

This section includes AMBICO RF-Shielding & Acoustic Steel Door and Frame assemblies. This section includes proprietary, descriptive and performance type specification requirements. Edit to avoid conflicting requirements.

Part 1 General

1.1 SECTION INCLUDES

This article includes a summary of the content of this section which will not be included in other sections. This article is NOT intended to be used as a trade or other form of jurisdictional content.

- .1 RF-Shielding and acoustic pressed steel frames.
- .2 RF-Shielding and acoustic steel swing doors [and panels].
- .3 Perimeter and bottom RF-Shielding and acoustic seals, threshold, [and astragal].
- .4 Factory finishing.

1.2 RELATED SECTIONS

This article references other specification sections that inter-rely on this section. This listing should include those sections that describe subjects or products that affect this section directly.

- .1 Section [_____ - _____]: Masonry mortar fill of metal frames.
- .2 Section 07 92 00 - Joint Sealing: Caulking between doors and adjacent construction.
- .3 Section 08 71 10 - Door Hardware - General.
- .4 Section 09 81 16 - Acoustic Blanket Insulation: Insulation inside door frames.
- .5 Section 09 91 00 - Painting: Field painting of doors.

1.3 REFERENCES

Edit this article after editing the rest of this section. List reference standards that are included within the text of this section when edited. Delete references that do not apply to this project.

- .1 ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
- .2 ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .3 ASTM A240/A240 - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
- .4 ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
- .5 ASTM E413 - Classification for Rating Sound Insulation.

- .6 IEEE 299 - Standard Method for Measuring the Effectiveness of Electromagnetic Shielding Enclosures.
- .7 Canadian Steel Door Manufacturers Association (CSDMA), Selection and Usage Guide for Steel Doors and Frames.
- .8 HMMA 802 - Manufacturing of Hollow Metal Doors and Frames.
- .9 HMMA 840 - Installation and Storage of Hollow Metal Doors and Frames.
- .10 HMMA 865- Guide Specifications for Swinging Sound Control Hollow Metal Doors and Frames.
- .11 ICC/ANSI A117.1- Accessible and Usable Buildings and Facilities.
- .12 USGBC – LEED v4.

1.4 REGULATORY REQUIREMENTS

- .1 Conform to ICC/ANSI A117.1.

1.5 PERFORMANCE REQUIREMENTS

- .1 Shielding Effectiveness: a minimum of [50 dB] over a frequency range of [400 MHz] to [28 GHz] in accordance with IEEE 299.
- .1 Acoustic Performance: minimum Sound Transmission Class (STC) [33] [59] [] tested to ASTM E90.

1.6 SUBMITTALS

- .1 Section [01 33 00]: Submission procedures.
- .2 Product Data: Provide product data on door construction and [_____].
- .3 Shop Drawings: Indicate door and frame elevations, internal reinforcement, anchor types, closure methods, [finishes] location of cut-outs for hardware, and cut-outs.
- .4 Samples: Submit manufacturer's door finish sample, frame corner sample as well as perimeter RF-Shielding and acoustic seals.
- .5 Test Data:
 - .1 Submit test data indicating compliance with the RF-Shielding requirements.
 - .2 Submit test data indicating compliance with the Sound Transmission Class (STC) requirements. Include laboratory name, test report number, and date of test.
 - .3 Submit certification from test laboratory qualified under the National Voluntary Accreditation Program (NVLAP) of the U.S. Bureau of Standards. Include laboratory name, test report number, and date of test.
 - .4 Installation Instructions: Submit manufacturer's installation instructions.

Include the following ONLY if specifying for a LEED project. Specify only the technical requirements necessary to achieve the credits desired for this project. The Type 3 EPD is normally required for LEED v4 certification. AMBICO RF-Shielding and acoustic products offer significant advantages to firms interested in supporting LEED certification. In particular, AMBICO products comply with both LEED for Schools as well as LEED for Healthcare.

- 6 Sustainable Design:
 - .1 Section 01 35 18: LEED documentation procedures.
 - .2 Provide required LEED documentation for product.
 - .3 Submit Type 3 Environmental Product Declaration (EPD) for products of this Section.
 - .4 Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.7 QUALITY ASSURANCE

- .1 Manufacturer: Minimum 5 years documented experience manufacturing RF-Shielding and acoustic door and frame assemblies.
- .2 Pre-installation Meeting: Convene a pre-installation meeting [2] [] weeks before start of installation of door and frame assemblies. Require attendance of parties directly affecting work of this section, including contractor, architect, installer, and manufacturer's representative. Review installation and coordination with other work.

1.8 DELIVERY, STORAGE AND PROTECTION

- .1 Section [01 61 00]: Transport, handle, store, and protect products.
- .2 Comply with [CSDMA] [HMMA] standards.
- .3 Weld minimum two temporary jamb spreaders per frame prior to shipment.
- .4 Remove doors and frames from wrappings or coverings upon receipt on site and inspect for damage. Store in vertical position, spaced with blocking to permit air circulation between components.
- .5 Store materials out of water and covered to protect from damage.
- .6 Clean and touch up scratches or disfigurement caused by shipping or handling with zinc-rich primer.

