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USACE / NAVFAC / AFCEA / NASA                      UFGS-09 90 00.00 40 (June 2006)  
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Preparing Activity:    NASA                      Superseding  
   UFGS-09 90 00.00 40 (April 2006)  
   NASA-09920S (December 2005)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 18 July 2006

Latest change not indicated by CHG tags

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SECTION 09 90 00.00 40

PAINTING AND COATING  
06/06

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NOTE: Delete, revise, or add to the text in this section to cover project requirements. Notes are for designer information and will not appear in the final project specification.

This section covers the general requirements, materials, surface preparation, material preparation, and coating systems for exterior and interior on-site painting.

Factory-finished and semifinished surfaces must be specified in their respective sections. Field finish applied to factory-semifinished surfaces must be checked for compatibility.

The following areas and surfaces are not generally painted except as noted or specified:

Elevator and duct shafts, concealed spaces, concealed pipes and ducts

Exterior brick, stone, and concrete surfaces are not generally painted, but may be, if considered aesthetically desirable.

Nonferrous metal and stainless steel surfaces, unless required for aesthetic reasons

Acoustic tile and acoustic plaster surfaces

Materials with acceptable factory-finished surfaces

Concrete floors

Structural steel encased in concrete and structural steel concealed by interior building finish, except where subject to high humidity or corrosive conditions



Drawings and paint schedules must indicate exterior and interior surfaces to be painted and finish coating color and gloss.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

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## PART 1 GENERAL

### 1.1 REFERENCES

Not Used

### 1.2 SUBMITTALS

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NOTE: Review Submittal Description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Choose the first bracketed item for Navy, Air Force



and NASA projects, or choose the second bracketed item for Army projects.

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Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.] [for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

#### SD-03 Product Data

Manufacturer's catalog data shall be submitted for the following items. Data shall include detailed analysis of each coating material required, with constituents measured as percentages of the total weight of coating.

Inhibitive Metal Primer  
Pigmented Sealer  
Latex Block Filler  
Alkali Resistant Primer  
Enamel Undercoat  
Exterior Wood Primer  
Acrylic Latex  
Acrylic Epoxy

#### SD-04 Samples

Manufacturer's Standard Color Charts shall be submitted in accordance with paragraph entitled, "Manufacturer's and Materials," of this section.

#### SD-07 Certificates

A Safety Plan shall be submitted in accordance with paragraph entitled, "General," of this section.

#### SD-08 Manufacturer's Instructions

Manufacturer's instructions shall be submitted for architectural coatings including details of thinning, mixing, handling, and application, in accordance with paragraph entitled, "General," of this section.

### 1.3 CONTRACTOR PERSONNEL QUALIFICATION

Personnel assigned to the work shall be certified by the Contractor to have had adequate previous experience in the successful application of paints and coatings similar to those specified.

### 1.4 DELIVERY, HANDLING, AND STORAGE

Materials shall be delivered in their original, unbroken containers bearing the manufacturer's name and product identification. Containers breached by rough handling shall be removed from the site, together with their contents.

Paint materials, thinners, and cleaners shall be stored in tightly closed containers in a covered, well-ventilated area where they will not be



exposed to excessive heat, sparks, flame, or direct sunlight. Water-based materials shall be protected against freezing.

## PART 2 PRODUCTS

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NOTE: Refer to the attached website for reprocessed and consolidated latex paints:

[www.epa.gov/cpg/products/paint.htm](http://www.epa.gov/cpg/products/paint.htm).

EPA recommends that procuring agencies, when purchasing latex paints, purchase these items made from Postconsumer recovered materials when these items meet applicable specifications and performance requirements.

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NOTE: Reprocessed and consolidated latex paint is one of the materials listed in the EPA's Comprehensive Procurement Guidelines (CPG) (<http://www.epa.gov/cpg/>). If the Architect/Engineer determines that use of certain materials meeting the CPG content standards and guidelines would result in inadequate competition, do not meet quality/ performance specifications, are available at an unreasonable price or are not available within a reasonable time frame, the Architect/ Engineer may submit written justification and supporting documentation for not procuring designated items containing recovered material. Written justification may be submitted on a Request for Waiver Form to the NASA Environmental Program Manager for approval. The Request for Waiver Form is located in the NASA Procedures and Guidelines (NPG 8830.1) (<http://nodis3.gsfc.nasa.gov>).

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### 2.1 MANUFACTURER'S AND MATERIALS

Manufacturer's Standard Color Charts shall be submitted showing manufacturer's recommended finish colors. Three color chips of each color and gloss scheduled shall also be submitted.

The following are suggested paint manufacturers and their products. Other paint manufacturers' products of equal quality will be considered when submitted and approved by the Contracting Officer.

<u>COATING</u>	<u>PITTSBURGH</u>	<u>SHERWIN WILLIAMS</u>	<u>GLIDDEN</u>
Inhibitive Metal Primer	6-712	B50WZ1	6970
Pigmented Sealer	6-2	B28W200	5111
Latex Block Filler	6-7	B25W25	5317



<u>COATING</u>	<u>PITTSBURGH</u>	<u>SHERWIN WILLIAMS</u>	<u>GLIDDEN</u>
Alkali Resistant Primer	6-3	A5V2	5212H
Enamel Undercoat	6-755	B49W2	[300] [310]
Exterior Wood Primer	6-809	Y24W20	3651
Acrylic latex, flat	72 line	A6 SERIES	6500
Acrylic Latex, gloss	78 line	A8 SERIES	6600
Water base Acrylic Epoxy	16 line	B70 SERIES	5277/5278

### PART 3 EXECUTION

#### 3.1 GENERAL

A [Safety Plan](#) shall be submitted for architectural coating systems in accordance with OSHA regulations.

