
USACE / NAVFAC / AFCEC / NASA UFGS-10 14 00.20 (August 2017)
Change 2 - 11/18

Preparing Activity: USACE Superseding
UFGS-10 14 00.20 (November 2012)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated October 2019

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SECTION 10 14 00.20

INTERIOR SIGNAGE
08/17

NOTE: This guide specification covers the requirements for common types of signs, dimensional letters, and metal plaques used inside buildings.

Adhere to UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard when editing this guide specification or preparing new project specification sections. Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable item(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments, suggestions and recommended changes for this guide specification are welcome and should be submitted as a Criteria Change Request (CCR).

PART 1 GENERAL

NOTE: This section covers some of the more common interior sign types. When other sign types are to be used, such as elevator-related signs, occupancy load signs and structural load limit signs, specifications will be modified accordingly. Buildings will be accessible in accordance with 36 CFR, Part 1191, Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities except for Army buildings excluded by TI 800-01 Design Criteria.

Reference UFC 3-120-01 available at Unified Federal Criteria Design: Sign Standard for design, construction and placement of signs.

In combination with this specification, drawings and attachments will include location, dimensions, elevations, schedules, content, details and such other information as required to indicate the extent of the work. The same terminology and designations used in the specification will be used on the drawings, schedules and attachments.

Product selections must be based on quality, aesthetic values, appearance, and cost as related to project needs.

Use of personal names on interior signage is discouraged. If personal names are required, changeable message strips will be used. Consider coordination of interior signage within this specification with signage required on individual workstations which is specified in Section 12 59 00 SYSTEMS FURNITURE.

Interior stairwell signage will be provided in accordance with Life Safety Code NFPA 101, Chapter 5, and applicable occupancy chapters. Clearly define interstitial spaces or other doorways within stairwell that do not lead to a horizontal exitway with signage that states "Not an Exit".

Permanent information on room identification signs includes the room number on all room identification signs, symbol and message on toilet rooms, message on janitor closets, mechanical/electrical and communications rooms, and message on stairs.

Where appropriate for MEDICAL FACILITIES, include the following requirements for signage:

1. Room numbering for spaces within the medical facility will be determined jointly by the using facility and the design team. User room number will be different than architectural room number (see UFC 4-510-01 Design: Medical Military Facilities). Room numbering will be consistent throughout the facility. For inpatient medical facilities, rooms with audiovisual nurse call must have a unique user room number, since audiovisual nurse call is tied into a digital paging system. For outpatient clinics, rooms with tonevisual nurse call, do not need a unique user room number, since tonevisual nurse call is hardwired to a panel located at a nursing station. Room numbering should address the following issues:

- a. Wayfinding within clinics and other departments (user room #).
- b. Facility Maintenance (architectural room #).
- c. Audiovisual Nurse Call (inpatient) (unique

user room #).

d. Tonevisual Nurse Call (outpatient) (user room #).

2. The use of symbols/graphics on interior signage will be limited. International symbols and graphics will be used where needed. Recommended symbols include men/women symbol for toilet rooms and showers, men/women symbol with key for locker rooms, telephone symbol for public telephone areas, information (?), radiation symbol, biohazard symbol, and handicap symbol.

3. Arrow placement order on interior signage will comply with UFC 4-510-01 Design: Medical Military Facilities. Left pointing arrows at top of sign, followed by up pointing arrows, then right pointing arrows at bottom of sign. Example follows:

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< EMERGENCY
^ Orthopedic Clinic
> Admissions
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4. Signage schedule should be provided in electronic spreadsheet format. Schedule will include architectural room number, user room number, type of sign, message, symbol (if needed), color, and mounting location.

5. Building directories and accompanying orientation maps for the medical facility will be determined jointly by the using facility and the design team. Orientation maps, if required, will be included as part of the interior signage package, and should be of the same manufacturer. Include international symbols for information (?), parking areas (upper case P within circle), public toilet rooms, public telephones, and graphic north arrow on orientation maps. Orientation map is to be positioned so that building left is viewer's left.

6. Large, easy to read signs over reception counters, check-in counters, information desks, or departments will be provided. Signs should be either ceiling mounted or affixed to soffit directly above counters.

