SECTION 08 11 00

DECORATIVE METAL DOORS AND FRAMES

Display hidden notes to specifier. (Don't know how? [Click Here](https://www.arcat.com/sd/display_hidden_notes.shtml))

*Copyright 2014 - 2014 ARCAT, Inc. - All rights reserved*

\*\* NOTE TO SPECIFIER \*\* AMBICO LIMITED; decorative metal doors and frames, specialized doors and door frames.  
This section is based on the products of AMBICO LIMITED, which is located at:1120 Cummings Ave.Ottawa, ON, Canada K1J 7R8Toll Free Tel: 888-423-2224Tel: 613-746-4663Fax: 800-465-8561Email: [request info (specialized@Ambico.com)](https://arcat.com/rfi?action=email&company=AMBICO%252BLIMITED&message=RE%253A%2520Spec%2520Question%2520(08100abl)%253A%2520&coid=40356&spec=08100abl&rep=&fax=800-465-8561)  
Web: <https://www.ambico.com>   
 [ [Click Here](https://arcat.com/company/ambico-limited-40356) ] for additional information.  
AMBICO manufactures specialized doors and door frames. Located in Canada's capital city of Ottawa, Ontario, AMBICO Ltd. operates from an office and manufacturing facility covering one city block. The formula for AMBICO's success includes quality driven, laboratory tested, specially manufactured products.  
Our decorative line of products includes recessed panel, brass clad, bronze clad, as well as stainless steel doors and door frames. AMBICO's exceptional line of engineered door and frame products include acoustic wood, acoustic steel, bullet resistant steel, blast resistant, lead lined, oversized and stainless steel.  
AMBICO services our products with an expert team of engineers and sales personnel. Our selected network of manufacturer's representatives and independent distributors enhances our ability to provide dedicated client service across North America and throughout the world.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Stainless steel doors and frames.
    2. Clad brass doors and frames.
    3. Clad bronze doors and frames.
    4. Clad Muntz metal doors and frames.
    5. Clad metal borrowed lite frames.
    6. Recessed panel steel doors.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 08 71 53 - Security Door Hardware.
    2. Section 08 81 00 - Glass Glazing.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
    2. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
    3. ASTM B36/B36M - Standard Specification for Brass Plate, Sheet, Strip, and Rolled Bar.
    4. Canadian Steel Door Manufacturers Association (CSDMA), Selection and Usage Guide for Steel Doors and Frames.
    5. HMMA 802 - Manufacturing of Hollow Metal Doors and Frames.
    6. HMMA 840 - Installation and Storage of Hollow Metal Doors and Frames.
    7. HMMA 841 - Tolerances and Clearance for Commercial Hollow Metal Doors and Frames.
    8. NFPA 80 - Standard for Fire Doors and Other Opening Protectives.
  1. REGULATORY REQUIREMENTS

\*\* NOTE TO SPECIFIER \*\* Include the following article only if fire rated assemblies are specified. AMBICO can supply Stainless Steel Doors and Frames with a 45, 90, or 180 minute fire rating label. AMBICO can supply brass or bronze clad doors with a 45 or 90 minute fire rating label. AMBICO can supply Recessed Panel steel doors with 45 or 90 minute fire rating label.

* + 1. Installed Door and Frame Assembly: Conform to NFPA 80 for fire rated class as scheduled.
    2. Installed Door and Frame Assembly: Conform to handicap code ANSI/ICC A117.1
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data: Manufacturer's data sheets on each product to be used, including:
        1. Preparation instructions and recommendations.
        2. Storage and handling requirements and recommendations.
        3. Installation methods.
     3. 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 and louvers.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if finishes have already been selected.

* + 1. Selection Samples: For each finish product specified, two complete sets of finish samples showing range of material finish variation.

\*\* NOTE TO SPECIFIER \*\* Delete verification samples if field finishing.

