXECUTION
   * + 1. INSPECTION
          1. Verify that spaces are broom clean, with surfaces free of foreign matter.
          2. Moisture Content:

Surfaces: Suitably dry and adequately protected from dampness.

Follow recommendations of paint manufacturer for allowable moisture for specific type surfaces.

* + - * 1. Examine surfaces scheduled to receive paint and finishes for conditions that will adversely affect execution, permanence or quality of work and which cannot be put into an acceptable condition through preparatory work as specified. Correct unsatisfactory conditions.
        2. Proceed with surface preparation and coating application only after conditions are suitable.
      1. SURFACE PREPARATION
         1. Do not apply finishes until surfaces are dry and clean and in proper condition to receive finish.
         2. In addition to painting specified, sand and patch prime coats specified under other sections.
         3. Perform preparation and cleaning procedures in accordance with coating manufacturer’s instructions for each substrate condition.
         4. Remove hardware and accessories, machined surfaces, plates, lighting fixtures and similar items in place and not to be finish-painted, or provide surface-applied protection. Reinstall removed items.
         5. Plaster and Wallboard Materials:

Test plaster with one percent solution of phenolphalein in alcohol for dryness and excess acid. Treat excess lime with zinc sulfate solution after observation.

Rake cracks, scratches and abrasions. Fill with thin layers of patching plaster or joint cement as appropriate.

Sand smooth; do not raise nap of paper on wallboard.

* + - * 1. Concrete and Masonry: Fill minor holes to provide uniform texture over surface as approved. Acid etch concrete surfaces receiving oil-based paints and rinse thoroughly.
        2. Ferrous Metal Surfaces:

Remove dirt and grease with mineral spirits.

Remove dust, mill scale, and defective paint down to sound surface using scraper, sandpaper or wire brush as necessary. Clean rusted surfaces down to bare metal.

Feather edges of sound paint by grinding.

Where large areas of bare metal are exposed prime with anti-rust primer recommended for this exposure.

* + - * 1. Galvanized Steel and Aluminum Surfaces:

Clean surface with solvent to remove oily residue. Dry with clean cloth.

Prime with anti-rust 2-coat primer system recommended for this exposure.

* + - * 1. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.

Prime wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and backsides of wood.

After priming, fill holes and imperfections in finish surfaces with plastic wood filler. Sand smooth when dried.

* + - * 1. For surface preparation of other materials not specifically noted, provide appropriate primers and cleaning agents.
      1. SURFACE PREPARATION, EXISTING SURFACES
         1. For surfaces damaged during construction, or indicated as being re-painted: Remove existing loose, blistered, scaled or crazed finish to bare base material surface. Where new work joins existing work, prepare existing surfaces extending to the nearest break in the plane. Wash surfaces with TSP and water or other solution as required.

Prevent impaired bond or bleed through by removing accumulated films of wax, oil, grease, smoke or other foreign matter.

After washing, rinse with potable water and let thoroughly dry.

* + - * 1. High-Gloss and Semi-Gloss surfaces: Wash and rinse as noted above, then wipe with liquid de-glosser or other acceptable preparation compound.
        2. Existing Painted Concrete (surfaces of existing building exposed at completion of this work):

Remove loose, flaking and blistered paint.

Fill contraction and other cracks with elastomeric sealant, work well into the cracks to prevent further leaks. Wipe off excess material.

Apply latex base filler or suitable prime and fill material to fill “pock marks,” air bubbles and other surface irregularities, including those due to paint removal (or sand existing finish to featheredge). Wipe off excess; let dry at least 24 hours before applying specified primer.

* + - * 1. Existing Painted Ferrous Metal:

Remove rust and loose paint to bare metal; solvent wash and prime as specified for new work.

Sand rough edges of bare areas to feather edge at adjacent sound paint before priming.

* + - * 1. Existing Gypsum Board Walls and Ceilings:

Bring to attention of appropriate trades, in timely manner, broken and disintegrated wallboard or areas with major damage or holes.

Fill cracks and defects with spackle, “Swedish putty” or approved patching plaster; vinyl base spackle may be used at gypsum board. Apply texture as required to match existing adjacent surfaces.

Prime bare, filled and patched surfaces with primer specified.

* + - 1. APPLICATION
         1. Paint materials may be applied to fields of walls, ceilings and painted doors with rollers or airless spray equipment. Brush-paint other work except as specifically indicated.

Doors:

Where silk-screened signage is applied to painted doors as specified elsewhere, apply paint to doors with airless spray equipment.

Lay off other painted doors with roller of acceptable texture after application of paint.

Apply each coat evenly, without brush marks, skipped or missed areas; and without sags, runs or other blemishes.

Where spray application is permitted, spray each coat without streaking, lapping or pile up of paint, and lay off with roller for light stippled surface (except as noted).

* + - * 1. Omit first coat (primer) on metal surfaces which have been shop-primed and touch-up painted. Apply prime coat to material which is required to be painted or finished, and which has not been prime coated by others.
        2. Apply each material at not less than the manufacturer’s recommended spreading rate, to provide a total dry film thickness of not less than 3.0 mils for the coating systems applied under this section.
        3. Completed Work: Match approved samples for color, texture and coverage. Remove, refinish or repaint work not in compliance with specified requirements.
        4. Observation of Surfaces:

Do not apply additional coats until completed coat has been reviewed and approved.