1.9 WARRANTY

- .1 Manufacturer's Limited Warranty: Five (5) years from date of supply, covering material and workmanship.

Part 2 Products

2.1 MANUFACTURERS

List the manufacturers acceptable for this project. Edit the subsequent descriptive specifications of Part 2, to identify project requirements and to eliminate any conflict with specified manufacturer's products.

- .1 AMBICO Limited
1120 Cummings Avenue
Ottawa, Ontario, Canada K1J 7R8
Toll Free Phone 888-423-2224
Phone 613-746-4663
Toll Free Fax 800-465-8561
Fax 613-746-4721
- .2 Other Acceptable Manufacturers:
 - .1 [_____].
 - .2 [_____].
- .3 Substitutions: [Refer to Section 016000.] [Not permitted.]

2.2 MATERIALS

- .1 Sheet Steel:
 - .1 Galvanized steel to ASTM A653/A653M
 - .1 Galvanized coating designation [Z275] ([G90]) for exterior door assemblies.
 - .2 Galvanized coating designation [ZF001] ([A01]) for interior door assemblies.
 - .2 Stainless Steel: ASTM A240, type [304] [316].
- .2 Reinforcement and Channel:
 - .1 ASTM A653/A653M, [ZF75] ([A25])
 - .2 Stainless steel to ASTM A240/A240.
- .3 Recycled Content: Minimum [_____] %.

2.3 ACCESSORIES

All hardware items except perimeter seals and thresholds may be supplied by Section # 08 71 10.

- .1 Hinges: Heavy weight butt type to be [factory supplied] [and pre-installed] or [supplied and installed by others]. Threshold and perimeter seals to be supplied loose by the factory.
- .2 Door Hardware: [Mortise lock] [Exit device] to be [factory supplied] [and pre-installed] or [supplied and installed by others].
- .3 Steel Astragal: Overlapping or meeting stile, supplied loose for field installation. Overlapping astragal to be a minimum 3mm thick (12ga).
- .5 Performance seals: Provide perimeter and bottom seals, tested as part of the IEEE 299 and ASTM E90 assembly to meet the specified RF-shielding and STC rating.

2.4 FABRICATION

.1 Steel Doors, Swing Type:

Steel sheet steel faces, thickness, construction suitable to achieve specified RF-Shielding performance in accordance with IEEE 299 - Standard Method for Measuring the Effectiveness of Electromagnetic Shielding Enclosures and ASTM E90-09 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.

- .1 RF-Shielding and acoustic construction, longitudinal edges mechanically inter-locked.
- .2 Stainless steel edge caps at vertical edges and top of door.
- .3 Top and Bottom Channels: Inverted, recessed, welded steel channels.
- .4 Weld hardware reinforcement plates in place.
- .5 Reinforce doors where surface-mounted hardware is required.
- .6 Prep for mortised, templated hardware.
- .7 Astragals: Metal RF-Shielding and acoustic astragals with integral seals for double doors. [Standard overlapping active/inactive.] [Meeting stile both active for vertical rod devices.]

.2 Stainless Steel Frames: Swing Type

- .1 Sheet steel thickness and connection to RF shielding in adjacent walls appropriate to achieve RF-Shielding and acoustic performance requirements, mitred corners.
- .2 Factory assemble and weld frames.
- .3 Fixed mullions for double doors.
- .4 Affix labels to door and frame indicating manufacturer's name and performance ratings.

2.5 FINISHES

- .1 Factory Finish: Factory applied zinc chromate primer to be applied to the door faces only. Do not paint the stainless frame or the stainless edge caps on the door.

[OR]

- .2 Stainless Steel Finish: [#2B Mill Finish] [#4 Satin] [#6 Matte] [Hairline].

Part 3 Execution

3.1 INSTALLATION

- .1 Install components including doors, frames, and hardware in accordance with manufacturer's written instructions.
- .2 Install doors and frames to [CSDMA] [HMMA 840] standards.
- .3 Coordinate with [masonry] [gypsum board] [concrete] [_____] wall construction for RF-Shielding connection, anchor type, and anchor placement.
- .4 Set frames plumb, square, level and at correct elevation.

- .5 Allow for deflection to ensure that structural loads are not transmitted to frame.
- .6 Frame shall be electrically grounded.
- .7 Adjust operable parts for correct clearances and function.
- .8 Finish paint door faces in accordance with Section 09 91 00.
- .9 Touch up painted finishes where damaged.

3.2 ERECTION TOLERANCES

- .1 Section 01 73 00: Tolerances.
- .2 Installation tolerances of installed frame for squareness, alignment, twist and plumbness are to be no more than ± 0.75 mm (1/32") in compliance with [CSDMA] [HMMA] standards.

3.3 FIELD QUALITY CONTROL

- .1 Provide qualified manufacturer's representative to instruct installers on the proper installation and adjustment of door assemblies.
- .2 Provide manufacturer's representative to inspect door installation, and test minimum ten (10) cycles of operation. Correct any deficient doors.

END OF SECTION