* + 1. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square representing actual finish.
  1. QUALITY ASSURANCE
     1. Manufacturer: Minimum 5 years documented experience manufacturing hollow metal door and frame assemblies.
     2. Installer Qualifications: Minimum 2 years experience installing similar products.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Perform Work to requirements of CSDMA (Canadian Steel Door Manufacturers Association) standards.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Perform Work to requirements of HMMA (Hollow Metal Manufacturers Association) standards.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
       1. Finish areas designated by Architect.
       2. Do not proceed with remaining work until workmanship is approved by Architect.
       3. Rework mock-up area as required to produce acceptable work.
  1. PRE-INSTALLATION MEETINGS
     1. Convene minimum two weeks prior to starting work of this section. Require attendance of parties directly affecting work of this section, including contractor, architect, installer, and manufacturer's representative. Review installation and coordination with other work.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Comply with manufacturer's recommendations including the following:
        1. Weld minimum two temporary jamb spreaders per frame prior to shipment.
        2. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification.
        3. Comply with HMMA 840.
        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. Handle materials to avoid damage.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  4. SEQUENCING
     1. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
  5. WARRANTY
     1. Manufacturer's Limited Warranty: Five years from date of supply, covering material and workmanship.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: AMBICO LIMITED, which is located at:1120 Cummings Ave.Ottawa, ON, Canada K1J 7R8Toll Free Tel: 888-423-2224Tel: 613-746-4663Fax: 800-465-8561Email: [request info (specialized@Ambico.com)](https://arcat.com/rfi?action=email&company=AMBICO%252BLIMITED&message=RE%253A%2520Spec%2520Question%2520(08100abl)%253A%2520&coid=40356&spec=08100abl&rep=&fax=800-465-8561);Web: <https://www.ambico.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. STAINLESS STEEL DOORS AND FRAMES

\*\* NOTE TO SPECIFIER \*\* Type #304 stainless steel alloy is standard. Type #316 alloy may be specified for extremely corrosive environments, such as in the presence of chlorine. Delete material not required.

* + 1. Material:
       1. Stainless Steel: ASTM A240, type 304.
       2. Stainless Steel: ASTM A240, type 316.

\*\* NOTE TO SPECIFIER \*\* Flush Doors or Stile and Rail Doors. Delete door design not required.

* + 1. Flush Door Design:

\*\* NOTE TO SPECIFIER \*\* Delete rating not required.

* + - 1. Rating: Fire rated.
      2. Rating: Non-fire rated.

\*\* NOTE TO SPECIFIER \*\* Delete door face thickness not required.

* + - 1. Door Face Thickness: 1.2 mm (18 gauge) thick stainless steel, door faces.
      2. Door Face Thickness: 1.6 mm (16 gauge) thick stainless steel, door faces.
      3. Door Face Thickness: 2.0 mm (14 gauge) thick stainless steel, door faces.

\*\* NOTE TO SPECIFIER \*\* Delete door seam design not required.

* + - 1. Seam Design: Lock seam door construction, longitudinal edges mechanically inter-locked with visible edge seams.
      2. Seam Design: Butt seam door construction, longitudinal edges fully welded with no visible edge seam.
      3. Top and Bottom Channels: Inverted, recessed, welded steel channels.
      4. Astragals: 2 inches (51 mm) wide, 12 gauge (2.8 mm) flat overlapping astragal.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Exterior Door or Clean Room Door: Flush stainless steel top caps.
      2. Fabricate with stainless steel hardware reinforcement plates welded in place.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Stile and Rail Door Design:
       1. Rating: Not fire rated.

\*\* NOTE TO SPECIFIER \*\* Delete door face thickness not required.

* + - 1. Door Face Thickness: 1.6 mm (16 gauge) thick stainless steel, door faces.
      2. Door Face Thickness: 2.0 mm (14 gauge) thick stainless steel, door faces.
      3. Door Face Thickness: 2.8 mm (12 gauge) thick stainless steel, door faces.

\*\* NOTE TO SPECIFIER \*\* Delete door seam design not required.

* + - 1. Seam Design: Lock seam door construction, longitudinal edges mechanically inter-locked with visible edge seams.
      2. Seam Design: Butt seam door construction, longitudinal edges fully welded with no visible edge seam.
      3. Door panel require visible face seams where stiles and rails intersect.
      4. Top and Bottom Channels: Inverted, recessed, welded steel channels.
      5. Astragals: 2 inches (51 mm) wide, 12 gauge (2.8 mm) flat overlapping for double doors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Exterior Door: Flush stainless steel top caps.
      2. Fabricate with stainless steel hardware reinforcement plates welded in place.
    1. Door Core:

\*\* NOTE TO SPECIFIER \*\* Only one door core should be selected. Delete cores not required.

