

SECTION 08 39 00 PRESSURE RESISTANT DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

Pressure Resistant Exterior Doors and Frames rated up to 1.0 pounds per square inch (psi).

1.2 RELATED SECTIONS

03 30 00 Cast-in-place Concrete.

03 40 00 Precast Concrete.

03 60 00 Grouting.

04 00 00 Masonry (including 04 05 16 and 04 00 20).

08 71 00 Door Hardware.

09 00 00 Finishes.

09 20 00 Plaster and Gypsum Board.

08 10 00 Doors and Frames.

09 90 00 - Painting and Coating.

1.3 REFERENCES

ASTM A 568/A 568M Standard Specification for Steel, Sheet, Carbon, Structural, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled.

ASTM A 653/A 653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

ASTM A 924/A 924M Standard Specification for General Requirements for Sheet Steel, Metallic-Coated by the Hot-Dip Process.

ASTM E 330 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

ASTM E 1886 Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.

ASTM E 1996 Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.

ANSI/SDI A250.10 Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.

ANSI/SDI A250.11 Recommended Erection Instructions for Steel Frames.

HMMA 820-TN01 Grouting Hollow Metal Frames.

HMMA 840-TN01 Painting Hollow Metal Products.

HMMA 840 Installation and Storage of Hollow Metal Doors and Frames.

HMMA 841 Tolerances and Clearances for Commercial Hollow Metal Doors and Frames.

HMMA 861 Guide Specifications for Commercial Hollow Metal Doors and Frames.

1.4 ASSEMBLY DESIGN and PERFORMANCE REQUIREMENTS

Pressure Resistant Doors and Frames shall have been physically tested to meet or exceed static pressure in accordance with ASTM E 330.

Pressure Resistant doors and frames shall incorporate recycled materials in at least 30% by weight.

(Select one of the following two sentences and delete other):

Pressure Resistant Doors and Frames shall be manufactured to meet or exceed static pressure of 1.0 psi (96 pounds per square foot-psf minimum design load).

Pressure Resistant Doors and Frames shall be manufactured to meet or exceed static pressure of 120 psf (80 pounds per square foot-psf minimum design load).

Specifier: Add the following sentence if applicable:

Pressure Resistant Doors and Frames shall be manufactured to resist the impact of a 9 pound 2 X 4 missile traveling horizontally at 100 feet per second (impact level "D").

1.5 SUBMITTALS

Unless mutually agreed due to small quantity, submit shop drawings showing profiles, product components, anchors, and accessories. Details deemed to be proprietary by the manufacturer may be identified as such.

Submit installation instructions and installation tolerances if other than as specified in ANSI/SDI A250.11 or HMMA 840.

Submit jobsite storage and protection requirements if other than as specified herein or in HMMA 861 or HMMA 840-TN01.

Provide link to third-party certification entity where drawings showing design, installation, and design pressure compliance may be accessed.

1.6 QUALITY ASSURANCE

Installer shall have documented experience in installation of pressure resistant door assemblies.

Fabricate products to tolerances in compliance with HMMA 841.

1.7 DELIVERY, STORAGE, AND HANDLING

Store and handle products in accordance with HMMA 861, or HMMA 840-TN01 in manufacturer's original, unopened, undamaged containers.

Protect materials from adverse temperature and humidity conditions.

Store doors and frames upright on wood planking, protected at corners to prevent damage.

Store accessories such as hinges, gaskets, and thresholds in a secure area protected from adverse temperature and humidity conditions.

Do not store in non-vented plastic or canvas shelters.

1.8 COORDINATION

Coordinate work with other directly affected trades, wall construction, and hardware installation.

Coordinate hardware locations with Sections 08 11 13 and 08 12 13.

Coordinate placing of material orders and fabrication schedules with construction progress.

1.9 WARRANTY

Submit written copy of manufacturer's standard warranty documents.

PART 2 PRODUCTS

2.1 MANUFACTURER

Doors and frames shall be manufactured by:

MEGAMET INDUSTRIES, INC.

P.O. BOX 635 (3228 6th. Avenue North) BIRMINGHAM, AL 35201

WEBSITE: www.megametusa.com

PHONE: (205) 322-7700 TOLL FREE: (888) 322-7750

FAX: (205) 322-4600

Substitutions: Not permitted.

2.2 PRESSURE RESISTANT DOORS

Provide 1 3/4" nominal thickness pressure resistant as listed in the door schedule and indicated on the Drawings in accordance with this specification. Opening sizes, configurations and types shall be as indicated on the Drawings and/or door schedule.

