
USACE / NAVFAC / AFCEA UFGS-10440 (July 2002)

Preparing Activity: USACE Superseding
UFGS-10440A (June 2001)
UFGS-10400N (September 1999)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 25 June 2004

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07/02

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SECTION 10440

INTERIOR SIGNAGE 07/02

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

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.

PART 1 GENERAL

NOTE: This section covers some of the more common interior sign types. When other sign types are to be used, specifications will be modified accordingly. Army buildings not excluded by TI 800-01 Design Criteria will be accessible in accordance with 36 CFR, Part 1191, Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities.

Drawings will indicate location, dimensions, elevations, schedules, content, details and such other information as required to indicate the extent of the work. The same terminology or titles used in the specification, for the different types of signage, will be used on the drawings and schedules.

Product selections shall be based on esthetic values, appearance, and cost as related to project needs.

Where appropriate for medical facilities, include the following requirements for signage:

1. Permanent information on room identification signs will have 0.80 mm (0.0312 inch) raised characters and accompanying Grade 2 Braille. Permanent information 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.

2. 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 MIL-HDBK 1191, 4.15.3). Room numbering will be consistent throughout the facility, with odd numbers on the right and even numbers on the left. For inpatient medical facilities, rooms with audiovisual nurse call need to 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 #).

3. 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, parking symbol (upper case P with circle), information (?), radiation symbol, biohazard symbol, and handicap symbol.

4. Signage background color should be in high contrast with signage copy (note: dark background with white copy is preferred).

5. Arrow placement order on interior signage will comply with MIL-HDBK 1191, 4.15.2.2. 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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6. 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.

7. 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.

8. 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.

9. Room identification signs should be 20.32 cm x 20.32 cm (8 x 8 inch) or 22.86 cm x 22.22.86 cm (9 x 9 inch). Justification of room number and message will be flush left.

10. 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".

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

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

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

14. Use of personal names in interior signage package is discouraged. If personal names are required, changeable message strips will be used.

15. Requirements for sign-making equipment or software will be determined jointly by the using

facility and the design team.

1.1 REFERENCES

NOTE: Issue (date) of references included in project specifications need not be more current than provided by the latest guide specification. Use of SpecsIntact automated reference checking is recommended for projects based on older guide specifications.

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

ALUMINUM ASSOCIATION (AA)

AA DAF-45	(2003) Designation System for Aluminum Finishes
AA PK-1	(2002) Pink Sheets: Designations and Chemical Composition Limits for Aluminum Alloys in the Form of Castings and Ingot

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA 605	(1998) Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels
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AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z97.1	(1984; R 1994) Safety Glazing Materials Used in Buildings
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AMERICAN WELDING SOCIETY (AWS)

AWS D1.2	(2003) Structural Welding Code - Aluminum
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ASTM INTERNATIONAL (ASTM)

ASTM B 209	(2002a) Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B 209M	(2002a) Aluminum and Aluminum-Alloy Sheet and Plate (Metric)
ASTM B 221	(2002) Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
ASTM B 221M	(2002) Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric)

ASTM C 1036

(2001) Flat Glass

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70

(2002) National Electrical Code

1.2 SUBMITTALS

NOTE: Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item should be required.

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 projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy projects.

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.] The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Detail Drawings

Drawings showing elevations of each type of sign, dimensions, details and methods of mounting or anchoring, shape and thickness of materials, and details of construction. A schedule showing the location, each sign type, and message shall be included.

SD-03 Product Data

Installation

Manufacturer's descriptive data, catalogs cuts, installation and cleaning instructions.

SD-04 Samples

Interior Signage; [_____]

One sample of each of the following sign types showing typical quality and workmanship. The samples may be installed in the work, provided each sample is identified and location recorded.

- a. Directional sign.
- b. Door identification sign.
- c. [_____].

[Two] [_____] samples of manufacturer's standard color chips for each material requiring color selection.

SD-10 Operation and Maintenance Data

Approved Manufacturer's Instructions Protection and Cleaning

[Six] [_____] copies of operating instructions outlining the step-by-step procedures required for system operation shall be provided. The instructions shall include simplified diagrams for the system as installed. [Six] [_____] copies of maintenance instructions listing routine procedures, repairs, and guides shall be provided. The instructions shall include the manufacturer's name, model number, service manual, parts list, and brief description of all equipment and their basic operating features. Each set shall be permanently bound and shall have a hard cover. The following identification shall be inscribed on the covers: the words "OPERATING AND MAINTENANCE INSTRUCTIONS", name and location of the facility, name of the Contractor, and contract number.

