

**SECTION 10 13 00
DIRECTORIES**

SPEC WRITER NOTES:

1. Delete // // if not applicable to project. Also delete any other item or paragraph not applicable in the section and renumber the paragraphs.
2. Coordinate with electrical for location of junction boxes and service required for lighted directories.

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section specifies interior and exterior directories.

1.2 RELATED WORK

- A. Section 09 06 00, SCHEDULE FOR FINISHES: Manufacturer, Color and Style.
B. Section 10 14 00, SIGNAGE.
C. Division 26, ELECTRICAL: Electrical Work.

1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Provide directories that are the product of a single manufacturer that has provided units as specified for a minimum of three (3) years.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 00, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
- B. Samples: Directory panels and frames, with letters and symbols, each type.
1. Color samples of each color, 152 mm x 152 mm (6 inches x 6 inches). Show anticipated range of color and texture.
 2. Sample of typeface (size, font), arrow and symbols in a typical full size layout.
 3. Sample for exposed product trim, 150 mm (6 inches) long for profile and color of factory finish.
 4. Message Strip: Length as indicated for finished product for profile and mounting configuration.
 5. Sample for initial section.
- C. Manufacturer's Literature:
1. Manufacturer's printed specifications, anchorage details, installation and maintenance instructions.
 2. Manufacturer's qualifications.
- D. Directory location plan showing location and type of each directory.

1.5 DELIVERY AND STORAGE

- A. Deliver materials to job in manufacturer's original sealed containers with brand name markings. 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 directories 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 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. ASTM International (ASTM):
 - A666-15.....Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat 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)
 - C1036-16.....Flat Glass
 - C1048-18.....Heat-Strengthened and Fully Tempered Flat Glass
 - D1003-13.....Haze and Luminous Transmittance of Transparent Plastics
 - D4802-16.....Poly(Methyl Methacrylate) Acrylic Plastic Sheet
- C. 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
- D. National Association of Architectural Metal Manufacturers (NAAMM):
 - AMP 500 Series.....Metal Finishes Manual
- 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 Electric Code

PART 2 - PRODUCTS

SPEC WRITER NOTES: Select system(s) employed and modify/delete types below as appropriate. Be aware that many systems are proprietary and must be used selectively. Systems below are available from more than one manufacturer.

2.1 DIRECTORY TYPE

A. //Non-Illuminated Message Strip Directories:

1. //Profiled Frame: // Molded-opaque-acrylic // //Molded-fiberglass // profiled frame at top and bottom, with sheet metal rear cover, housing changeable message. //

2. //Frame:

- a. Top and Bottom Profile: //Square// //Radius// //Bevel//.
- b. Side Trim: //Aluminum angle// //Bronze angle// //Brass angle//
//Molded-opaque-acrylic or molded-fiberglass integral to frame//.
- c. Depth: Manufacturer's standard //1-1/2- to 2-1/2- (38- to 64-)// inch (mm) frame depth.
- d. Profile Face Dimension: //4 (100)// //6 (152)// inches (mm) high.
- e. Aluminum Finish: //Clear anodic// //Color anodic//
//Manufacturer's standard baked enamel or powder coat//.
- f. Color: //Light bronze// //Medium bronze// //Dark bronze//
//Black//. //

3. Cover: Removable, clear acrylic sheet held in place by perimeter frame. Provide suction cup tool for cover removal.

4. Mounting: Surface.

5. Header: Copy applied to top section of profiled frame.

6. Divider Color: Same as selected message strips. //

B. //Rear Illuminated Message Strip Directories:

1. Rear-Illuminated Message-Strip Directory: Factory-fabricated unit consisting of changeable message strips held in place by retainer frame enclosed in manufacturer's standard 4-to-6-inch- (100-to-150-mm) deep perimeter frame; with glazed cover, aluminum-sheet rear cover panel, and concealed rear-illumination system.