* + - 1. Core: Honeycomb: paper hexagonal cells.
      2. Core: Rigid, extruded, closed cell Polystyrene board, 1 pound per cubic foot (16 kg per cubic meter) density minimum, conforming to ASTM C 578, Type 1.
      3. Core Stiffened continuous vertical formed stainless steel sections, 0.026 inch (0.6 mm) minimum thickness, spaced with interior webs not more than 6 inches (152 mm) apart, which upon assembly, span the full thickness of the interior of the door. Voids between stiffeners shall be filled with fiberglass or mineral rock-wool batt-type material.
    1. Door Frames:
       1. Stainless Steel Frames: Welded type construction with mitred corners.

\*\* NOTE TO SPECIFIER \*\* Delete sheet thickness not required.

* + - 1. Sheet Thickness: 1.6 mm (16 gauge) thick stainless steel, faces.
      2. Sheet Thickness: 2.0 mm (14 gauge) thick stainless steel, faces.
      3. Sheet Thickness: 2.8 mm (12 gauge) thick stainless steel, faces.
      4. Factories assemble and weld stainless steel frames.

\*\* NOTE TO SPECIFIER \*\* Delete mullion not required.

* + - 1. Stainless Steel Mullions for Double Doors: Fixed type.
      2. Stainless Steel Mullions for Double Doors: Removable type.
      3. Fabricate with stainless steel hardware reinforcement plates welded in place.
      4. Reinforce frames wider than 48 inches (1200 mm) with stainless steel channels fitted tightly into frame head, flush with top.
    1. Accessories:

\*\* NOTE TO SPECIFIER \*\* The following paragraphs identify the components needed to complement the materials cited above. Delete accessories not required.

* + - 1. Exterior Top Caps: Stainless steel flush channel.
      2. Frame Thermal Breaks: Rigid polyvinylchloride extrusion.
      3. Glazing Stops: Formed stainless steel channel, minimum 0.625 inch (16 mm) high prepared for countersink style screws.

\*\* NOTE TO SPECIFIER \*\* Delete corner construction not required.

* + - * 1. Butted corners.
        2. Mitred corners.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. Tamperproof screws.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Louvers: Material to match alloy of door face.
         1. Type: Roll formed stainless steel.

\*\* NOTE TO SPECIFIER \*\* Delete style not required.

* + - * 1. Style: Inverted V blade.
        2. Style: Inverted Y blade.
        3. Style: Inverted slat blade.
        4. Style: Sight proof.
        5. Style: Light proof.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. Percent Free Area; \_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Delete fastener type not required.

* + - * 1. Provide frame with surface fasteners.
        2. Provide frame with tamperproof fasteners.
      1. Glass: Refer to Section 08 81 00 - Glass Glazing.
    1. Finishes:

\*\* NOTE TO SPECIFIER \*\* Edit the following to identify finish. Choose from Standard or Custom finishes. Delete finish not required.

* + - 1. Finish (Standard): #2B Mill Finish.
      2. Finish (Standard): #4 Satin.
      3. Finish (Standard): Blend S Matte.
      4. Finish (Standard): #8 Mirror.
      5. Finish (Standard): Colored.
      6. Finish (Standard): Hairline.
      7. Finish (Custom): Embossed.
      8. Finish (Custom): Etched.
      9. Finish (Custom): Patterned.
      10. Finish (Custom): Non-directional.
      11. Finish (Custom): Textured.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. CLAD METAL DOORS AND FRAMES
     1. Cladding Material:

\*\* NOTE TO SPECIFIER \*\* Delete cladding material not required.

* + - 1. Bronze: C220 Commercial Bronze.
      2. Brass: C260 Cartridge Brass.
      3. Muntz: C280 Muntz Metal.

\*\* NOTE TO SPECIFIER \*\* 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. Flush Design:
       1. Door Thickness: 1-3/4 inches (44 mm) thick,

\*\* NOTE TO SPECIFIER \*\* Delete rating not required.