1.3 GENERAL

Interior signage shall be of the design, detail, sizes, types, and message content shown on the drawings, shall conform to the requirements specified, and shall be provided at the locations indicated. Signs shall be complete with lettering, framing as detailed, and related components for a complete installation. Recyclable materials shall conform to EPA requirements in accordance with Section 01670 RECYCLED / RECOVERED MATERIALS.

1.3.1 Character Proportions and Heights

Letters and numbers on indicated signs in handicapped-accessible buildings, which do not designate permanent rooms or spaces, shall have a width-to-height ratio between 3:5 and 1:1 and a stroke-width-to-height ratio between 1:5 and 1:10. Characters and numbers on indicated signs shall be sized according to the viewing distance from which they are to be

read. The minimum height is measured using an upper case letter "X". Lower case characters are permitted. Suspended or projected overhead signs shall have a minimum character height of 75 mm 3 inches.

1.3.2 Raised and Brailled Characters and Pictorial Symbol Signs (Pictograms)

Letters and numbers on indicated signs which designate permanent rooms and spaces in handicapped-accessible buildings shall be raised 0.8 mm 1/32 inch upper case, sans serif or simple serif type and shall be accompanied with Grade 2 Braille. Raised characters shall be at least 16 mm 5/8 inch in height, but no higher than 50 mm 2 inches. Pictograms shall be accompanied by the equivalent verbal description placed directly below the pictogram. The border dimension of the pictogram shall be 152 mm 6 inches minimum in height. Indicated accessible facilities shall use the international symbol of accessibility.

1.4 QUALIFICATIONS

Signs, plaques, and dimensional letters shall be the standard product of a manufacturer regularly engaged in the manufacture of such products and shall essentially duplicate signs that have been in satisfactory use at least 2 years prior to bid opening.

1.5 DELIVERY AND STORAGE

Materials shall 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 EXTRA STOCK

NOTE: A sufficient number of identification signs and letters for future use for changes and message replacement shall be specified.

The Contractor shall provide [_____] extra frames and extra stock of the following: [[_____] blank plates of each color and size for sign types [_____.] [[_____] pressure-sensitive letters in each color and size for sign type [_____.] [[_____] changeable message strips for sign type [_____.]

PART 2 PRODUCTS

NOTE: Omit signage systems, directories, etc., not required for project. Coordinate electrical requirements with Division 16 and available electric service.

2.1 ROOM IDENTIFICATION/DIRECTIONAL SIGNAGE SYSTEM

NOTE: Drawings will indicate in sufficient detail whether a modular interchangeable component system is required for the project.

Melamine plastic (MP) is a tough phenolic core material that is for interior and non-direct sun exterior usage and is recommended for raised lettering and braille. The engraving stock (ES) plastic is not recommended for raised lettering and braille.

Signs shall be fabricated of [Type ES/MP laminated thermosetting plastic suitable for engraving] [or] [acrylic plastic conforming to ANSI Z97.1] [extruded aluminum conforming to ASTM B 221M ASTM B 221].

2.1.1 Standard Room Signs

Signs shall consist of [gloss] [matte] finish [acrylic plastic] [laminated thermosetting Type MP plastic] [_____]. [Units shall be frameless] [Frames shall be [aluminum] [wood] [molded acrylic]]. Corners of signs shall be [squared] [[10] [13] [19] [_____] mm [3/8] [1/2] [3/4] [_____] inch radius] [as shown].

2.1.2 Changeable Message Strip Signs

NOTE: Where conditions require frequent changes, laminated signs may be used to allow for message replacement. This type also allows for two message signs such as "occupied-vacant." Details of requirements shall be shown on drawings.

Polycarbonate is shatter resistant but susceptible to UV radiation. Cast acrylic is more commonly used and is easy to work with but does not have the shatter resistance of polycarbonate. Select sign material based on exposure and strength requirements.

Changeable message strip signs shall consist of [polycarbonate] [cast acrylic] [_____] [laminated thermosetting Type MP plastic] [Type [ES] [MP] plastic captive message [magnetic back] [slider sign]] [_____] face with message slots and associated end caps, as detailed, for insertion of changeable message strips. Size of signs shall be as shown on the drawings. Individual message strips to permit removal, change, and reinsertion shall be provided as detailed. Corners of signs shall be [squared] [[10] [13] [19] [_____] mm [3/8] [1/2] [3/4] [_____] inch radius].

