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**SECTION 08 34 60**  
**SECURITY DOORS AND FRAMES****PART 1 GENERAL****1.1 SUMMARY**

- A. Section includes sliding and swinging security doors, frames and security chase access panels and accessories.

**1.2 PREINSTALLATION MEETINGS**

- A. Preinstallation Conference: Conduct conference at Project site.

**1.3 SUBMITTALS**

- A. Product Data: For each type of product.
- B. Shop Drawings: In addition to plans, elevations, sections, and attachment details, provide a schedule using same reference numbers for details and openings as those on Drawings.
- C. Welding certificates.
- D. Product test reports.
- E. Field quality-control reports.

**1.4 MAINTENANCE MATERIAL SUBMITTALS**

- A. Security Fasteners: Furnish not less than one box for every 50 boxes or fraction thereof, of each type and size of security fastener installed.
- B. Tools: Provide two sets of tools for installing and removing security fasteners.

**1.5 QUALITY ASSURANCE**

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
- B. Welding Qualifications: Qualify procedures and personnel according to the following:
  - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
  - 2. AWS D1.3, "Structural Welding Code - Sheet Steel."

**1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver security hollow-metal work palletized, packaged, or crated. Do not use nonvented plastic.
- B. Deliver welded security frames with two removable spreader bars across bottom of frames.
- C. Store security hollow-metal work vertically under cover at Project site with head up. Place on minimum 4-inch- high wood blocking. Provide minimum 1/4-inch space between each stacked door.

**PART 2 PRODUCTS****2.1 MANUFACTURERS**

- A. Basis of Design Manufacturer: Provide security doors and frames by Habersham Metal Products Co.; [www.habershammetal.com](http://www.habershammetal.com) or products meeting project requirements by one of the following:
  - 1. Ambico Limited.
  - 2. Ceco Door Products; an ASSA ABLOY Group company.
  - 3. Custom Products Division; Chief Industries, Inc.
  - 4. Fleming Door Products Ltd.; an ASSA ABLOY Group company.

5. Pioneer Industries, Inc.
  6. Sweeper Metal Fabricators Corp.
  7. Trussbilt; an ASSA ABLOY Group company.
- B. Source Limitations: Obtain security doors and frames from single source from single manufacturer.

## **2.2 REGULATORY REQUIREMENTS**

- A. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings and temperature-rise limits indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.
1. Smoke- and Draft-Control Assemblies: Provide an assembly with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.
- B. Fire-Rated, Borrowed-Light Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing and inspecting agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

## **2.3 SECURITY DOOR AND FRAME ASSEMBLIES**

- A. Security Door and Frame Assemblies: ASTM F 1450 for security grades specified.
- B. Security Frames: Comply with ASTM F 1592 and removable stop test according to NAAMM-HMMA 863.

## **2.4 SECURITY DOORS**

- A. General: Provide flush-design security doors of seamless hollow construction, 2 inches thick. Construct security doors with smooth, flush surfaces without visible joints or seams on exposed faces or stile edges.
- B. Core Construction: Provide the following core construction of same material as security door face sheets, welded to both security door faces:
1. Steel-Stiffened Core: 0.042-inch- thick, steel vertical stiffeners extending full-door height, with vertical webs spaced not more than 4 inches apart, spot welded to face sheets a maximum of 3 inches o.c. Fill spaces between stiffeners with insulation.
- C. Vertical Edge Channels: 0.123-inch- thick, continuous channel of same material as security door face sheets, extending full-door height at each vertical edge; welded to top and bottom channels to create a fully welded perimeter channel.
- D. Top and Bottom Channels: 0.123-inch- thick metal channel of same material as security door face sheets, spot welded, not more than 4 inches o.c., to face sheets.
1. Reinforce top edge of security door with 0.053-inch- thick closing channel, welded so channel web is flush with top door edges.
- E. Hardware Reinforcement: Fabricate reinforcing plates from same material as security door face sheets to comply with the following minimum thicknesses:
1. Full-Mortise Hinges and Pivots: 0.187 inch thick.
  2. Maximum-Security Surface Hinges: 0.250 inch thick.
  3. Strike Reinforcements: 0.187 inch thick.
  4. Slide-Device Hanger Attachments: As recommended by device manufacturer.
  5. Lock Fronts, Concealed Holders, and Surface-Mounted Closers: 0.093 inch thick.
  6. All Other Surface-Mounted Hardware: 0.093 inch thick.
  7. Lock Pockets: 0.123 inch thick at non-inmate side, welded to face sheet.