* + - 1. Rating: Fire rated.
      2. Rating: Non-fire rated.
      3. Fabrication Tolerances: To HMMA 841.
      4. Clad Door Construction: Longitudinal edges mechanically inter-locked with visible edge seams.
      5. Top and Bottom Channels: Inverted, recessed, welded channels.

\*\* NOTE TO SPECIFIER \*\* Delete channel material not required.

* + - * 1. Channels: Bronze.
        2. Channels: Brass.
      1. Astragals: 2 inches (51 mm) wide clad flat overlapping astragal with 12 gauge (2.8 mm) base steel at double doors.

\*\* NOTE TO SPECIFIER \*\* Delete astragal material not required.

* + - * 1. Astragals: Bronze.
        2. Astragals: Brass.
      1. Fabricate clad doors with steel hardware reinforcement plates welded in place.

\*\* NOTE TO SPECIFIER \*\* Delete finish not required.

* + - 1. Door Finish: Grained (satin).
      2. Door Finish: Polished (mirror).
    1. Stile and Rail Design:
       1. Door Thickness: 1-3/4 inches (44 mm) thick,
       2. Rating: Not fire rated.
       3. Fabrication Tolerances: To HMMA 841.
       4. Clad door construction, longitudinal edges mechanically inter-locked with visible edge seams.
       5. Doors panel will have visible face seams where stiles and rails intersect.
       6. Top and Bottom Channels: Inverted, recessed, welded channels.

\*\* NOTE TO SPECIFIER \*\* Delete channel material not required.

* + - * 1. Channels: Bronze.
        2. Channels: Brass.

\*\* NOTE TO SPECIFIER \*\* Delete astragal not required.

* + - 1. Astragals: 2" wide flat overlapping astragal with 12 gauge (2.8 mm) base steel at double doors

\*\* NOTE TO SPECIFIER \*\* Delete astragal material not required.

* + - * 1. Astragals: Bronze.
        2. Astragals: Brass.
      1. Fabricate clad doors with steel hardware reinforcement plates welded in place.

\*\* NOTE TO SPECIFIER \*\* Delete finish not required.

* + - 1. Door Finish: Grained (stain).
      2. Door Finish: Polished (mirror).
    1. Sheet Steel Subcores: Galvanized steel to ASTM A653/A653M.
       1. Coating designation ZF001 (A01) for base steel.
    2. Door Core: Core stiles and rails to be connected with 1.5 inch (38 mm) x 1.5 inch (38 mm) structural tube welded at intersections between stiles and rails. Voids between skins and tube shall be filled with fiberglass or mineral rock-wool batt-type material.
    3. Door Frames:

\*\* NOTE TO SPECIFIER \*\* Delete metal cladding not required.

* + - 1. Clad frame jambs and header with brass material.
      2. Clad frame jambs and header with bronze material.
      3. Base Metal Sheet Thickness: 1.6 mm (16 gauge) thick base metal thickness, welded type, clad frame construction, mitred corners.
      4. Factory assemble jambs, header, and mullions.

\*\* NOTE TO SPECIFIER \*\* Delete mullion not required.

* + - 1. Mullions for Double Doors: Fixed type.
      2. Mullions for Double Doors: Removable type.
      3. Fabricate frames with steel hardware reinforcement plates welded in place.
      4. Reinforce frames wider than 48 inches (1200 mm) with steel channels fitted tightly into frame head, flush with top.

\*\* NOTE TO SPECIFIER \*\* Delete finish not required.

* + - 1. Frame Finish: Grained (satin).
      2. Frame Finish: Polished (mirror).
    1. Accessories:

\*\* NOTE TO SPECIFIER \*\* The following paragraphs identify the components needed to complement the door styles cited above. Delete accessories not required.

* + - 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 minimum 0.625 inch (16 mm) high; prepared for countersink style screws. material to match door cladding material.

\*\* NOTE TO SPECIFIER \*\* Delete corner construction not required.

* + - * 1. Butted corners.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. Tamperproof screws.
      1. Glass: Refer to Section 08 81 00 - Glass Glazing.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. CLAD METAL BORROWED LITE FRAMES
     1. Cladding Material:

\*\* NOTE TO SPECIFIER \*\* Delete cladding material not required.