2.1.3 Type of Mounting For Signs

Extruded aluminum brackets, mounted as shown, shall be furnished for hanging, projecting, and double-sided signs. Mounting for framed, hanging, and projecting signs shall be by mechanical fasteners. Surface mounted signs shall be provided with [1.6 mm 1/16 inch thick vinyl foam tape] [or] [countersunk mounting holes in plaques and mounting screws] [_____]. Sign inserts shall be provided with 1.6 mm 1/16 inch thick foam tape.

2.1.4 Graphics

NOTE: Edit the following requirements as necessary for the project.

Signage graphics for modular identification/directional signs shall conform to the following:

[[Cast] [Fabricated] aluminum letters [3] [6] [_____] mm [1/8] [1/4] [_____] inch thick shall be provided and fastened to the message panel with concealed fasteners. Aluminum letter finish shall be as specified. Letters shall project 0.8 mm 1/32 inch minimum from face of panel.]

[Pressure sensitive prespaced and prealigned precision computer cut vinyl letters on release paper shall be provided. Edges and corners of finished letter forms and graphics shall be true and clean. Vinyl sheeting for graphics shall be 5 to 7 year premium type and shall be a minimum 0.08 mm 0.003 inch film thickness. Film shall include a precoated pressure sensitive adhesive backing.]

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

[Acrylic letters [3] [6] [_____] mm [1/8] [1/4] [_____] inch thick and chemically welded to 3.2 mm 0.125 inch thick acrylic backup sheet.]

[Graphics shall be raised 0.8 mm 1/32 inch with background [painted with low VOC paint] [or] [engraved exposed laminate].]

2.2 BUILDING DIRECTORIES

Building directories shall be lobby directories or floor directories, and shall be provided with a changeable directory listing consisting of the areas, offices and personnel located within the facility. Dimensions, details, and materials of sign shall be as shown on the drawings. Where required, message content shall be as shown on drawings and schedule.

2.2.1 Header Panel

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

2.2.2 Doors

2.2.2.1 Door Glazing

Door glazing shall be [in accordance with ASTM C 1036, 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] [_____].

2.2.2.2 Door Construction

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

resilient glazing channels.

2.2.2.3 Door Locks

Door locks shall be manufacturer's standard, and shall be keyed alike.

2.2.3 Fabrication

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

2.2.4 Illuminated Units

**NOTE: Coordinate illumination with Division 16 and
available electric service.**

Illuminated directory units shall have concealed internal [top] [back] lighting with [rapid start fluorescent tube lamp] [____], internal wiring, and lead at wire for connection. Electrical work shall comply with NFPA 70 and shall be UL or FM listed.

2.2.5 Negative Graphics Directory System

Directory shall consist of internally illuminated unit with backlit photo negative directory strips and a black background. Unit shall have a tinted [tempered safety solar glass] [____] door. Design of unit shall be as shown.

2.2.5.1 Construction

The directory shall be constructed of an aluminum [100] [150] mm [4] [6] inch deep frame with satin [black] [dark bronze] [____] anodized finish. Unit shall be [[semi] [fully] recessed] [[pedestal] [____]] mounted. Unit shall have a [75] [____] mm [3] [____] inch high header lettering as shown. Unit shall have a [____] 9.3 mm 3/8 inch face door frame with concealed hinges and locking system. Door frame shall be [aluminum with [satin] [black] [dark bronze]] [solid [polished] [satin] [chrome plated] brass] [solid architectural bronze] [____].

2.2.5.2 Message Strips

**NOTE: Photo negative replaceable message strips are
available from manufacturer via 7-10 day delivery,
FAX order, or coupon book order.**

Message strips shall be photo negative type updatable by user with book reordering and with 7 to 10 day delivery. Message strips shall be [9.3 x [87] [175] [275] mm 3/8 x [3.5] [7] [11] inches] [12.5 x [175] [275] mm 1/2 x [7] [11] inches] [____].

2.2.6 Changeable Letter/Message Strip Directory System

Directory shall consist of [an internally illuminated] [a non-illuminated] unit with [step or groove, laser or rotary engraved removable name strips]

[felt grooved for changeable letters] [cast vinyl to receive molded changeable letter tiles] [laminated plastic magnetic back message strips]. Design of unit shall be as shown in the drawings.