7. Room identification signs should be 200 mm x 200 mm 8 x 8 inch or 230 mm x 230 mm 9 x 9 inch. Justification of room number and message will be flush left.

8. Fire evacuation signs will be provided in accordance with the local Fire Marshal, if required.

9. Overhead directional signs should not block fire exit signs.

10. Signage will clearly define all staff, public,
or patient toilet rooms.

1.1 REFERENCES

NOTE: This paragraph is used to list the
publications cited in the text of the guide
specification. The publications are referred to in
the text by basic designation only and listed in
this paragraph by organization, designation, date,
and title.

Use the Reference Wizard's Check Reference feature
when you add a RID outside of the Section's
Reference Article to automatically place the
reference in the Reference Article. Also use the
Reference Wizard's Check Reference feature to update
the issue dates.

References not used in the text will automatically
be deleted from this section of the project
specification when you choose to reconcile
references in the publish print process.

The publications listed below form a part of this specification to the
extent referenced. The publications are referred to in the text by basic
designation only.

ALUMINUM ASSOCIATION (AA)

AA DAF45 (2003; Reaffirmed 2009) Designation System
for Aluminum Finishes

AA PK-1 (2015) Pink Sheets: Designations and
Chemical Composition Limits for Aluminum
Alloys in the Form of Castings & Ingot

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA 2604 (2017a) Voluntary Specification,
Performance Requirements and Test
Procedures for High Performance Organic
Coatings on Aluminum Extrusions and Panels

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z97.1 (2015) Safety Glazing Materials Used in
Buildings - Safety Performance
Specifications and Methods of Test

AMERICAN WELDING SOCIETY (AWS)

AWS D1.2/D1.2M (2014) Structural Welding Code - Aluminum

ASTM INTERNATIONAL (ASTM)

ASTM B209	(2014) Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B209M	(2014) Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric)
ASTM B221	(2014) Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
ASTM B221M	(2013) Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric)
ASTM C1036	(2016) Standard Specification for Flat Glass
ASTM D635	(2018) Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position

INTERNATIONAL CODE COUNCIL (ICC)

ICC A117.1 COMM	(2017) Standard And Commentary Accessible and Usable Buildings and Facilities
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NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(2017; ERTA 1-2 2017; TIA 17-1; TIA 17-2; TIA 17-3; TIA 17-4; TIA 17-5; TIA 17-6; TIA 17-7; TIA 17-8; TIA 17-9; TIA 17-10; TIA 17-11; TIA 17-12; TIA 17-13; TIA 17-14; TIA 17-15; TIA 17-16; TIA 17-17) National Electrical Code
NFPA 101	(2018; TIA 18-1; TIA 18-2; TIA 18-3) Life Safety Code

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

36 CFR 1191	Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines
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1.2 SUBMITTALS

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.

The Guide Specification technical editors have designated those items that require Government approval, due to their complexity or criticality, with a "G." Generally, other submittal items can be

reviewed by the Contractor's Quality Control System. Only add a "G" to an item, 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.

The "S" following a submittal item indicates that the submittal is required for the Sustainability eNotebook to fulfill federally mandated sustainable requirements in accordance with Section 01 33 29 SUSTAINABILITY REPORTING. Locate the "S" submittal under the SD number that best describes the submittal item.

Choose the first bracketed item for Navy, Air Force and NASA projects, or choose the second bracketed item for Army projects.

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for [Contractor Quality Control approval.] [information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] Submittals with an "S" are for inclusion in the Sustainability eNotebook, in conformance to Section 01 33 29 SUSTAINABILITY REPORTING. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Detail Drawings; G[, [_____]]

SD-03 Product Data

Installation; G[, [_____]]

Warranty; G[, [_____]]

SD-04 Samples

Interior Signage; G[, [_____]]

Software; G[, [_____]]

SD-10 Operation and Maintenance Data

Approved Manufacturer's Instructions; G[, [_____]]

Protection and Cleaning; G[, [_____]]

1.3 EXTRA MATERIALS

Provide [_____] extra frames and extra stock of the following: [[_____] blank plates of each color and size for sign types [_____] [[_____] changeable message strips for sign type [_____] Provide [[_____] paper inserts and [one][_____] copy of the [software](#) for user produced signs and inserts after project completion] [and equipment necessary for removal of signage parts and pieces.]

