

This section includes commercial Lead-Lined Steel Doors and Frames manufactured by AMBICO Limited that can be fire rated or non-rated. This section relies on both the Canadian Steel Door Manufacturers Association (CSDMA.org) industry standard, as well as on the Hollow Metal Manufacturers Association (NAAMM.org) industry standard for steel doors. This section includes proprietary, descriptive and performance type specifications. 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 [Non-rated] [fire rated] pressed steel, lead-lined steel frames.
- .2 [Non-rated] [fire rated] hollow metal, lead-lined doors [and panels].
- .3 Glazed lite lead-lined, steel frames.
- .4 [Glass and glazing.]

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 08 11 13 – Hollow Metal Doors and Frames
- .3 Section 08 71 10 - Door Hardware - General.
- .4 [Section 08 81 00 - Glass Glazing: Lead lined glazing for installation in doors.]
- .5 Section 09 91 15 - Painting: Field painting of [doors] [frames] [doors and frames].

1.3 REFERENCES

Edit this article after editing the rest of this section. Only list reference standards below that are included within the text of this section, when edited for a project specification. Delete references that do not apply to this project.

- .1 ASTM A653/A653M-06 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .2 ASTM B749-03 - Standard Specification for Lead and Lead Alloy Strip, Sheet, and Plate Products.
- .3 Canadian Steel Door Manufacturers Association (CSDMA), Selection and Usage Guide for Steel Doors and Frames, 1990.
- .4 HMMA 802-92 - Manufacturing of Hollow Metal Doors and Frames.
- .5 HMMA 840-99 - Installation and Storage of Hollow Metal Doors and Frames.

- .6 HMMA 841-07 - Tolerances and Clearance for Commercial Hollow Metal Doors and Frames.
- .7 NFPA 80-07 - Standard for Fire Doors and Other Opening Protectives.

1.4 REGULATORY REQUIREMENTS

Include the following article only if fire rated assemblies are specified. AMBICO can supply steel lead-lined doors and frames with 45 or 90 minute fire rating label.

- .1 Installed Door and Frame Assembly: Conform to [NFPA 80] [_____] for fire rated class [as scheduled.] [as indicated.].

Ambico lead-lined steel door and frame assemblies conform to national handicap codes when supplied with heavy weight butt hinges.

- .2 Installed Door and Frame Assembly: Conform to [ANSI/ICC A117.1]

1.5 SUBMITTALS

- .1 Product Data: Provide product data on standard door construction and [_____].
- .2 Shop Drawings: Indicate door and frame elevations, internal reinforcement, anchor types, closure methods, [finishes] location of cut-outs for hardware, and cut outs for [glazing]
- .3 Samples: Submit manufacturer's door corner samples, as well as manufacturer's frame corner sample.

1.6 QUALITY ASSURANCE

- .1 Perform Work to requirements of [CSDMA (Canadian Steel Door Manufacturers Association)] [HMMA (Hollow Metal Manufacturers Association)] standards.
- .2 Manufacturer: Minimum 5 years documented experience manufacturing hollow metal door assemblies.

1.7 DELIVERY, STORAGE AND PROTECTION

- .1 Section [01 61 00]: Transport, handle, store, and protect products.
- .2 Comply with HMMA 840.
- .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.
- .5 Store in vertical position, spaced with blocking to permit air circulation between components.
- .6 Store materials out of water and covered to protect from damage.
- .7 Clean and touch up scratches or disfigurement caused by shipping or handling with zinc-rich primer.

1.8 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 01 60 00.] [Not permitted.]

2.2 MATERIALS

- .1 Sheet Steel: Galvanized steel to ASTM A653/A653M.

Lead thickness must be specified per shielding study recommendations.

- .2 Lead Core: Rolled pure sheet lead, to ASTM B749, thickness [as indicated] [_____].
- .3 Reinforcement [Channel]: To CSA G40.20/G40.21, coating designation to ASTM A653/A653M, [ZF75] ([A25]).

2.3 ACCESSORIES

Accessories specified in this section shall be supplied by the door and frame manufacturer.

- .1 Glazing Stops: Formed galvanized steel channel, minimum 16 mm (0.625 inch) high,
- .2 Glass: [In accordance with Section [08 81 00]] [_____].

2.4 FABRICATION:

- .1 Lead-Lined Doors:

- .1 Steel sheet faces [1.6] [] mm ([16] [] gauge) thick, [flush] [] design, [3 mm (1/8 inch)] [6 mm (1/4 inch)] [] thick lead lining.
 - .2 Core: [Honeycomb] [Fibreglass] [] core.
 - .3 Top and Bottom Channels: Inverted, recessed, welded steel channels.
 - .4 Astragals: Lead-lined steel [Z] [T] shaped astragals for double doors.
 - .5 Fabricate doors with hardware reinforcement plates welded in place.
- .2 Lead-Lined Frames:
- .1 Frames: [1.6] [] mm ([16] [] gauge) thick base metal thickness, welded type construction, mitred corners [3 mm (1/8 inch)] [6 mm (1/4 inch)] [] thick lead lining.
 - .2 Factory assemble and weld frames.
 - .3 Mullions for Double Doors: Lead-lined [fixed] [removable] type.
 - .4 Fabricate frames with hardware reinforcement plates welded in place.
 - .5 Reinforce frames wider than 1200 mm (48 inches) with roll formed steel channels fitted tightly into frame head, flush with top.

2.5 FINISHES

- .1 Factory Finish: Factory applied zinc chromate primer [to be applied to all exposed surfaces] [touch-up only, where product has been welded and ground smooth]

Part 3 Execution

3.1 INSTALLATION

- .1 Install doors and frames to [CSDMA] [HMMA 840] standards [and in accordance with NFPA 80, and local authority having jurisdiction].
- .2 Coordinate with [masonry] [gypsum board] [concrete] [] wall construction for anchor placement.
- .3 Set frames plumb, square, level and at correct elevation.
- .4 Allow for deflection to ensure that structural loads are not transmitted to frame.
- .5 Adjust operable parts for correct clearances and function.
- .6 Install [glazing and] door silencers.
- .7 Finish paint in accordance with Section 09 91 15.

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 $\pm 1/16$ in (1.5mm) in compliance with HMMA 841.

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.

3.4 SCHEDULE

Identify specific variations of products or installation requirements specified. If door and/or frame schedules are listed on drawings or on separate schedule sheets, do not repeat statements in this article.

- .1 Lead –lined Door and Frame Schedule:

Tag	Room	Nominal Size	Thickness	Material	Glazing	Fire Rating	Comments
D-1	100	750mm x 3600mm	60mm	GS	C	NFR	6mm lead lining at frame and door
D-2	101	4'0" x 8'0"	1 3/4"	GS	D	FR	1/16" lead lining at frame and door
<ul style="list-style-type: none"> • Material types: GS = Galvanized Steel, • Glazing types: A = Halflite, B = Fulllite, C = Narrowlite D=Flush • Fire Label types: FR= Fire rated to 90 minutes, NFR= Non-fire rated 							

END OF SECTION