

SECTION 10 14 00
SIGNAGE

PART 1 - GENERAL

1.1 DESCRIPTION:

- A. This section specifies interior signage for room numbers, directional signs exterior signage, code required signs and temporary signs.
- B. This section specifies exterior signage.

1.2 RELATED WORK:

- A. Electrical Work: Division 26, ELECTRICAL.
- B. Lighted EXIT signs for egress purposes are specified under Division 26, ELECTRICAL.

1.3 QUALITY ASSURANCE:

- A. Manufacturer's Qualifications: Provide signage that is the product of one manufacturer, who has provided signage as specified for a minimum of three (3) years. Submit manufacturer's qualifications.
- B. Installer's Qualifications: Minimum three (3) years' experience in the installation of signage of the type as specified in this Section. Submit installer's qualifications.

1.4 SUBMITTALS:

- A. Submit in accordance with Section 01 33 00, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
- B. Interior Sign Samples: Sign panels and frames, with letters and symbols, for each sign type.
 - 1. Sign Panel, 203 x 254 mm (8 x 10 inches), with letters.
 - 2. Color samples of each color, 152 x 152 mm (6 x 6 inches. Show anticipated range of color and texture.
 - 3. Sample of typeface, arrow and symbols in a typical full size layout.
- C. Exterior Sign Samples: 152 x 152 mm (6 x 6 inches) samples of each color and material.
- D. Manufacturer's Literature:
 - 1. Showing the methods and procedures proposed for the anchorage of the signage system to each surface type.
 - 2. Manufacturer's printed specifications and maintenance instructions.
- E. Sign Location Plan, showing location, type and total number of signs required.
- F. Shop Drawings: Scaled for manufacture and fabrication of sign types. Identify materials, show joints, welds, anchorage, accessory items, mounting and finishes.

- G. Full size layout patterns for dimensional letters.
- H. Manufacturer's qualifications.
- I. Installer's qualifications.

1.5 DELIVERY AND STORAGE:

- A. Deliver materials to job in manufacturer's original sealed containers with brand name marked thereon. Protect materials from damage.
- B. Package to prevent damage or deterioration during shipment, handling, storage and installation. Maintain protective covering in place and in good repair until removal is necessary.
- C. Deliver signs only when the site and mounting services are ready for installation work to proceed.
- D. Store products in dry condition inside enclosed facilities.

1.6 WARRANTY:

- A. Construction Warranty: Comply with FAR clause 52.246-21, "Warranty of Construction".

1.7 APPLICABLE PUBLICATIONS:

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. American Architectural Manufacturers Association (AAMA):
 - 611-14.....Anodized Architectural Aluminum
 - 2603-13.....Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels
- C. American National Standards Institute (ANSI):
 - A117.1-09.....Accessible and Usable Buildings and Facilities
- D. ASTM International (ASTM):
 - A36/A36M-14.....Carbon Structural Steel
 - A240/A240M-15.....Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
 - A666-10.....Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate and Flat Bar
 - A1011/A1011M-14.....Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength

- B36/B36M-13.....Brass Plate, Sheet, Strip, and Rolled Bar
- B152/B152M-13.....Copper Sheet, Strip, Plate, and Rolled Bar
- B209-14.....Aluminum and Aluminum-Alloy Sheet and Plate
- B209M-14.....Aluminum and Aluminum-Alloy Sheet and Plate
(Metric)
- B221-14.....Aluminum and Aluminum-Alloy Extruded Bars,
Rods, Wire, Shapes, and Tubes
- B221M-13.....Aluminum and Aluminum-Alloy Extruded Bars,
Rods, Wire, Shapes, and Tubes (Metric)
- C1036-11 (R2012).....Flat Glass
- C1048-12.....Heat-Treated Flat Glass-Kind HS, Kind FT Coated
and Uncoated Glass
- C1349-10.....Architectural Flat Glass Clad Polycarbonate
- D1003-13.....Test Method for Haze and Luminous Transmittance
of Transparent Plastics
- D4802-10.....Poly(Methyl Methacrylate) Acrylic Plastic Sheet
- D. Code of Federal Regulation (CFR):
 - 40 CFR 59.....Determination of Volatile Matter Content, Water
Content, Density Volume Solids, and Weight
Solids of Surface Coating
- E. Federal Specifications (Fed Spec):
 - MIL-PRF-8184F.....Plastic Sheet, Acrylic, Modified.
 - MIL-P-46144C.....Plastic Sheet, Polycarbonate
- F. National Fire Protection Association (NFPA):
 - 70-14.....National Electrical Code

PART 2 - PRODUCTS

2.1 SIGNAGE GENERAL:

- A. Provide signs of type, size and design shown on the construction documents.
- B. Provide signs complete with lettering, framing and related components for a complete installation.
- C. Provide graphics items as completed units produced by a single manufacturer, including necessary mounting accessories, fittings and fastenings.
- D. Do not scale construction documents for dimensions. Verify dimensions and coordinate with field conditions. Notify Contracting Officer Representative (COR) of discrepancies or changes needed to satisfy the requirements of the construction documents.