1.4 QUALITY ASSURANCE

1.4.1 Samples

Submit [interior signage](#) samples of each of the following sign types showing typical quality, workmanship and color: Directional sign, Standard Room sign, Changeable message strip sign, [Facility Recognition Plaque] [_____] The samples may be installed in the work, provided each sample is identified and location recorded.

1.4.2 Detail Drawings

Submit detail drawings showing elevations of each type of sign, dimensions, details and methods of mounting or anchoring, mounting height, shape and thickness of materials, and details of construction. Include a schedule showing the location, each sign type, and message.

1.5 DELIVERY, STORAGE, AND HANDLING

Materials must be packaged to prevent damage and deterioration during shipment, handling, storage and installation. Product must be delivered to the jobsite in manufacturer's original packaging and stored in a clean, dry area in accordance with manufacturer's instructions.

1.6 [WARRANTY](#)

Warrant the interior signage for a period of [2][_____] year[s] against defective workmanship and material. Warranties must be signed by the authorized representative of the manufacturer. Submit warranty accompanied by the document authenticating the signer as an authorized representative of the guarantor. Guarantee that the signage products and the installation are free from any defects in material and workmanship from the date of delivery.

PART 2 PRODUCTS

**NOTE: Delete signage systems, directories, etc.,
not required for project. Coordinate electrical
requirements with Division 26 and building
electrical design.**

2.1 STANDARD PRODUCTS

NOTE: Do not use galvanized or enameled steel

products for panels, brackets, fasteners, or hardware in locations where deployments may leave facilities unoccupied or without conditioned spaces for extended time periods, humid interior spaces, humid project locations or exterior project locations with Environmental Severity Classifications (ESC) C4 and C5. Humid project locations are those in ASHRAE climate zones 0A, 1A, 2A, 3A, 3C, 4C and 5C (as identified in ASHRAE 90.1). See UFC 1-200-01 for determination of ESC for project locations.

Humid interior spaces include, but are not limited to, high humidity, non air conditioned spaces (for example, bathrooms, locker rooms, pools, trainers), areas open to the exterior (for example, mechanical rooms and hangars), and spaces that are not conditioned by design or may not be conditioned during prolonged periods due to deployment or occupancy (for example, garages, motor pool bays, vehicle repair bays, park bathrooms, field house toilets, storage warehouses, and in some cases enlisted and officer quarters).

Signs, plaques, directories, and dimensional letters must be the standard product of a manufacturer regularly engaged in the manufacture of such products that essentially duplicate signs that have been in satisfactory use at least 2 years prior to bid opening. Obtain signage from a single manufacturer with edges and corners of finished letterforms and graphics true and clean.

2.2 ROOM IDENTIFICATION/DIRECTIONAL SIGNAGE SYSTEM

NOTE: Depending on the complexity of the project consider a modular signage system such as structural rails and end caps. Coordinate project requirements and specific signage system with user.

2.2.1 Standard Room Signs

NOTE: Do not use framed signs or metal signs where exposed to the weather in humid locations or project locations with Environmental Severity Classifications (ESC) of C3 thru C5. Humid project locations are those in ASHRAE climate zones 0A, 1A, 2A, 3A, 3C, 4C and 5C (as identified in ASHRAE 90.1). See UFC 1-200-01 for determination of ESC for project locations. Use Acrylic Plastic or Phenolic sign materials without frames in these areas.

Signs must consist of [acrylic plastic 2 mm 0.080 inch thickness minimum conforming to ANSI Z97.1] [laminated thermosetting Type MP plastic (three-ply melamine plastic laminate with phenolic core)] [6063-T5

extruded aluminum in accordance with ASTM B221M ASTM B221 and ASTM B209M ASTM B209] [_____] and must conform to the following:

- a. Frames must be [[aluminum] [wood] [molded acrylic]], [[flat][radius]] [[3 mm 1/8 inch] [6 mm 1/4 inch] [_____] thick.]
- b. End caps must be [aluminum] [wood] [molded acrylic] with [round] [square] [_____] style corners.
- c. Units must be frameless. Corners of signs must be [squared] [rounded] to [10] [13] [19] [_____] mm [3/8] [1/2] [3/4] [_____] inch radius].