2. Frame:

- a. Material: //Extruded aluminum// //Brass// //Bronze// //Stainless steel.
 - b. Profile: //Square// //Quarter round// //Bevel//.
 - c. Corners: //Square// //Radius//.
3. Cover: Non-section, one-piece cover with concealed lock.
- a. Cover Frame Material: Same material and finish as perimeter frame.
 - b. Cover Frame Profile: //Square// //Radius// //Bevel// //Floating glass, with frame concealed behind glass// //Suspended glass, with frame partially concealed behind glass//.
 - c. Hinge Location: //Side// //Top, with hold-open bracket// //Top, with gas-cylinder hold-open//.
 - d. Glazing: //Gray-tinted float glass// //Gray-tinted tempered glass// //Bronze-tinted acrylic sheet//.
4. Header Panel: Same material and color as changeable message strips. Provide copy that complies with requirements indicated on //Drawings// //artwork supplied on electronic media by Architect// for size, style, spacing, content, height, location, material, and colors of graphics.
5. Divider Color: Same as message strips.
6. Film-Insert Message Strips: Removable, black, film-negative message strips in //7-inch- (175-mm)// //14-inch- (350-mm)// long, interchangeable, interlocking plastic carriers.
7. Engraved Changeable Message Strips: Machine- or laser-engraved copy in //7-inch- (175-mm)// //14-inch- (350-mm)// long, interchangeable, interlocking, black, acrylic strips with transparent core.
- a. Message-Strip Height: //3/8 (9.5)// //1/2 (13)// //5/8 (16)// //3/4 (19)// //1 (25)// inch (mm).
 - b. Letter Height: //3/16 (5)// //1/4 (6)// //3/8 (9.5)// //1/2 (13)// //5/8 (16)// inch (mm).
 - c. Letter Style: //Helvetica Medium// //Clarendon Medium// //Optima Bold//.
 - d. Letter Case: //All capitals// //Initial capitals// //Capitals and lowercase//.
8. Graphics Panel: Same material and color as changeable message strips. Provide graphics that comply with requirements indicated on //Drawings// //artwork supplied on electronic media by Architect//

for size, style, spacing, content, height, location, material, and colors.

9. Rear-Illumination System: Provide removable and accessible //fluorescent-strip// //or// //LED// fixture system with reflective interior surfaces for uniform illumination of message strips // and header panel// with minimum halation and without light leaks. Include lamps and internal wiring with single concealed electrical connection to building system. Coordinate electrical characteristics with power supply provided.
 - a. Ballasts: Low-temperature, high-power-factor, low-energy, fluorescent lamp ballasts that comply with Certified Ballast Manufacturers Association standards and carry its label. // Provide exterior ballasts for exterior directories.//
 - b. Electrical Characteristics: Single phase, //120// //277// Volt
 10. Aluminum Finish: //Clear anodic// //Color anodic// //Plated//.
 - a. Color: //Light bronze// //Medium bronze// //Dark bronze// //Black// //Gold//.
 - b. Plating: //Satin bronze// //Mirror bronze// //Bright chrome//.
 11. Brass Finish: //Buffed// //Medium satin// //Fine matte// //Statuary conversion coating//.
 12. Bronze Finish: //Buffed// //Medium satin// //Fine matte// //Statuary conversion coating//.
 13. Stainless Steel Finish: //No. 4// //No. 8//.
 14. Width: As indicated on Drawings.
 15. Height: As indicated on Drawings.
 16. Mounting: //Surface// //Recessed, with reveal and flange to cover perimeter of opening// //Recessed, with reveal; without perimeter frame for fully finished opening// //Recessed, with reveal; with frame to cover opening return//. //
- C. //Modifiable Alphabetic Directories:
1. //Open Face Modifiable Alphabetic Directory //
 - a. //Wood perimeter frame. //
 - b. //Aluminum perimeter frame. //
 2. //Enclosed Face Modifiable Alphabetic Directory //
 - a. //Aluminum perimeter frame. //
 - b. //Wood perimeter frame. //
 - c. //Glazed sliding doors. //
 - d. //Glazed hinge doors. //