2.2 EXTERIOR SIGNAGE PERFORMANCE REQUIREMENTS:

- A. Thermal Movements: For exterior signs, allow for thermal movements from ambient and surface temperature changes 67 degrees C (120 degrees F) ambient and 100 degrees C (180 degrees F) material surfaces.
- B. Provide installed electrical components and sign installations bearing the label and certifications of Underwriter's Laboratories, Inc., and comply with NFPA 70 as well as applicable federal codes for installation techniques, fabrication methods and general product safety.

2.3 INTERIOR SIGN MATERIALS:

- A. Aluminum:
 - 1. Sheet and Plate: ASTM B209M (B209).
 - 2. Extrusions and Tubing: ASTM B221M (B221).
- B. Cast Acrylic Sheet: MIL-PRF-8184F; Type II, class 1, Water white non-glare optically clear. Matt finish water white clear acrylic shall not be acceptable.
- C. Polycarbonate: MIL-P-46144C; Type I, class 1.
- D. Vinyl: Premium grade 0.1 mm (0.004 inch) thick machine cut, having a pressure sensitive adhesive and integral colors.
- F. Typography: Comply with VA Signage Design Guide.
 - 1. Type Style: Helvetica Medium and Helvetica Medium Condensed. Initial caps or all caps, as indicated on signage drawing.
 - 2. Arrow: Comply with graphic standards in construction documents.
 - 3. Letter spacing: Comply with graphic standards in construction documents.
 - 4. Letter spacing: Comply with graphic standards in construction documents.
 - 5. Provide text, arrows, and symbols in size, colors, typefaces and letter spacing shown in construction documents. Text shall be a true, clean, accurate reproduction of typeface(s). Text shown in construction documents is for layout purposes only; final text for signs is listed on signage drawings.

2.4 EXTERIOR SIGN MATERIALS:

- A. Aluminum Sheet and Plate: ASTM B209M (B209).
- B. Aluminum Extrusions: ASTM B221M (B221).
- C. Brass Sheet (Yellow Brass): ASTM B36/B36M.
- D. Bronze Plate: ASTM B36/B36M.

- E. Copper Sheet: ASTM B152/B152M.
- F. Steel Products: Structural steel products that conform to ASTM A36/A36M. Sheet and strip steel products that conform to ASTM A1011/A1011M.
- G. Stainless Steel Sheet: ASTM A240/A240M, stretcher leveled standard of flatness.
- H. Acrylic Sheet: ASTM D4802; category as standard with manufacturer for each sign. Provide type UVF.
- I. Fiberglass Sheet: Multiple laminations of glass fiber reinforced polyester resin with UV light stabilized, colorfast, nonfading, weather and stain resistant, colored polyester gel coat with manufacturer's standard finish.
- J. Polycarbonate Sheet: ASTM C1349, Appendix X1, Type II (coated, mar resistant, UV stabilized polycarbonate) with coating on both sides.
- K. Finish:
 - 1. Aluminum Finishes:
 - a. Clear Anodic Finish: AAMA 6112. Metallic Coated Steel Finish:
 - a. Baked Enamel or Powder Coat Finish: After cleaning and pretreating, apply manufacturer's standard two (2) coat baked-on finish consisting of prime coat and thermosetting topcoat to a minimum dry film thickness of 0.05 mm (2 mils).

2.6 EXTERIOR SIGN TYPES:

- A. General:
 - 1. Fabricate signs that comply with VA Signage Design Guide.
- B. Text and Graphics:
 - 1. Illuminated Signs: Form graphics with router and backed with 3 mm (0.0125 inch) thick minimum translucent white acrylic diffuser. Mechanically fasten diffuser and letter voids to sign face.
 - 2. Non-illuminated Signs: Provide surface applied reflective white opaque vinyl graphics.
- C. Illuminated Signs:
 - 1. Construct UL approved cabinet from aluminum extrusion system with internal lamping 239 mm (9 inches) on center, maximum.
 - 2. Provide energy saving fluorescent lamps that are turned on or off by photocell.

