

This section includes commercial Brass or Bronze Door and Frames. This section relies on both the Canadian Steel Door Manufacturers Association (CSDMA.org) industry standard, as well as on Hollow Metal Manufacturers Association (NAAMM.org) industry standard. 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 [Non-rated] [fire rated] pressed steel frames clad in [brass] [bronze].
- .2 [Non-rated] [fire rated] doors [and panels] hollow metal clad in [brass] [bronze]
- .3 [Interior] [Exterior] glazed steel frames clad in [brass] [bronze].
- .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 07 92 00 - Joint Sealing: Caulking between frames and adjacent construction.
- .3 Section 08 71 10 - Door Hardware - General.
- .4 [Section 08 81 00 - Glass Glazing: Glazing for installation in 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 B36/B36M-13 Standard Specification for Brass Plate, Sheet, Strip and Rolled Bar.
- .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 840-16 - Installation and Storage of Hollow Metal Doors and Frames.
- .5 HMMA 841-13 - 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 ICC/ANSI A117.1-2003- Accessible and Usable Buildings and Facilities.
- .9 USGBC – LEED v4.

1.4 REGULATORY REQUIREMENTS

Include the following article only if fire rated assemblies are specified. AMBICO can supply brass or bronze clad doors with a 45 or 90 minute fire rating label. Cores of fire rated doors must be stiffened.

- .1 Installed Door and Frame Assembly: Conform to [NFPA 80] [_____] for fire rated class [as scheduled.] [as indicated.].
- .2 Installed Door and Frame Assembly: Conform to handicap code [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] [louvres].
- .3 Samples: Submit manufacturer's [brass] [bronze] finish samples, showing range of color variation and polishing details.

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 [brass] [bronze] 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.

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 Subcores: Galvanized steel to ASTM A653/A653M.
 - .1 Coating designation [Z275] ([G90]) for exterior door assemblies.
 - .2 Coating designation [ZF001] ([A01]) for interior doors assemblies.
- .2 Cladding: Brass or Bronze to ASTM B36/B36M-13 [C220 Commercial Bronze] [C260 Cartridge Brass] [C280 Muntz Metal] alloy.

2.3 DOORS

- .1 [Brass] [Bronze] Clad Doors: [Flush Design] [Stile and Rail]
 - .1 Brass or Bronze sheet faces [44] [_____] mm ([_____] [1-3/4 inch) thick, [flush] [stile and rail] [_____] design.
- .2 Door Core:
 - .1 Honeycomb: paper hexagonal cells
 - .2 Polystyrene: Rigid, extruded, closed cell board, 1 pound per cubic foot (16 kg per cubic meter) density minimum, conforming to ASTM C 578, Type 1
 - .3 Polyurethane: Rigid, cellular type, board conforming to ASTM D 1622, 1.8 pound per cubic foot (29 kilograms per cubic meter) density minimum, containing no urea formaldehyde resins.

- .4 Stiffened: Continuous vertical formed steel sections, 0.026 in. (0.6 mm) minimum thickness, spaced with interior webs not more than 6 in.(152 mm) apart, which upon assembly, span the full thickness of the interior of the door. Voids between stiffeners shall be filled with fibreglass or mineral rock-wool batt-type material.
- .3 Fabrication Tolerances: To HMMA 841.

2.4 ACCESSORIES

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

- .1 Exterior Top Caps: Flush top channel of alloy and finish matching door face.
- .2 Frame Thermal Breaks: Rigid polyvinylchloride extrusion.
- .3 Glazing Stops: Formed [brass] [bronze], minimum 16 mm (0.625 inch) high, [butted] [mitred] corners; prepared for countersink style [tamperproof] screws.
- .4 Glass: [In accordance with Section [08 81 00]] [_____]. Glazing to be supplied by others.

2.5 FABRICATION

Include this article to identify specific shop fabrication requirements. Choose one of the following two paragraphs. Door and frame assemblies are made from a steel core with [brass] [bronze] cladding.

- .1 [Brass] [Bronze]Doors:
 - .1 Flush Design: [Fire rated] [Non-fire rated]
 - .1 Clad door construction, longitudinal edges mechanically inter-locked with visible edge seams.
 - .2 Top and Bottom Channels: Inverted, recessed, welded [brass] [bronze] channels.
 - .3 Astragals: [Z] [T] shaped astragals for double doors to be clad in [brass] [bronze].
 - .4 Fabricate [brass] [bronze] clad doors with steel hardware reinforcement plates welded in place.
 - .5 Core: [honeycomb] [polystyrene] [polyurethane] [stiffened]
 - [OR]**
 - .1 Stile and Rail Design: Non-fire rated
 - .1 Clad door construction, longitudinal edges mechanically inter-locked with visible edge seams.
 - .2 Doors panel will have visible face seams where stiles and rails intersect.
 - .3 Top and Bottom Channels: Inverted, recessed, welded [brass] [bronze] channels.
 - .4 Astragals: [Z] [T] shaped astragals for double doors to be clad in [brass] [bronze].

- .5 Fabricate [brass] [bronze] clad doors with steel hardware reinforcement plates welded in place.
 - .6 Core: [honeycomb] [polystyrene] [polyurethane].
- .2 [Brass] [Bronze]Frames:
- .1 [1.6] [____] mm ([16] [____] gauge) thick base metal thickness, welded type, clad [brass] [bronze] frame construction, mitred corners.
 - .2 Clad frame jambs and header with [brass] [bronze] material.
 - .3 Factory assemble jambs, header, [and mullions].
 - .4 Mullions for Double Doors: [Fixed] [Removable] type.
 - .5 Fabricate frames with steel hardware reinforcement plates welded in place.
 - .6 Reinforce frames wider than 1200 mm (48 inches) with formed steel channels fitted tightly into frame head, flush with top.
 - .7 Mullions to be fit to perimeter jambs with visible seams in accordance with architectural elevations.

2.6 FINISHES

- .1 Finish: [#4 Satin] [#8 Mirror].

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.

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 five (5) cycles of operation. Correct any deficient doors.

END OF SECTION