2.2.2 Changeable Message Strip Signs

NOTE: The insert preparation method most appropriate to each building should be chosen, and the same method should be used consistently throughout the building. Requirements for sign-making equipment or software will be determined jointly by the using facility and the designer. If using other than standard paper, require extra stock be provided.

Changeable message strip signs must be of same construction as standard room signs to include a clear sleeve that will accept a paper or plastic insert identifying changeable text. The insert must be prepared [die-cut vinyl letters applied to 0.38 mm 0.015 inch rigid vinyl film] [typeset message mounted on paper card stock] [typewritten message] [_____] [Provide[paper and] software for creating text and symbols for computers identified by owner for Owner production of paper inserts after project completion.]] Furnish one [suction][_____] device to assist in removing face sheet.]] Sliding inserts or slide knobs that slide horizontally exposing different graphic information must be provided as identified in the signage placement schedule and [drawings][attachments.]]

2.2.3 Type of Mounting For Signs

Provide extruded aluminum brackets for hanging, projecting, and double-sided signs. Mounting for framed, hanging, and projecting signs must be by mechanical fasteners. Surface mounted signs must be mounted with [countersunk mounting holes in plaques and mounting screws][1.6 mm 1/16 inch thick closed cell vinyl foam with adhesive backing. Adhesive must be transparent, long aging, high tech formulation on two sides of the vinyl foam.][magnetic tape [silicone adhesive]][[hook and loop tape consisting of hooked part on sign back and looped side on mounting surface] [pin mount] for textile surfaces] [_____] fabricated from materials that are not corrosive to sign material and mounting surface.

2.2.4 Graphics

NOTE: Edit the following requirements as necessary for the project. Graphics methods that are easily vandalized, such as vinyl first surface copy and acrylic characters bonded to acrylic will not be permitted. The silkscreened first surface copy method is generally used for mass produced signs.

Signage graphics for modular signs must conform to the following:

[2.2.4.1 Subsurface Copy

Copy is transferred to the back face of clear acrylic sheeting forming the panel face to produce precisely formed opaque image. This method bonds all sign elements (color, graphics, lettering, Braille and substrate) into a single unit.

] [2.2.4.2 First Surface Copy Direct Print or Silkscreened (Non-Tactile)

Message may be applied to panel using the silkscreen process. Silkscreened images must be executed with photo screens prepared from original art. Handcut screens will not be accepted. Original art is defined as artwork that is a first generation reproduction of the specified art. Edges and corners must be clean.

] [2.2.4.3 Surface Applied Photopolymer

Integral graphics and Braille achieved by photomechanical stratification processes. Photopolymer used for ADA compliant graphics must be of the type that has a minimum durometer reading of 90. Tactile graphics must be raised 0.8 mm 1/32 inch from the first surface of plaque by photomechanical stratification process.

] [2.2.4.4 Engraved Copy

Machine engrave letters, numbers, symbols, and other graphics into panel sign on face to produce precisely formed copy and sharp images, incised to uniform depth. Melamine plastic engraving stock used for ADA compliant graphic must be three-ply lamination contrasting color core meeting ASTM D635.

] [2.2.4.5 Graphic Blast Raised Copy

Background is sandblasted to a uniform depth of 0.8 mm 1/32 inch leaving raised text and Braille. Background must be painted with polyurethane paint.

] [2.2.4.6 Embossed

Methods other than sandblasting such as vacuum formed to create ADA compliant projected graphics.

] [2.2.4.7 [Cast] [Fabricated] [Solid] Aluminum Letters

Provide [3] [6] [_____] mm [1/8] [1/4] [_____] inch thick and fasten to the message panel with concealed fasteners.

] 2.2.5 Character Proportions and Heights

Letters and numbers on signs conform to 36 CFR 1191.

2.2.6 Tactile Letters, Symbols and Braille

Raised letters and numbers on signs must conform to 36 CFR 1191.

2.3 STAIR SIGNAGE

Provide signs on stairs serving three or more stories with special signage within the enclosure at each floor landing conforming to NFPA 101. Indicate the floor level, the terminus of the top and bottom of the stair enclosure, and the identification of the stair enclosure. Also, state the floor level of, and the direction to, exit discharge. Locate the signage inside the enclosure in a position that is visible when the door is in the open or closed position and install in conformance with 36 CFR 1191. The floor level designation must also be tactile in accordance with ICC A117.1 COMM.

