

*This section includes Oversize Commercial 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. Note: Doors up to 5'0 x12'0 (1500mm x 3600mm) may be fire rated up to 3 hours in singles or in pairs 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] [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] 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 08 71 10 - Door Hardware - General.
- .3        [Section 08 81 00 - Glass Glazing: Glazing for installation in doors.]
- .4        Section 09 91 15 - 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-06 - 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, 1990.
- .3        HMMA 802-92 - Manufacturing of Hollow Metal Doors and Frames.
- .4        HMMA 840-99 - 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 80-07 - 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 Oversized Steel Doors and Frames with 45, 90, or 180 minute fire rating labels. 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.

#### **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.
  - .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]).

**2.3 ACCESSORIES**

*The following paragraphs identify the components needed to complement the materials cited above.*

- .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 Metal]

*Include this article to identify specific shop fabrication requirements. The following two paragraphs apply to all construction 'types', unless otherwise indicated. Note: Doors to be Hollow Steel Construction up to 5'0 x12'0 (1500mm x 3600mm) and Structural Steel Construction when larger.*

- .1 Structural Steel Construction:
  - .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
  - .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 Frames: [Structural Steel] [Pressed Steel]

*Note: Frames to be Pressed Steel Construction up to 10'0 x10'0 (3000mm x 3000mm) and Structural Steel Construction when larger.*

- .1 Structural Steel Construction
  - .1 Steel [channel] [angle] to be designated to suit door opening requirements.
  - .2 Structural steel subframe 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 Construction
  - .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.

## **2.5 ERECTION OF OVERSIZED DOORS AND FRAMES AT SITE**

*Note: Oversized doors and frames often require field erection due to restrictions in shipping and consequently oversize frames are usually shipped in three (3) pieces Doors too may be shipped in two (2) or more panels to facilitate shipping and handling restrictions.*

- .1 Structural Channel Construction to be assembled on site.

## **2.6 PRE-INSTALLATION OF DOOR HARDWARE**

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

## **2.7 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 components to manufacturer's written instructions.
- .2 Install doors and frames to [CSDMA] [HMMA 840] standards [and in accordance with NFPA 80, and local authority having jurisdiction].
- .3 Coordinate with [masonry] [gypsum board] [concrete] [\_\_\_\_\_] wall construction for 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 Adjust operable parts for correct clearances and function.
- .7 Install [louvers,] [glazing and] door silencers.
- .8 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**

*Include this article to 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 Oversized Door and Frame Schedule:

Tag	Room	Nominal Size	Thickness	Material	Glazing	Fire Rating	Louvres	Comments
D-1	100	3000mm x 8000mm	65mm	GS	D	NFR		Hardware factory installed
D-2	101	5'0" x 12'0"	1 3/4"	GS	C	FR		Hardware by others.
<ul style="list-style-type: none"> <li>Material types: GS = Galvanized Steel, SS = Stainless Steel</li> <li>Glazing types: A = Half-lite, B = Full-lite, C = Narrow-lite D=Flush</li> <li>Fire Label types: FR= Fire rated to 180 minutes, NFR= Non-fire rated</li> </ul>								

**END OF SECTION**