Only observed coats of paint will be considered in determining number of coats applied.

* + - * 1. Paint surfaces behind furniture the same as similar exposed surfaces. Paint surfaces behind permanently fixed equipment or furniture with prime coat only, wherever possible.

Paint interior surfaces, where visible through registers or grilles, flat, non-specular black.

Paint backsides of access panels, and removable or hinged covers to match exposed surfaces.

* + - * 1. Sand lightly between succeeding coats.
        2. Finish door edges, tops and bottoms to match faces.
        3. Refinish whole wall where portion of finish has been damaged or is not acceptable.
        4. Make edges of paint adjoining other materials or colors clean and sharp without overlapping. Exercise care that paint does not lap or splatter onto surfaces scheduled to receive other finishes or which are not to be painted.
      1. CLEANING
         1. Remove spilled, splashed or spattered paint.
         2. Do not mar surface finish of item being cleaned.
         3. Leave storage space clean and in condition required for equivalent spaces in project.
         4. Produce a satisfactory finish by painting or repainting as directed, surfaces from which paint spatters cannot satisfactorily be removed.
      2. PAINTING SCHEDULE
         1. Architecturally Exposed Structural Steel:

Touch-up primer applied as specified elsewhere.

Provide two coats of water based gloss enamel.

Water Based Gloss Enamel: As listed in the MPI Approved Products List.

Colors: See color schedule.

Provide two coats with total dry film thickness not less than 4.0 mils.

* + - * 1. Other Exterior Metalwork:

Same system as architecturally exposed structural steel, except reduce gloss as directed.

Apply to:

Ladders, gratings, stairs, railings, bollards, and equipment stands.

Metal doors and frames.

Rooftop mechanical and electrical items, whether prefinished or not.

Electrical panels, wireways, and weatherproof electrical outlets.

Paint other exterior metalwork items; work of this article is not limited to the items listed above.

* + - * 1. Exterior Concrete, CMU and Plywood (FRT) Walls and Gypsum Soffits: Apply exterior water or solvent based primer recommended by manufacturer for each substrate, and two coats of water based exterior flat enamel.

Primer at Concrete Masonry Units: Block filler recommended by coating manufacturer. Apply at a rate providing complete coverage, with pores filled.

Provide products listed in the MPI Approved Products List.

Colors and Gloss: See color schedule.

* + - * 1. Epoxy Paint: Polyamide type.

Apply two coats epoxy finish to surfaces shown in Finish Schedule.

Apply over block filler at concrete masonry.

Add “Non-Skid” additive where used on concrete floors (add sand as approved at concrete stairs).

Provide polyamide epoxy coatings listed in the MPI Approved Products List.

Colors: See color schedule.

Block Filler: As recommended by epoxy coating manufacturer. Apply at a rate providing complete coverage, with pores filled.

Employ company licensed by manufacturer for application of the process. Prepare surface and apply materials under the direct supervision of and in accordance with the field instructions of the representative of the material manufacturer.

* + - * 1. Other Interior Surfaces, including Walls and Ceilings of Concrete, Concrete Masonry Units, Plaster and Veneer Plaster, Glass Fiber Reinforced Gypsum Fabrications and Gypsum Wallboard:

First Coat at Concrete Masonry Units: Block filler recommended by coating manufacturer. Apply at a rate providing complete coverage, with pores filled.

First Coat at Other Surfaces: PVA polyvinyl acetate primer.

Second and Third Coats: Water-based eggshell enamel; top coat applied with fine stippling roller.

Provide products listed in the MPI Approved Products List.

Colors and Gloss: See color schedule.

* + - * 1. Interior Metalwork:

In addition to priming and touch-up, apply two coats of solvent based semi-gloss enamel.

Provide products listed in the MPI Approved Products List.

Third Coat at Flatwork: Match adjoining finish.

Apply to:

Exposed ductwork and wall grilles: Omit third coat at ductwork. Ductwork in mechanical rooms not painted under this section.

Exposed piping: Omit third coat.

Electrical and electronic panels, including metal faces of wall-mounted exit signs.

Ductwork and piping need not be painted where ceiling is not finished, unless otherwise noted.

Apply also to other interior metal surfaces not scheduled for other finishes; work of this article is not limited to the items listed above.

Basic Criteria for Painting Interior Metal Items:

Where suspended ceilings are installed, paint all exposed items below and at the perimeter.

Where metal ceiling is scheduled, paint exposed items in cavity above ceiling, including sprayed fireproofing.

At other locations, painting of mechanical and electrical items is not required.

Spray-apply to exposed door closer covers (remove from door first).

Colors and Gloss: See color schedule.

* + - * 1. Take special care to keep the items scheduled for “No Finish” clean; finish not required.

Insert color schedule information below.

* + - 1. COLOR SCHEDULE
         1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

END OF SECTION 099100