Manufacturer's recommendations for surface preparation, thinning, mixing, handling, and application shall be considered a part of this specification.

#### 3.2 PROTECTION OF FACILITIES

Contractor shall remove and reinstall or provide acceptable protection for hardware, accessories, lighting and electrical components, factory-finished materials, plumbing fixtures and fittings, and any other materials that may become splattered or damaged by the painting work.

#### 3.3 SURFACE PREPARATION

##### 3.3.1 General Requirements

Surfaces shall be clean, dry, and free from contaminants and foreign matter. Mildew and chalking shall be removed and the surface thoroughly sterilized. Chipped, peeling, or blistered paint shall be removed and the surface spot primed. Hard glossy surfaces shall be dulled and roughened to ensure proper adhesion.

##### 3.3.2 Ferrous Metal

Surfaces shall be free from dirt, oil, grease, wax, and other contaminants. Heavy rust and loose mill scale shall be removed by hand, power tool, or blast cleaning.

##### 3.3.3 Galvanized Steel

Surfaces shall be cleaned of all contaminants using a solvent such as lacquer thinner or xylol.



After cleaning, the surface shall be etched with a phosphoric acid pre-treatment solution.

#### 3.3.4 Aluminum

Surfaces shall be clean, dry, and free from oil and grease. Oxide film and corrosion shall be removed by hand or power tool cleaning.

#### 3.3.5 Wood

Surfaces shall be clean, dry, smooth, and free from oil, grease, and dirt. Knots shall be sealed with a mixture of equal parts of shellac and alcohol. Nail holes, cracks, and other defects shall be filled with plastic wood or putty. Concealed surfaces shall be back-primed before installation.

#### 3.3.6 Masonry

Surfaces shall be free from dirt, oil, grease, wax, form-release compounds, laitance, and other contaminants. Cracks, voids, and other major surface imperfections shall be filled with mortar.

#### 3.3.7 Plaster and Drywall

Surfaces shall be clean and dry. Cracks and other surface imperfections shall be filled with spackling compound and sanded smooth.

### 3.4 MIXING AND APPLICATION

#### 3.4.1 General Procedures

No exterior painting shall be allowed in rainy weather or when rain is imminent. No paints or coatings shall be applied when the temperature or humidity is outside the limits recommended by the manufacturer.

Paints and coatings shall be applied by brush, roller, or airless spray.

Each coat of material applied shall be free from runs, sags, bubbles, foreign contaminants, variations in color, gloss, and texture, dry overspray, brush and roller marks, holidays (missed areas), or other evidence of poor application.

Paints and coatings shall be thoroughly worked into corners and crevices.

Newly painted surfaces shall be adequately protected from damage.

#### 3.4.2 Procedures

There shall be at least [\_\_\_\_\_] coat[s] of paint applied in accordance with the manufacturer's instructions.

Coatings shall be applied as follows:

Material shall be thoroughly stirred to produce a uniform mixture.

Material shall be thinned for workability and improved spray characteristics, but only according to the manufacturer's instructions.

Each coat shall be applied uniformly at the minimum wet-film thickness



specified by the manufacturer.

Special attention shall be given when coating sharp edges, corners, and crevices to ensure complete coverage.

Finish coats shall show good hiding characteristics and uniform appearance.

### 3.5 ACCEPTANCE PROVISIONS

#### 3.5.1 Inspection

Contractor shall provide qualified personnel for inspection of his work to ensure that the requirements of this section have been fulfilled.

#### 3.5.2 Correction

Spot-painting to correct damaged surfaces will be allowed only when touchup area blends into the surrounding finish. Otherwise, the entire area shall be recoated. Touchup shall be accomplished using the same method of application as was used to apply the original material.

### 3.6 PROTECTION

"WET PAINT" signs shall be posted to indicate newly painted surfaces.

### 3.7 PAINT SCHEDULE

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NOTE: For small jobs, the paint schedule information can be provided under the column titles designated below. On large jobs, or when there is a finish schedule provided on the drawings this paragraph should be deleted.  
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<u>SURFACE</u>	<u>PRIMER</u>	<u>UNDERCOAT AND FINISH COAT</u>	<u>FINISH COLOR AND SHEEN</u>
Interior [_____] plaster	Pigmented sealer	[Water-base acrylic enamel] [_____]	[white gloss]
Interior [_____] drywall	Pigmented sealer	[Water-base acrylic enamel] [_____]	[white gloss]
Interior [_____] metal	Inhibitive metal primer	[Water-base acrylic enamel] [_____]	[white gloss]
Interior [_____] masonry (rough/porous)	Latex block filler	[Water-base acrylic enamel] [_____]	[white gloss]



<u>SURFACE</u>	<u>PRIMER</u>	<u>UNDERCOAT AND FINISH COAT</u>	<u>FINISH COLOR AND SHEEN</u>
Interior [_____] masonry (smooth)	Pigmented sealer	[Water-base acrylic enamel] [_____]	[white gloss]
Exterior [_____] masonry (rough/ porous)	Latex block filler	[Acrylic latex] [_____]	[white flat]
Exterior [_____] masonry (smooth)	Alkali- resistant primer	[Acrylic latex] [_____]	[white flat]
Interior [_____] wood	Water-base enamel undercoat	[Water-base acrylic enamel] [_____]	[white gloss]
Exterior [_____] wood	Exterior wood primer	[Acrylic latex] [_____]	[white gloss]
[_____]	[_____]	[_____]	[_____]

-- End of Section --