

SECTION 10 14 00.20

INTERIOR SIGNAGE
08/17

PART 1 GENERAL

1.1 REFERENCES

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.

ASTM INTERNATIONAL (ASTM)

ASTM D635	(2018) Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position
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INTERNATIONAL CODE COUNCIL (ICC)

ICC A117.1 COMM	(2017) Standard and Commentary Accessible and Usable Buildings and Facilities
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JAPANESE STANDARDS ASSOCIATION (JSA)

JIS H 4000	(2017) Aluminium and Aluminium Alloy Sheets, Strips and Plates (Amendment 1)
JIS H 4040	(2015) Aluminum and Aluminum Alloy Bars and Wires
JIS H 8602	(2010) Combined Coatings of Anodic Oxide and Organic Coatings on Aluminum and Aluminum Alloys
JIS K 5906	(1998) Aluminum Pigments For Paints
JIS R 3202	(2011) Float Glass and Polished Plate Glass
JIS Z 3410	(2013) Welding Coordination - Tasks and Responsibilities
JIS Z 3801	(2018) Standard Qualification Test and Acceptance Requirements for Manual Welding Technique
JIS Z 3841	(2018) Standard Qualification Test and Acceptance Requirements for Semi-Automatic Welding Technique

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 101	(2021; TIA 21-1) Life Safety Code
NFPA 70	(2023; ERTA 7 2023; TIA 23-15) National Electrical 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

1.2 SUBMITTALS

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-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

2.1 STANDARD PRODUCTS

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

2.2.1 Standard Room Signs

Signs must consist of [acrylic plastic 2 mm thickness minimum conforming to] [laminated thermosetting Type MP plastic (three-ply melamine plastic laminate with phenolic core)] [6063-T5 extruded aluminum in accordance with] [] and must conform to the following:

- a. Frames must be [[aluminum] [wood] [molded acrylic]], [[flat][radius]] [[3 mm] [6 mm] []] 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 radius].

2.2.2 Changeable Message Strip Signs

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 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 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

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 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 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 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 JIS R 3202, minimum 3 mm thick][clear acrylic sheet 5 mm thick conforming to [_____]][clear polycarbonate sheet 5 mm 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

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 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 high header lettering as shown. Unit must have a [10][____]mm 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 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 high header lettering as shown. Unit must have a [9.3][____] mm 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

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] [_____] [_____] mm 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

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

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 thick, and aluminum plate or
sheet must be at least 1.3 mm thick. Extrusions must conform to JIS H 4040;
plate and sheet must conform to JIS H 4000. Where anodic coatings are
specified, alloy must conform to [_____]. Exposed anodized aluminum
finishes must be as shown. Welding for aluminum products must conform to
JIS Z 3801, JIS Z 3410, and JIS Z 3841.

2.9 ANODIC COATING

Anodized finish must conform to JIS H 8602 as follows:

- a. [Clear (natural).]
- b. [Integral color.]
- c. [Electrolytically deposited color-anodized.]

2.10 ORGANIC COATING

Organic coating must conform to JIS K 5906, with total dry film thickness
not less than 0.030 mm.

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

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 PLACEMENT SCHEDULE

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

]3.2 INSTALLATION

Install signs plumb and true and in accordance with approved manufacturer's instructions at locations shown on the [detail drawings] [schedule below] [attachments]. Submit operating instructions outlining the step-by-step procedures required for system operation. The instructions 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. Provide each set permanently bound with a hard cover. The following identification must be inscribed on the covers: "OPERATING AND MAINTENANCE INSTRUCTIONS", name and location of the facility, name of the Contractor, and contract number. Submit in accordance with Section 01 78 23 OPERATING AND MAINTENANCE DATA. Mounting height and mounting location complies with 36 CFR 1191. Install required blocking. Do not install signs on doors or other surfaces until finishes on such surfaces have been installed. Signs installed on glass surfaces are installed with matching blank back-up plates in accordance with manufacturer's instructions. [Provide illuminated signage in conformance with the requirements of Section 26 51 00 INTERIOR LIGHTING.]

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

3.2.1 Anchorage

Provide anchorage 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. Provide exposed anchor and fastener materials compatible with metal to which applied with 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.
- e. Install signs to workstation panels with panel clips.

3.2.2 Protection and Cleaning

Protect the work against damage during construction. Adjust hardware and electrical equipment for proper operation. Clean glass, frames, and other sign surfaces at completion of signage installation in accordance with the manufacturer's written instructions.

-- End of Section --