2.2.6.1 Construction

The directory shall be constructed of an aluminum [50] [_____] mm [2] [_____] inch deep frame with satin [black] [dark bronze] [_____] anodized finish. Unit shall be [surface] [[semi] [fully] recessed] [[pedestal] [_____] mounted. Unit shall have a [75] [_____] mm [3] [_____] inch high header with lettering as shown. Unit shall have a [9.3] [_____] mm [3/8] [_____] inch face [[concealed hinge door and locking system] [lift off frame]] with [[tempered safety glass] [_____] [fixed frame] [_____]]. Door frame shall be [aluminum with satin [black] [dark bronze]] [solid [polished] [satin] [chrome plated] brass] [solid architectural bronze] [_____]].

2.2.6.2 Message Strips

[Namestrips shall be updatable by user with coupon book reordering and with 5 to 7 day delivery. Namestrips shall be [[acrylic] [_____]] [sized per manufacturer's standard] [_____]].] [Namestrips shall be felt grooved background with changeable upper and lower case [Helvetica Medium] [_____] letters. Tabbed vinyl letters and numbers shall be furnished in accordance with the [drawings] [and] [schedule].]

2.2.7 Touchscreen Electronic Directory System

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

Touchscreen electronic directory system shall be a complete turnkey system consisting of touchscreen monitor, processor, update terminal with software connected through a [telephone network] [or] [local area network (LAN)]. The system shall be in compliance with the layout and number shown. Electrical equipment shall be UL listed and shall comply with NFPA 70.

2.2.7.1 Directory Unit

Directory unit shall consist of [[1] [_____]] [350] [400] [_____] mm [14] [16] [_____] inch touchscreen monitor and membrane keypad with [alphabetic 28] [alphanumeric 38] [alphabetic braille 30] keys. Screen resolution shall be [SVGA [800 x 600] [1280 x 1024]] [_____]]. Monitor shall be full color. Processor shall be Pentium 75 or better with sound peripherals and have a listing capacity of [96,000] [1,000,000] [_____] items. Directory unit shall be of design and finishes as shown.

2.2.7.2 Update Terminal

Update terminal unit shall consist of a [300] [350] [_____] mm [12] [14] [_____] inch color monitor with [84] [101] key keypad. Unit shall have a 132 column report printer. Unit shall include a Pentium 75 or better PC processor with floppy disk from update terminal to each directory. System shall include [network from update to each directory] [and] [network from mainframe to update terminal to each directory]. Communications shall be over a telephone network or a LAN.

2.3 METAL PLAQUES

2.3.1 Cast Metal Plaques

2.3.1.1 Fabrication

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

2.3.1.2 Border

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

2.3.1.3 Background

Background texture shall be [leather] [fine pebble] [_____].

2.3.1.4 Mounting

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

2.3.1.5 Finish

Finishes shall consist of [aluminum light colored sandblasted background. Letters shall be satin polished and entire plaque shall be sprayed with two coats of clear lacquer.] [aluminum with background sprayed dark gunmetal colored lacquer. Letters shall be satin polished and entire plaque sprayed with two coats clear lacquer.] [bronze with dark finish oxidized background. Letters shall be satin polished and entire plaque sprayed with two coats of clear lacquer.] [[aluminum] [bronze] with background sprayed with standard color. Letters shall be satin polished.]

2.3.2 Chemically Etched Metal Plaques

2.3.2.1 Fabrication

Plaque shall be chemically [single-] [double-] etched one-piece [brass] [bronze] [zinc] [magnesium] [_____] [0.8128] [1.6256] [3.175] [6.35] mm [0.032] [0.064] [0.125] [0.250] inch thick.

2.3.2.2 Finish

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

2.3.3 Frost and Surface Oxidized Plaques

2.3.3.1 Fabrication

Plaque shall be frosted and surface oxidized one-piece [anodized aluminum] [brass] [bronze] [stainless steel] [1.02] [3.175] mm [0.040] [0.125] inch thick.

2.3.3.2 Finish

[Material finish shall be [satin] [polished].] [Frosted areas shall be oxidized [black for aluminum or stainless steel] [or] [black or brown, for brass or bronze].]

2.4 DIMENSIONAL BUILDING LETTERS

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

2.4.1 Fabrication

Letters shall be fabricated from [[cast aluminum] [cast bronze]] [[2.29] [3.17] mm [0.090] [0.125] inch aluminum sheet] [extruded aluminum] [injection molded plastic]. Letters shall be cleaned by chemical etching or cleaned ultrasonically in a special degreasing bath. Letters shall be packaged for protection until installation.

