

This section includes AMBICO Attack Resistant Steel Doors and Frames. This section relies 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 Attack resistant pressed steel frames.
- .2 Attack resistant pressed steel doors.
- .3 [Attack resistant glazing.]
- .4 Architectural door hardware integral to the attack-resistant performance of the assembly.

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 05 50 00 – Metal Fabrications: Steel door frame.
- .3 Section 07 92 00 - Joint Sealing: Caulking between doors and adjacent construction.
- .4 Section 08 71 10- Door Hardware- General.
- .5 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 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 FILTI FTD-SA – Shooter Attack Test Method

1.4 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 attack test method performance requirements [as well as bullet resistant standards].
- .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.

1.5 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 HMMA (Hollow Metal Manufacturers Association).

- .1 Manufacturer: Minimum 5 years documented experience manufacturing door and frame assemblies in the protective design industry.

1.6 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.

1.7 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 PERFORMANCE REQUIREMENTS

Include this article if all doors should meet the same shooter attack resistant requirement; otherwise, specify individual performance for door types in a schedule.

- .1 Shooter Attack Resistant: Conform to FILTI FTD-SA, Class [1] [5] [___].

2.3 MATERIALS

- .1 Sheet Steel: Galvanized steel to ASTM A653/A653M.
 - .1 Exterior doors: [ZF75 (A25)] coating designation.

- .2 Interior doors: [ZF001 (A01)] coating designation.
- .2 Reinforcement [Channel]: To CSA G40.20/G40.21, coating designation to ASTM A653/A653M, [ZF75] ([A25]).
- .3 Core Insulation: Minimum U-value of 0.18.
- .4 Primer: Rust inhibitive zinc phosphate.

Include the following if this project requires LEED accreditation based on minimum recycled content.

- .5 Recycled Content: Minimum []%

2.4 FABRICATION

- .1 Manufacture doors and frames to Class [1] [7] [] attack resistance rating in accordance with FILTI FTD-SA
- .2 Steel Doors:
 - .1 Sheet steel faces, thickness, design, and core suitable to achieve specified shooter attack 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 Weld hardware reinforcement plates in place.
 - .6 Fabrication Tolerances: To HMMA 841.
- .3 Steel Frames:
 - .1 Sheet steel, metal thickness and appropriate to maintain shooter attack resistant door and frame ratings, mitered corners.
 - .2 Factory assemble and weld frames.
 - .3 Drill and tap for mortised, templated hardware.
 - .4 Reinforce frames wider than 1200 mm (48 inches) with roll formed steel channels welded tightly into frame head, flush with top.
 - .5 Provide three single silencers for single doors on strike side
 - .6 Fabrication Tolerances: To HMMA 841.
- .4 Factory installed glazing: shall be in conformance with attack resistance rating of door and frame assembly.
- .5 Affix permanent metal nameplates to door and frame, indicating manufacturer's name, door tag, model number, and shooter attack class.

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 ACCESSORIES

AMBICO attack resistant steel doors and frames are prepared for heavy weight builders hardware. All accessories specified in this section shall be supplied as noted below.

- .1 Hinges: Heavyweight butt type [by section # 08 71 10]
- .2 Locksets: Grade 1 Mortise Lock [by door supplier].
- .3 Glazing Stops: Formed galvanized sheet steel, mitered corners; prepared for pan-head style [tamperproof] screws.
- .4 Glass: Armoured One 7/16" laminated glass with 23mm Shooter Attack Film. [by door supplier]
- .5 Primer: Rust inhibitive zinc phosphate.

2.7 PRE-INSTALLATION OF ATTACK RESISTANT GLAZING

- .1 Glazing shall be factory supplied [and pre-installed] [and shipped loose ready for site installation by others].

Part 3 Execution**3.1 INSTALLATION**

- .1 Install components to manufacturer's written instructions.
- .2 [Install factory supplied glazing in door panels.]
- .3 Install steel doors and frames to HMMA 840 standards.
- .4 Coordinate with [masonry] [gypsum board] [concrete] [] wall construction for anchor placement.
- .5 Set frames plumb, square, level and at correct elevation, in accordance with Section 05 50 00.
- .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
- .9 Touch up painted finishes where damaged.

3.2 ERECTION TOLERANCES

Do not assume that there are industry standards for tolerances. Specify tolerances below as appropriate to the nature or character of the project. Verify that such tolerances are realistic and realizable.

- .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