2.4 BUILDING DIRECTORIES

Building directories must be lobby directories or floor directories, and must be provided with a changeable directory listing consisting of the areas, offices and personnel located within the facility. Dimensions, details, and materials of sign and message content must be as shown on the [drawings][attachments][signage placement schedule].

2.4.1 Header Panel

Header panel must [have background metal to match frame] [be acrylic with raised acrylic letters][be ES/MP plastic with raised letters] [_____].

2.4.2 Doors

2.4.2.1 Door Glazing

Door glazing must be [in accordance with ASTM C1036, Type 1, Class 1, Quality 3, minimum 3 mm 1/8 inch thick][clear acrylic sheet 4.8 mm 3/16 inch thick conforming to [_____]][clear polycarbonate sheet 4.8 mm 3/16 inch thick][_____].

2.4.2.2 Door Construction

Extruded aluminum door frame must be of same finish as surrounding frame. Corners must be mitered [, reinforced] [, welded], and assembled with concealed fasteners. Hinges must be standard with the manufacturer, in finish to match frames and trim. Glazing must be set in frame with resilient glazing channels.

2.4.2.3 Door Locks

Door locks must be manufacturer's standard, and must be keyed alike. Provide two sets of keys.

2.4.3 Fabrication

Extruded aluminum frames and trim must be assembled with corners [reinforced] [welded] and mitered to a hairline fit, with no exposed fasteners.

2.4.4 Illuminated Units

NOTE: Coordinate illumination with Division 26 and
building electrical design.

Illuminated directory units must have concealed internal [top] [back] lighting with [LED] [rapid start fluorescent tube lamp] [____], internal wiring, and lead at wire for connection. Electrical work must comply with NFPA 70 and must be UL or FM listed. Directory must consist of backlit photo negative directory strips and a black background. Unit must have a tinted [tempered safety solar glass][____] door.

2.4.4.1 Construction

The directory must be [50][100][150] mm [1][2][4][____] inch deep frame constructed of an [aluminum with [[satin [black][painted][dark bronze][____] anodized finish]][[red oak][walnut][____] with [natural][stained] finish]]. Unit must be [[semi][fully] recessed][surface][____] mounted. Unit must have a [75][____] mm [3][____] inch high header lettering as shown. Unit must have a [9.3][____] mm [3/8][____] inch face door frame with concealed hinges and locking system or other secure method. Door frame must [match directory material and finish][____].

2.4.4.2 Message Strips

Message strips must be photo negative type updatable by user. Message strips must be [as shown on the drawings] [____].

2.4.5 Non-Illuminated Unit

Directory must consist of a non-illuminated unit with [machine or laser engraved copy in interchangeable acrylic, metal, or high-pressure plastic laminate strips] [screen printed or vinyl copy applied to acrylic, metal, or high-pressure plastic laminate strips] [vinyl or screen printed lettering on plastic film held in interchangeable plastic carriers] [screen printed or vinyl copy laminated to magnetic tape]. Design of unit must be as shown in the drawings.

2.4.5.1 Construction

The directory must be constructed of an aluminum [50][100][150] mm [2][4][6] inch deep frame with [satin [black][painted][dark bronze][____] anodized finish]][[red oak][walnut][____] with [natural][stained] finish]. Unit must be [[semi][fully] recessed][surface][____] mounted. Unit must have a [75][____] mm [3][____] inch high header lettering as shown. Unit must have a [9.3][____] mm [3/8][____] inch face door frame with concealed hinges and locking system or other secure method. Door frame must [match directory material and finish][____].

2.4.5.2 Message Strips

[Message strips must be updatable by user.]Message strips must be [sized in accordance with manufacturer's standard] [____]. Letters and numbers must be provided in accordance with the [drawings] [schedule].

2.4.6 Electronic Directory System

NOTE: The electronic directory system is a limited usage item and must be fully justified prior to being specified.

Provide [non-interactive][interactive] electronic directory. Electronic directory system must be a complete turnkey system consisting of digital display, hardware, software connected through the local area network (LAN) to a [server][cloud]. Electrical equipment must be UL listed and must comply with NFPA 70. Unit must be [free-standing][wall mounted].

2.5 METAL PLAQUES

2.5.1 Cast Metal Plaques

2.5.1.1 Fabrication

Cast metal plaques must have the logo, emblem and artwork cast in the [bas relief] [flat relief] [_____] technique. Plaques must be fabricated from [prime aluminum] [bronze] [brass] [_____].

2.5.1.2 Border

Border must be [flat band] [plain edge] [bevel] [custom ornamental] [_____].

2.5.1.3 Finish

Letter Finish	[satin] [polished]
Background Finish	[[light][dark] aluminum][[dark][] bronze]
Background Texture	[leather][pebble][smooth][]

2.5.1.4 Mounting

Mounting must be [concealed] [rosettes and anchors] [rosettes and toggle bolts] [_____].

2.5.2 Chemically Etched Metal Plaques

2.5.2.1 Fabrication

Plaque must be chemically etched one-piece or photochemically engraved metal sheet or plate [aluminum] [brass] [bronze] [zinc] [magnesium] [_____] [0.8128][1.6256][3.175][6.35][_____] mm [0.032][0.064][0.125][0.250][_____] inch thick.

2.5.2.2 Finish

[Single-etched raised areas must be in [gold-tone] [silver-tone] [bronze-tone] finish and recessed areas must be colorfilled.] [Double-etched raised areas must be [gold-tone] [silver-tone] and recessed textured areas must be [gold-tone] [silver-tone] colorfilled.]

2.6 DIMENSIONAL BUILDING LETTERS

NOTE: These letters are for direct application to interior building surfaces. Drawings must show mounting type details.

2.6.1 Fabrication

Letters must be [cast][cutout][fabricated channel][molded plastic].
Letters must be [aluminum][bronze][brass][]. Package letters for
protection until installation.

2.6.2 Size

Letter size must be [_____] [as indicated]. Provide letter thickness that
is [manufacturer's standard for the size of letter][_____].

2.6.3 Finish

Provide [[mill][clear anodized][[light][medium][dark] anodized bronze]]
[[polished] bronze with clear coat] [baked enamel] [powder
coat][two-component acrylic polyurethane] finish.

2.6.4 Mounting

[Threaded studs] [Steel U-bracket, cap screws, and expansion bolts] of
number and size recommended by manufacturer, must be supplied for
concealed anchorage. Letters which project from the mounting surface must
have [stud spacer sleeves] [_____]. Letters, studs, and sleeves must be
of the same material. Templates for mounting must be supplied.

2.7 PRESSURE SENSITIVE LETTERS

**NOTE: Use pressure sensitive letters for direct
application to building interior surfaces such as
glass and doors. Be sure surface of material will
accept adhesion of letters. Show locations, message
content, sizes, and colors on drawings or in a
message schedule.**

2.7.1 Fabrication

Ensure that vinyl letter edges and corners of finished letterforms and
graphics are true and clean. Do not use letterforms and graphics with
rounded positive or negative corners, nicked, cut, or ragged edges.

2.7.2 Size

Letter size: [as indicated] [_____].

2.8 ALUMINUM ALLOY PRODUCTS

Aluminum extrusions must be at least 3 mm 1/8 inch thick, and aluminum
plate or sheet must be at least 1.3 mm 0.0508 inch thick. Extrusions must
conform to ASTM B221M ASTM B221; plate and sheet must conform to ASTM B209M
ASTM B209. Where anodic coatings are specified, alloy must conform to
AA PK-1 alloy designation 514.0. Exposed anodized aluminum finishes must
be as shown. Welding for aluminum products must conform to AWS D1.2/D1.2M.

2.9 ANODIC COATING

Anodized finish must conform to AA DAF45 as follows:

- a. [Clear (natural) designation AA-M10-C22-A31, Architectural Class II 0.010 mm 0.4 mil or thicker.]
- b. [Integral color anodized designation AA-M10-C22-A32, Architectural Class 0.010 to 0.018 mm 0.4 to 0.7 mil.]
- c. [Electrolytically deposited color-anodized designation AA-M10-C22-A34, Architectural Class II 0.010 to 0.018 mm 0.4 to 0.7 mil.]

2.10 ORGANIC COATING

Organic coating must conform to AAMA 2604, with total dry film thickness not less than 0.030 mm 1.2 mils.