3. Provide power disconnect switch mounted on bottom or side away from traffic thoroughfare. Select lockable disconnect in accordance with Division 26, ELECTRICAL.
 4. The sign face and changeable sign strips are to be 2.3 mm (0.090 inch) minimum to 3.2 mm (0.125 inch) thick aluminum. Mount aluminum faces and changeable strips into framed extruded cabinet face to allow for removal from top or side, so that faces can be changed without affecting extruded sign structure.
 5. Changeable Strip Sign Text Modules: Extruded aluminum sliding panels which are retained by a horizontal aluminum channel mounted behind the insert panel joints. Text module heights are 101 mm (4 inches), 152 mm (6 inches) and 203 mm (8 inches).
 6. Provide underground power in accordance with construction documents, and up through base or post. Exposed electrical conduit runs are not acceptable.
- D. Non-illuminated Wall Panel Sign:
1. Constructed of flat sheet of aluminum for wall mounting.
 2. Sign Face: 3.2 mm (0.125 inch) thick aluminum with surface applied reflective white vinyl graphics.
 3. Installed with mechanical fasteners into wall surface. Exposed support brackets are not acceptable.
- E. Non-Illuminated Cut Out Dimensional Letters:
1. Provide cut out aluminum letters which are mill cut (vertical sides) out of plate as required by sign type.
 2. Letters: Studded and mounted with 9 mm (.375 inch) spacers to wall surface using adhesive appropriate to the surface.
 3. Paint letters with acrylic polyurethane in specified color and finish in signage drawings.

2.7 FABRICATION:

- A. Design interior signage components to allow for expansion and contraction for a minimum material temperature range of 38 degrees C (100 degrees F), without causing buckling, excessive opening of joints or over stressing of adhesives, welds and fasteners.
- B. Form work to required shapes and sizes, with true curve lines and angles. Provide necessary rebates, lugs and brackets for assembly of units. Provide concealed fasteners wherever possible.
- C. Shop fabricate so far as practicable. Fasten joints flush to conceal reinforcement, or weld joints, where thickness or section permits.

- D. Level and assemble contract surfaces of connected members so joints will be tight and practically unnoticeable, without applying filling compound.
- E. Signs: Fabricate with fine, even texture to be flat and sound.
 - 1. Maintain lines and miters sharp, arises unbroken, profiles accurate and ornament true to pattern.
 - 2. Plane surfaces to be smooth, flat and without oil-canning, free of rack and twist.
 - 3. Maximum variation from plane of surface plus or minus 0.3 mm (0.015 inches). Restore texture to filed or cut areas.
- F. Finish extruded members to be free from extrusion marks. Fabricate square turns, sharp corners, and true curves.
- G. Finish hollow signs with matching material on all faces, tops, bottoms and ends. Mitere edge joints to give appearance of solid material.
- H. Do not manufacture signs until final sign message schedule and location review has been completed by the COR and forwarded to contractor.
- I. Drill holes for bolts and screws. Mill smooth exposed ends and edges with corners slightly rounded.
- J. Form joints exposed to weather to exclude water.
- K. Movable Parts, Including Hardware: Cleaned and adjusted to operate as designed without binding or deformation of members. Center doors and covers in opening or frame.
 - 1. Align contact surfaces fit tight and even without forcing or warping components.
- L. Pre-assemble items in shop to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for re-assembly and coordinated installation.
- M. Prime painted surfaces as required. Apply finish coating of paint for complete coverage with no light or thin applications allowing substrate or primer to show.
 - 1. Finish surface smooth, free of scratches, gouges, drips, bubbles, thickness variations, foreign matter and other imperfections.

PART 3 - EXECUTION

3.1 INSTALLATION:

- A. Locate signs as shown on the construction documents
- B. Conform to the VA Signage Design Guide for installation requirements.

- C. At each sign location there are no utility lines behind each sign location that will be affected by installation of signs.
 - 1. Correct and repair damage done to utilities during installation of signs at no additional cost to Government.
- D. Provide inserts and anchoring devices which must be set in concrete or other material for installation of signs. Submit setting drawings, templates, instructions and directions for installation of anchorage devices, which may involve other trades.
- E. Refer to Sign Message Schedule for mounting method. Mount signs in proper alignment, level and plumb according to the Sign Location Plan and the dimensions given on elevation and Sign Location Plans. When exact position, angle, height or location is not clear, contact COR for resolution.
- F. When signs are installed on glass, provide blank glass back up to be placed on opposite side of glass exactly behind sign being installed. Provide blank glass back that is the same size as sign being installed.
- G. Touch up exposed fasteners and connecting hardware to match color and finish of surrounding surface.
- H. At completion of sign installation, clean exposed sign surfaces. Clean and repair adjoining or adjacent surfaces that became soiled or damaged as a result of installation of signs.

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