Fabricate door faces of no less than **(select)** (16), (14), (12), (10) gage material.

Cold and hot rolled steel for door faces and reinforcing shall comply with ASTM A 568, ASTM A 1008 and/or ASTM A 1011.

Hot-dip galvanized steel, where indicated on the door schedule, shall comply with ASTM A 653 and ASTM A 924. Coating thickness shall be **(select)** (Class A40) (Class A60).

Fabricate faces and edges as seamless doors from two sheets of steel with no visible seams on either face or vertical edges; continuously weld door edges, fill and finish smooth.

All doors shall be handed with either square or bevel edges (at manufacturer's option).

Vertical edges shall be reinforced with continuous channels at hinge and lock edges. Channel shall be formed from one member; spliced channels are not permitted.

Door internal construction shall be proprietary design to meet the requirements of the static pressure specified.

Hardware Preparation: Mortise, reinforce, drill, and tap to receive templated mortise hardware; reinforce for specified surface hardware in accordance with HMMA 861.

2.3 PRESSURE RESISTANT FRAMES

Provide frames for pressure resistant doors listed in the door schedule and indicated on the Drawings in accordance with this specification. Opening sizes, profiles, anchors, and types shall be as indicated on the Drawings. Profiles may differ based on configurations required to achieve static pressure rating.

Fabricate frames of no less than **(select)** (16), (14), (12), (10) gage material.

Cold and hot rolled steel for frames and reinforcing shall comply with ASTM A 568, ASTM A 1008 and/or ASTM A 1011.

Hot-dip galvanized steel for frames shall comply with ASTM A 653 and ASTM A 924. Coating thickness shall be **(select)** (Class A40) (Class A60).

Reinforcing shall be cold rolled or hot rolled steel complying with ASTM A 568, ASTM A 1008 and/or ASTM A 1011.

Fabricate frames with tightly fitting mitered corners and butted stops. Tabs and slots at headers and jambs may be incorporated for factory alignment of assembly.

Weld frames at corners in accordance with HMMA 861 with temporary shipping spreader welded to jambs at bottom. Continuously weld faces internally or externally, fill, and finish smooth.

Mortise, reinforce, drill, and tap to receive templated mortise hardware and reinforce for specified surface hardware in accordance with HMMA 861.

Hinge and strike reinforcements shall be as required to maintain static pressure.

Provide frames with one welded-in floor anchor per jamb.

Frames installed in new masonry shall have adjustable strap and stirrup anchors or T-strap anchors located as required to maintain static pressure.

Frames installed with anchor bolts shall have frame soffits prepared for 3/8 inch bolts located as required to maintain static pressure. Anchors may be welded-in or snap-in at manufacturer's option and as required to maintain static pressure.

Anchor bolts are provided by the installer as rough hardware to suit the substrate.

2.3 OPERATING CLEARANCES

Doors shall be undersized from frame opening sizes at head, jamb, and threshold in accordance with HMMA-841.

2.4 HARDWARE LOCATIONS

Unless otherwise specified, hinges and locks shall be located in accordance with HMMA-861.

2.5 PRIMER FINISH

Clean and treat exposed surfaces of doors and frames to ensure prime paint adhesion; apply one shop coat of "low VOC" gray rust-inhibitive primer meeting acceptance criteria of ANSI A250.10.

PART 3 EXECUTION

3.1 EXAMINATION

Before beginning installation, verify that existing or planned substrate conditions are acceptable for maintaining static load specified. Consult manufacturer's drawings of third-party certification entity showing installation requirements.

Select fasteners of adequate type, number, and quality to perform intended functions.

3.2 INSTALLATION

Install frames plumb, straight, and true, rigidly secured in place and properly braced; comply with ANSI/SDI A250.11, and HMMA-841.

Grout fill frames in new masonry in accordance with ANSI/SDI A250.11, and HMMA 820-TN01.

Secure any bolted connections to adjacent construction using bolts suitable for the substrate.

Install accessories, doors, and hardware in accordance with manufacturers' templates and instructions.

Touch-up exposed surfaces, scratches or bare edges with a rust inhibitive Direct to Metal primer.

Prepare surfaces for field painting as recommended by door and frame manufacturer and as specified in Section 09 90 00.

3.3 PROTECTION

Protect installed products and finished surfaces from damage during construction.

3.4 FINAL ADJUSTMENTS

After construction work has been completed in the area, clean and adjust hinges, locks, and closers to assure proper operation prior to turn-over to Owner.