2.11 FABRICATION AND MANUFACTURE

2.11.1 Factory Workmanship

Holes for bolts and screws must be drilled or punched. Drilling and punching must produce clean, true lines and surfaces. Exposed surfaces of work must have a smooth finish and exposed riveting must be flush. Fastenings must be concealed where practicable.

2.11.2 Dissimilar Materials

Where dissimilar metals are in contact, the surfaces will be protected to prevent galvanic or corrosive action.

2.12 COLOR, FINISH, AND CONTRAST

NOTE: Color must be selected from manufacturer's standard colors and indicated in SECTION 09 06 00 SCHEDULES FOR FINISHES or identified in this specification only when the project is very simple and has minimal finishes. Custom colors must be limited due to additional cost and impact on future orders.

Signage background color should be in high contrast with signage copy. Dark background with light copy is preferred.

When the government directs that color be located in the drawings a note must be added that states:
"Where color is shown as being specific to one manufacturer, an equivalent color by another manufacturer may be submitted for approval. Manufacturers and materials specified are not intended to limit the selection of equal colors from other manufacturers. The word "color" as used herein includes surface color and pattern."

Color must be [in accordance with Section 09 06 00 SCHEDULES FOR FINISHES]

[as indicated] [____]. Finish of all signs must be eggshell, matte, or other non-glare finish as required in handicapped-accessible buildings.

2.13 TYPEFACE

[ADA-ABA compliant font for Room Signs][Helvetica Regular][____].

PART 3 EXECUTION

3.1 INSTALLATION

Signs must be installed plumb and true and in accordance with [approved manufacturer's instructions](#) at locations shown on the [detail drawings] [schedule below] [attachments]. Submit [six] [____] copies of operating instructions outlining the step-by-step procedures required for system operation. The instructions must include simplified diagrams for the system as installed, the manufacturer's name, model number, service manual, parts list, and brief description of all equipment and their basic operating features. Each set must be permanently bound and must have a hard cover. The following identification must be inscribed on the covers: the words "OPERATING AND MAINTENANCE INSTRUCTIONS", name and location of the facility, name of the Contractor, and contract number. Mounting height and mounting location must conform to [36 CFR 1191](#). Required blocking must be installed. Signs on doors or other surfaces must not be installed until finishes on such surfaces have been installed. Signs installed on glass surfaces must be installed with matching blank back-up plates in accordance with manufacturer's instructions. [Illuminated signage must be in conformance with the requirements of Section [26 51 00 INTERIOR LIGHTING](#).]

SIGNAGE PLACEMENT SCHEDULE				
Door/Room Number	Sign Type	Text	Insert(s)	Symbol/Remarks
[____]	[____]	[____]	[____]	[____]

Do not install items that show visual evidence of biological growth.

3.1.1 Anchorage

Anchorage must be in accordance with approved manufacturer's instructions. In high humidity interior spaces (for example, bathrooms, locker rooms, pools, trainers) and unconditioned spaces, use corrosion-resistant anchors/fasteners or with approval by the manufacturer, waterproof silicone adhesive. Anchorage not otherwise specified or shown must include slotted inserts, expansion shields, and powder-driven fasteners when approved for concrete; toggle bolts and through bolts for masonry; machine carriage bolts for steel; lag bolts and screws for wood. Exposed anchor and fastener materials must be compatible with metal to which applied and must have matching color and finish. At interior applications in heavy traffic areas, firmly attach signage to structure walls with tamper-proof fasteners.

- a. Signs mounted to painted gypsum board surfaces must be removable for painting maintenance.
- b. Mount signs mounted to lay-in ceiling grids with clip connections to

ceiling tees.

- c. Install signs mounted on metal surfaces with magnetic tape.
- d. Install signs mounted on fabric surfaces with hook and loop tape or pin mount.

3.1.2 Protection and Cleaning

Protect the work against damage during construction. Hardware and electrical equipment must be adjusted for proper operation. Glass, frames, and other sign surfaces must be cleaned at completion of sign installation in accordance with the manufacturer's approved instructions and the requirements of Section 01 78 23 OPERATION AND MAINTENANCE DATA, Package 1. Submit [six] [_____] copies of maintenance instructions listing routine procedures, repairs, and guides.

-- End of Section --