

This section includes Oversize Steel Doors and Frames and relies on industry standards for steel doors and includes proprietary and descriptive and 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] [channel iron] metal frames.
- .2 [Non-rated] [fire rated] hollow steel doors [and panels].
- .3 Glazed [sidelite] [borrowed lite] steel frames.
- .4 [Louvres.] [Glass and glazing.]
- .5 Factory supplied [and installed] heavy duty hinges and latching devices.

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 08 81 00 - Glass Glazing: Glazing in Doors
- .5 Section 09 91 00 - Painting: Field painting of [doors] [frames] [doors and frames].

1.3 REFERENCES

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-15e1 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .2 Canadian Steel Door Manufacturers Association (CSDMA), Selection and Usage Guide for Steel Doors and Frames, 2009.
- .3 HMMA 802-07 - Manufacturing of Hollow Metal Doors and Frames.
- .4 HMMA 840-07 - Installation and Storage of Hollow Metal Doors and Frames.
- .5 HMMA 841-07 - Tolerances and Clearance for Commercial Hollow Metal Doors and Frames.

- .6 NFPA 80-16 - Standard for Fire Doors and Other Opening Protectives.
- .7 UL 10C-16 - Standard for Positive Pressure Fire Tests of Door Assemblies.
- .8 USGBC – LEED v4.

1.4 REGULATORY REQUIREMENTS

Include the following article only if fire rated assemblies are specified. AMBICO manufactures Oversized Steel Doors and Frames with 45, 90 or 180 minute fire certification. Fire doors and frames are available in sizes up to 5'0"x12'0" (single) or 2/5'0"x12'0" (pair)

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

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 and spacing, closure methods, [finishes] location of cut-outs for hardware, and cut outs for [glazing] [louvres].

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 and frame assemblies.
- .3 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].
- .4 Pre-installation Meeting: Convene a pre-installation meeting [2] [___] weeks before installation of oversize door and frame assemblies. Require attendance from relevant subcontractors, consultants, and manufacturer's representative. Review installation and coordination with other work.

1.7 DELIVERY, STORAGE AND PROTECTION

- .1 Section [01 61 00]: Transport, handle, store, and protect products.

- .2 Comply with HMMA 840 and manufacturer’s written instructions.
- .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-phosphate 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.
 - .1 Coating designation [Z275] ([G90]) for exterior door assemblies.
 - .2 Coating designation [ZF001] ([A01]) for interior door assemblies.
- .2 Reinforcement [Channel]: To CSA G40.20/G40.21, coating designation to ASTM A653/A653M, [ZF75] ([A25]).

- .3 Reinforcement: Same material as sheet steel.

2.3 ACCESSORIES

- .1 Exterior Top Caps: Rigid polyvinylchloride extrusion.
- .2 Glazing Stops: Formed galvanized steel channel, minimum 16 mm (0.625 inch) high, [butted] [mitred] corners; prepared for countersink style [tamperproof] screws.
- .3 Louvres: [Roll formed [steel] [aluminum]] [Extruded aluminum] material, [inverted [V] [Y] [slat] blade, [sight proof] [light proof] [] percent free area; [] style frame with [surface] [tamperproof] fasteners; [] manufactured by [].
- .4 Glass: [In accordance with Section [08 81 00]] []. Glazing to be supplied by others.

2.4 FABRICATION

- .1 Doors: [Structural Steel] [Hollow Steel]

Include this article to identify specific shop fabrication requirements. Choose types of construction as indicated according to size of openings.

- .1 Structural Steel Construction: where openings are larger than 10' x 10' (3000mm x 3000mm).
- .1 Structural steel core to be designed to prevent racking and to maintain flatness of door panel
- .2 Fabricate doors with hardware reinforcement plates welded in place.
- .3 Sheet steel to be welded to structural steel core. Appearance of door face shall be flush and neat.
- .4 Face seams shall be acceptable only when door leaf exceeds size of conventional steel sheet.
- .5 Astragals: Metal [Z] [T] shaped astragals for double doors.

[OR]

- .2 Hollow Steel Construction: where openings are 10' x 10' (3000mm x 3000mm) or smaller.
- .1 Welded stiffener construction, longitudinal edges [mechanically interlocked] [welded, filled, and sanded] with [no] visible edge seams.
- .2 Top and Bottom Channels: Inverted, recessed, welded steel channels.
- .3 Astragals: Metal [Z] [T] shaped astragals for double doors.
- .4 Fabricate doors with hardware reinforcement plates welded in place.

2.5 Frames: [Structural Steel] [Pressed Steel]

Include this article to identify specific shop fabrication requirements. Choose types of construction as indicated according to size of openings.

- .1 Structural Steel: where openings are larger than 10' x 10' (3000mm x 3000mm).
 - .1 Steel [channel] [angle] to be designed to suit door opening requirements.
 - .2 Structural steel sub-frame to be supplied where necessary to support weight of doors.
 - .3 Frame to be assembled in the field by others
 - .4 Fabricate frames with hardware reinforcements welded in place

[OR]

- .2 Pressed Steel: where openings are 10' x 10' (3000mm x 3000mm) or smaller.
 - .1 Frames: [2.0] [] mm ([14] [] gauge) thick base metal thickness, welded type construction, mitred corners.
 - .2 Mullions for Double Doors: [Fixed] [Removable] type.
 - .3 Fabricate frames with hardware reinforcement plates welded in place.
 - .4 Reinforce frames wider than 1200 mm (48 inches) with roll formed steel channels fitted tightly into frame head, flush with top.

2.6 ERECTION OF OVERSIZED DOORS AND FRAMES AT SITE

Oversized doors and frames often require field erection due to restrictions in shipping and handling. Oversize frames are often shipped in three (3) pieces. Doors may be shipped in two (2) or more panels.

- .1 Structural Steel Construction doors and frames to be assembled on site.

2.7 PRE-INSTALLATION OF DOOR HARDWARE

- .1 Hardware: Heavy weight hinges and door latches to be [factory supplied and pre-installed] [supplied by Section 08 71 10].

2.8 FINISHES

- .1 Factory Finish: Factory applied zinc phosphate 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 components to manufacturer's written instructions.
- .2 Install doors and frames to [CSDMA] [HMMA 840] standards [and in accordance with [NFPA 80] [UL 10c] and local authority having jurisdiction].

- .3 Utilize welders certified by [Canadian Welding Bureau (CWB)] [American Welding Society (AWS)] for field welding.
- .4 Coordinate with [masonry] [gypsum board] [concrete] [] wall construction for anchor placement.
- .5 Set frames plumb, square, level and at correct elevation.
- .6 Allow for deflection to ensure that structural loads are not transmitted to frame.
- .7 Adjust operable parts for correct clearances and function.
- .8 Install [louvers,] [glazing and] door silencers.
- .9 Finish paint in accordance with Section 09 91 00.
- .10 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 $\pm 1/16$ 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.

END OF SECTION