* + - 1. Bronze: C220 Commercial Bronze.
      2. Brass: C260 Cartridge Brass.
      3. Muntz: C280 Muntz Metal.
    1. Frames:

\*\* NOTE TO SPECIFIER \*\* Delete metal cladding not required.

* + - 1. Clad frame jambs and header with brass material.
      2. Clad frame jambs and header with bronze material.
      3. Clad frame jambs and header with Muntz material.
      4. Base Metal Sheet Thickness: 1.6 mm (16 gauge) thick base metal thickness, welded type, clad frame construction, mitred corners.
      5. Clad material shall be butt joined at corner between jamb and head. Base frame shall have welded corners.

\*\* NOTE TO SPECIFIER \*\* Delete finish not required.

* + - 1. Frame Finish: Grained (satin).
      2. Frame Finish: Polished (mirror).
    1. Accessories:

\*\* NOTE TO SPECIFIER \*\* The following paragraphs identify the components needed to complement the door styles cited above. Delete accessories not required.

* + - 1. Glazing Stops: Formed minimum 0.625 inch (16 mm) high; prepared for countersink style screws. Material to match door cladding material.
         1. Butted corners.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. Tamperproof screws.
      1. Glass: Refer to Section 08 81 00 - Glass Glazing.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. RECESSED PANEL STEEL DOORS
     1. Sheet Steel: Galvanized steel to ASTM A653/A653M.
        1. Coating designation ZF001 (A01) for base steel.
     2. Recessed Panel Door Fabrication:

\*\* NOTE TO SPECIFIER \*\* Include this article to identify specific shop fabrication requirements. The size of each recessed panel and the pattern of those panels shall be at the architect's discretion.

* + - 1. Panels shall be built with steel to comply with the pattern indicated on the architectural drawings.
      2. Individual recessed steel panels shall be pre-installed in the door leaf.
      3. Panels shall be securely fixed into door and welded in place.
      4. The depth of the recess around the perimeter of each panel shall be 1/2 inch (13 mm) minimum on both sides of the door.
      5. Top and Bottom Channels: Inverted, recessed, welded steel channels.
      6. Fabricate doors with hardware reinforcement plates welded in place.
    1. Accessories:

\*\* NOTE TO SPECIFIER \*\* The following paragraphs identify the components needed to complement the materials cited above.

* + - 1. Exterior Top Caps: Formed inverted top cap same gauge as door skin.
      2. Glazing Stops: Formed galvanized steel channel, minimum 0.625 inch (16 mm) high prepared for countersink style screws.

\*\* NOTE TO SPECIFIER \*\* Delete corner construction not required.

* + - * 1. Butted corners.
        2. Mitred corners.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. Tamperproof screws.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Louvers: Material to match alloy of door face.
         1. Type: Roll formed stainless steel.

\*\* NOTE TO SPECIFIER \*\* Delete style not required.

* + - * 1. Style: Inverted V blade.
        2. Style: Inverted Y blade.
        3. Style: Inverted slat blade.
        4. Style: Sight proof.
        5. Style: Light proof.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. Percent Free Area; \_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Delete fastener type not required.

* + - * 1. Provide frame with surface fasteners.
        2. Provide frame with tamperproof fasteners.
      1. Glass: Refer to Section 08 81 00 - Glass Glazing.
    1. Factory Finish:

\*\* NOTE TO SPECIFIER \*\* Delete factory finish not required.

* + - 1. Factory applied zinc chromate primer to be applied to all exposed surfaces.
      2. Factory applied zinc chromate primer touch-up only, where product has been welded and ground smooth.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install components to manufacturer's written instructions.
      2. Install doors and frames to performance standards and in accordance with regulatory requirements.
      3. Coordinate with 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 as scheduled or indicated.
   4. ERECTION TOLERANCES
      1. Installation tolerances of installed frame for squareness, alignment, twist and plumbness are to be no more than plus or minus 1/16 inch (1.5 mm) in compliance with HMMA 841.
   5. 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 cycles of operation. Correct any deficient doors.
   6. PROTECTION
      1. Protect installed products until completion of project.
      2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION