

This section includes AMBICO Bullet Resistant Steel Doors and Frames which meet the UL752 "Standard for Bullet-Resisting Equipment". This section relies on both the Canadian Steel Door Manufacturers Association (CSDMA) industry standard, as well as on the Hollow Metal Manufacturers Association (HMMA) 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] Bullet-resistant pressed steel frames.
- .2 [Non-rated] [Fire-rated] Bullet-resistant pressed steel doors [and panels].
- .3 Bullet resistant steel frames [and side/transom lites] [and side/transom panels].

Bullet resistant glazing cannot be supplied on a fire rated bullet resistant assembly.

- .4 Glazed lite bullet resistant frames
- .5 [Bullet-resistant 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 doors and adjacent construction.
- .3 Section 08 71 10- Door Hardware- General.
- .4 Section 09 91 00 - Painting: Field painting of [doors] [frames] [doors and frames].

1.3 REFERENCES

Edit this article after editing 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-15e1 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .2 AWS D1.1/D1.1M:2015, Structural Welding Code - Steel.
- .3 Canadian Steel Door Manufacturers Association (CSDMA), Selection and Usage Guide for Steel Doors and Frames, 2009.
- .4 HMMA 802-07 - Manufacturing of Hollow Metal Doors and Frames.

- .5 HMMA 840-16 - Installation and Storage of Hollow Metal Doors and Frames.
- .6 HMMA 841-13 - Tolerances and Clearance for Commercial Hollow Metal Doors and Frames.
- .7 NFPA 80-16 - Standard for Fire Doors and Other Opening Protectives.
- .8 ULC 752-05 republished 12\2015 - Standard for Bullet Resisting Equipment.

1.4 PERFORMANCE REQUIREMENTS

Include this article if all doors should meet the same bullet resistant requirement; otherwise, specify individual performance for door types in Part 2 or in a schedule. AMBICO doors can be manufactured to meet the bullet resistant requirement of handguns as well as high powered rifles.

- .1 Bullet Resistance: Conform to UL 752, Level [1] [10] [___].

1.5 REGULATORY REQUIREMENTS

Include the following article only if fire rated door and frame assemblies are specified. AMBICO manufactures bullet resistant steel assemblies with either a 45 or 90 minute fire rating label.

- .1 Installed Door and Frame Assembly: Conform to [NFPA 80] [UL 10C] [_____] for fire rated glass [as scheduled.] [as indicated.].

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 for [glazing].
- .4 Samples: Submit manufacturer's door finish samples, as well as manufacturer's frame corner sample.
- .5 Test Data: Submit independent test data from a recognized licensed laboratory indicating compliance with bullet resistant performance requirements.
- .6 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 are normally required for LEED v4 certification. AMBICO Bullet Resistant products offer significant advantages to firms interested in supporting LEED certification.

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.

Include this article to identify a quality reference source affecting the work of this section; only one reference should be selected to avoid potential conflicts.

Perform Work to requirements of [CSDMA (Canadian Steel Door Manufacturers Association)] [HMMA (Hollow Metal Manufacturers Association)].

- .1 Manufacturer: Minimum 5 years documented experience manufacturing bullet resistant door and frame assemblies.

1.8 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.

1.9 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 01 60 00.] [Not permitted.]

2.2 MATERIALS

- .1 Sheet Steel: Galvanized steel to ASTM A653/A653M, ZF75 minimum 1.5 mm.
- .2 Reinforcement [Channel]: same material as sheet steel
- .3 Recycled content: minimum [_____]%

2.3 ACCESSORIES

AMBICO bullet resistant steel doors and frames are prepared for heavy weight builders hardware. All accessories specified in this section shall be supplied by the door and frame supplier.

- .1 Hinges: Heavyweight butt type [by section # 08 71 10] [by door supplier].
- .2 Glazing Stops: Formed galvanized steel channel, [butted] [mitred] corners; prepared for countersink style [tamperproof] screws.
- .3 Glass: Type as tested to achieve bullet resistant ratings.
- .4 Primer: Rust inhibitive zinc phosphate.
- .5 Astragal: To be supplied loose ready for field assembly by others. Astragal will comply with the bullet resistant rating of the entire assembly.
- .6 [Removable] Mullion: To be provided at [paired][multiple leaf] openings, where occasional access is required. Mullion will comply with the bullet resistant rating of the entire assembly.

2.4 FABRICATION

- .1 Manufacture doors and frames to Level [1] [10] [____] bullet resistance rating in accordance with UL 752.
- .2 Steel Doors:
 - .1 Sheet steel faces, thickness, design, and core suitable to achieve specified ballistic performance.
 - .2 Laminated core construction, longitudinal edges [mechanically inter-locked] [welded, filled and sanded] with [no] visible edge seams.
 - .3 Drill and tap for mortised, templated hardware.

- .4 Top and Bottom Channels: Inverted, recessed, welded steel channels.
 - .5 Astragals: Metal [Z] [T] shaped astragals for double doors.
 - .6 Weld hardware reinforcement plates in place.
 - .7 Fabrication Tolerances: To HMMA 841.
- .3 Steel Frames:
- .1 Sheet steel, metal thickness and appropriate to maintain bullet resistant door and frame ratings, mitred corners.
 - .2 Factory assemble and weld frames.
 - .3 Mullions for Double Doors: [Fixed] [Removable] type.
 - .4 Drill and tap for mortised, templated hardware.
 - .5 Reinforce frames wider than 1200 mm (48 inches) with roll formed steel channels welded tightly into frame head, flush with top.
 - .6 Provide three single silencers for single doors [and mullions of double doors] on strike side, and two single silencers on frame head at double doors without mullions.
 - .7 Fabrication Tolerances: To HMMA 841.
- .4 Factory installed glazing: shall be in conformance with bullet resistant rating of door and frame assembly.
- .5 Affix permanent metal nameplates to door and frame, indicating manufacturer's name, door tag, model number, and ballistic rating.

2.5 FINISHES

This article may be a simple statement of a finish or may require a more elaborate identification of expected finishes. Edit the following paragraphs for special finishes other than galvanized.

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

2.6 INSTALLATION

- .1 Install components to manufacturer's written instructions.
- .2 Install doors and frames to [CSDMA] [HMMA 840] standards.
- .3 Coordinate with [masonry] [gypsum board] [concrete] [_____] wall construction for anchor placement.
- .4 Set frames plumb, square, level and at correct elevation.
- .5 Install factory supplied glazing to frames.
- .6 Allow for deflection to ensure that structural loads are not transmitted to frame.
- .7 Adjust operable parts for correct clearances and function.
- .8 Finish paint in accordance with Section 09 91 00.

2.7 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.

2.8 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 and frames.

End of Section