2.4.2 Typeface

Typeface shall be [helvetica medium] [_____].

2.4.3 Size

Letter size shall be [_____].

2.4.4 Finish

[Anodized aluminum] [Baked enamel or two-component acrylic polyurethane] [[Polished] [Oxidized] bronze with clear coat] finish shall be provided.

2.4.5 Mounting

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

2.5 ALUMINUM ALLOY PRODUCTS

Aluminum extrusions shall be at least 3 mm 1/8 inch thick, and aluminum plate or sheet shall be at least 1.3 mm 0.0508 inch thick. Extrusions shall conform to ASTM B 221M ASTM B 221; plate and sheet shall conform to ASTM B 209M ASTM B 209. Where anodic coatings are specified, alloy shall conform to AA PK-1 alloy designation 514.0. Exposed anodized aluminum finishes shall be as shown. Welding for aluminum products shall conform to AWS D1.2.

2.6 ANODIC COATING

NOTE: Edit the following requirements as necessary
for the project.

Anodized finish shall conform to AA DAF-45 as follows:

[Clear (natural) designation AA-M10-C22-A31, Architectural Class II 0.010 mm 0.4 mil or thicker.]

[Integral color anodized designation AA-M10-C22-A32, Architectural Class 0.010 to 0.018 mm 0.4 to 0.7 mil.]

[Electrolytically deposited color-anodized designation AA-M10-C22-A34, Architectural Class II 0.010 to 0.018 mm 0.4 to 0.7 mil.]

2.7 ORGANIC COATING

Organic coating shall conform to AAMA 605, with total dry film thickness not less than 0.030 mm. 1.2 mils.

2.8 FABRICATION AND MANUFACTURE

2.8.1 Factory Workmanship

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

2.8.2 Dissimilar Materials

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

2.9 COLOR, FINISH, AND CONTRAST

Color shall be [in accordance with Section 09915 COLOR SCHEDULE] [____]. In buildings required to be handicapped-accessible, the characters and background of signs shall be eggshell, matte, or other non-glare finish. Characters and symbols shall contrast with their background - either light characters on a dark background or dark characters on a light background.

2.10 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.

Ensure that 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.

2.10.1 Typeface

[Helvetica medium] [____].

2.10.2 Size

[_____] [As indicated].

2.10.3 Color

[_____] [As indicated].

PART 3 EXECUTION

3.1 INSTALLATION

Signs shall be installed in accordance with approved manufacturer's instructions at locations shown on the detail drawings. Illuminated signage shall be in conformance with the requirements of Section 16415A ELECTRICAL WORK, INTERIOR. Signs shall be installed plumb and true at mounting heights indicated, and by method shown or specified. Required blocking shall be installed as detailed. Signs which designate permanent rooms and spaces in handicapped-accessible buildings shall be installed on the wall adjacent to the latch side of the door. Where there is no wall space to the latch side of the door, including at double leaf doors, signs shall be placed on the nearest adjacent wall. Mounting location for such signage shall be so that a person may approach within 75 mm 3 inches of signage without encountering protruding objects or standing within the swing of a door. Signs on doors or other surfaces shall not be installed until finishes on such surfaces have been installed. Signs installed on glass surfaces shall be installed with matching blank back-up plates in accordance with manufacturer's instructions.

3.1.1 Anchorage

Anchorage shall be in accordance with approved manufacturer's instructions. Anchorage not otherwise specified or shown shall 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 shall be compatible with metal to which applied and shall have matching color and finish. Where recommended by signage manufacturer, foam tape pads may be used for anchorage. Foam tape pads shall be minimum 2 mm 1/16 inch thick closed cell vinyl foam with adhesive backing. Adhesive shall be transparent, long aging, high tech formulation on two sides of the vinyl foam. Adhesive surfaces shall be protected with a 0.13 mm 5 mil green flatstock treated with silicone. Foam pads shall be sized for the signage as per signage manufacturer's recommendations. Signs mounted to painted gypsum board surfaces shall be removable for painting maintenance. Signs mounted to lay-in ceiling grids shall be mounted with clip connections to ceiling tees.

3.1.2 Protection and Cleaning

The work shall be protected against damage during construction. Hardware and electrical equipment shall be adjusted for proper operation. Glass, frames, and other sign surfaces shall be cleaned in accordance with the manufacturer's approved instructions.

-- End of Section --