- e. //Exterior Directories: Aluminum framed unit of weather resistant construction. //
 - f. //Illumination System: Concealed top lighting system consisting of // fluorescent strip // // LED // //// lighting system. //
3. Letters: Molded plastic with tabs for engaging grooves in letterboard. Provide manufacturer's standard assortment of not less than 300 // // characters for each size, style, color, and case required; include letters, numbers, and characters. Package letters in compartmentalized carrying box.
- a. Height: // 9.5 mm (3/8 inch) // // 13 mm (1/2 inch) // // 25 mm (1 inch) // // 38 mm (1-1/2 inch) // // 50 mm (2 inches) // // 75 mm (3 inches) // // // to top of capitals.
 - b. Style: // Helvetica // // Gothic // // Roman // // //.
 - c. Color: // White // // Black // // //.
 - d. Case: // All capitals // // Capitals and lowercase //.
4. Engraved Modifiable Message Strips: Machine- or laser-engraved copy in // 177 mm (7 inch) // // 350 mm (14 inch) // // //, interchangeable, interlocking, black, acrylic strips with transparent core.
- a. Message-Strip Height: // 9.5 mm (3/8 inch) // // 13 mm (1/2 inch) // // 16 mm (5/8 inch) // // 19 mm (3/4 inch) // // 25 mm (1 inch) // // //.
 - b. Letter Height: // 5 mm (3/16 inch) // // 6 mm (1/4 inch) // // 9.5 mm (3/8 inch) // // 13 mm (1/2 inch) // // 16 mm (5/8 inch) // // //.
 - c. Letter Style: // Helvetica Medium // // Clarendon Medium // // Optima Bold // // //.
 - d. Letter Case: // All capitals // // Initial capitals // // Capitals and lowercase //.

2.2 MATERIALS

- A. Aluminum:
 - 1. Sheet and Plate: ASTM B209M (B209).
 - 2. Extrusions and Tubing: ASTM B221M (B221) Alloy 6063.
- B. Stainless Steel Sheet: ASTM A666, Type 304.
- C. Clear Float Glass: ASTM C1036, Type I, Class 1, Quality q3.
- D. Clear Tempered Glass: ASTM C1048, Kind FT, Condition A, Type I, Class 1 (clear) Quality q3 with exposed edges seamed before tempering.

- E. Clear Acrylic Sheet: ASTM D4802, Category A-1 (cell cast sheet) with Finish 1 (smooth or polished) colorless sheet with visible light transmittance of 92 percent measured according to ASTM D1003.
- F. Fasteners: Provide screws, bolts, and other fastening devices made from same material as items being fastened except provide hot dipped galvanized, stainless steel, or aluminum fasteners for exterior applications.
- G. Electrical Components: Listed and labeled as defined in NFPA 70, by a qualified testing agency.

2.3 FABRICATION

- A. Fabricate directories to requirements indicated for dimensions, design, and thickness and finish of materials. Provide metals and shapes of thickness and reinforcement to produce flat surfaces, free of oil canning.
- B. Fabricate directory cabinets and door frames with reinforced corners, mitered and welded to a hairline fit, with no exposed fasteners. Provide structural reinforcement to prevent racking and misalignment.
- C. Message-Strip Directories: Provide message strips with wording and other designations for the locations where wording is indicated. Include blank message strips as needed to fill out remainder of directory.
- D. Provide hold-open arms for doors of top-hinged directories.

2.4 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM AMP 500 for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.

2.5 ALUMINUM FINISHES

- A. //Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm (0.70 mils) or thicker. //
- B. //Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm (0.70 mils) or thicker. //
- C. //Baked Enamel or Powder-Coat Finish: AAMA 2603 except with minimum dry film thickness of 0.04 mm (1.5 mils). //

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. General: Install directories in locations and at mounting heights indicated on construction documents and approved shop drawings. Keep perimeter lines straight, level, and plumb. Comply with accessibility standards.
- B. Recessed Directories: Attach directories to wall framing with fasteners at not more than 406 mm (16 inches) centers. Attach aluminum trim over edges of recessed directories, and conceal grounds and clips.
- C. Surface-Mounted Directories: Attach directories to wall surfaces with concealed clips, hangers, or grounds fastened at not more than 406 mm (16 inches) o.c. Secure both top and bottom of directories to walls.

3.2 ADJUSTING AND CLEANING

- A. Adjust directory doors to operate smoothly without warp or bind and so that contact points meet accurately. Lubricate operating hardware as recommended by manufacturer.
- B. Touch up factory-applied finishes to restore damaged or soiled areas.

3.3 MAINTENANCE MATERIALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage with labels describing contents.
 - 1. Message Strips: Full-size blank strips equal to [10] <Insert number> percent of number installed for each size indicated, but no fewer than [20] <Insert number> strips.
 - 2. Paper Message-Strip Stock: Colored [, perforated] paper stock for printing paper message-strip inserts using manufacturer-supplied software, equal to [2] <Insert number> times message-strip capacity of directory.

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