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- F. Hardware Enclosures: Provide enclosures and junction boxes for electrically operated security door hardware of same material as security door face sheets, interconnected with UL-approved, 1/2-inch-diameter conduit and connectors.
    - 1. Access Plates: Where indicated for wiring installation, provide access plates to junction boxes, fabricated from same material and thickness as face sheet and fastened with at least four security fasteners spaced not more than 6 inches o.c.
  - G. Interior Security Doors: Construct interior doors to comply with NAAMM-HMMA 863 and as specified.
    - 1. Security Grade 1: Provide doors with face sheets of 0.093-inch- minimum-thickness, cold-rolled steel.
  - H. Exterior Security Doors: Construct exterior doors to comply with NAAMM-HMMA 863 and as specified.
    - 1. Security Grade 1: Provide doors with face sheets of 0.093-inch- minimum-thickness, metallic-coated, cold-rolled steel.

## **2.5 SECURITY FRAMES**

- A. General: Provide fully welded security frames with integral stops, of seamless construction without visible joints or seams. Fabricate security frames continuously welded full depth and width of security frame.
  - B. Stop Height: Provide minimum stop height of 0.750 inch for security door openings and minimum stop height of 1-1/4 inches in security glazing or security panel openings.
  - C. Interior Security Frames: Construct interior frames to comply with NAAMM-HMMA 863 and as specified.
    - 1. Security Grade 1: Provide frames fabricated from 0.093-inch- minimum-thickness, cold-rolled steel.
  - D. Exterior Security Frames: Construct exterior frames to comply with NAAMM-HMMA 863 and as specified.
    - 1. Security Grade 1: Provide frames fabricated from 0.093-inch- minimum-thickness, metallic-coated, cold-rolled steel.
  - E. Hardware Reinforcement: Fabricate reinforcing plates from same material as security frame to comply with the following minimum thicknesses:
    - 1. Hinges and Pivots: 0.187 inch thick by 1-1/2 inches wide by 10 inches long.
    - 2. Strikes, Flush Bolts, and Closers: 0.187 inch thick.
    - 3. Surface-Mounted Hardware: 0.093 inch thick.
    - 4. Lock Pockets: 0.123 inch thick at non-inmate side, welded to face sheet. Provide 0.123-inch- thick, lock protection plate for attachment to lock pocket with security fasteners.
  - F. Hardware Enclosures: Provide enclosures and junction boxes for electrically operated security door hardware, interconnected with UL-approved, 1/2-inch- diameter conduit and connectors.
    - 1. Access Plates: Where indicated for wiring installation, provide access plates to junction boxes, fabricated from same material and thickness as face sheet and fastened with at least four security fasteners spaced not more than 6 inches o.c.
  - G. Mullions and Transom Bars: Fasten mullions and transom bars at crossings and to jambs by butt welding. Reinforce joints between security frame members with concealed clip angles or sleeves of same metal and thickness as security frame.
  - H. Jamb Anchors: Weld jamb anchors to security frames near hinges and directly opposite on strike jamb or as required to secure security frames to adjacent construction.
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1. Number of Anchors: Provide two anchors per jamb plus the following:
  - a. Security Door Frames: One additional anchor for each 18 inches, or fraction thereof, above 54 inches in height.
  - b. Security Frames with Security Glazing or Security Panels: One additional anchor for each 18 inches, or fraction thereof, above 36 inches in height.
- I. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, formed of same material and thickness as security frame.
- J. Rubber Door Silencers: Except on weather-stripped security doors, drill stops in strike jambs to receive three silencers on single-security-door frames and drill head jamb stop to receive two silencers on double-security-door frames. Keep holes clear during construction.
- K. Grout Guards: Provide factory-installed grout guards of same material as security frame, welded to security frame at back of hardware cutouts, silencers, and glazing-stop screw preparations to close off interior of openings and prevent mortar or other materials from obstructing hardware operation or installation.

## **2.6 MOLDINGS AND STOPS**

- A. Provide fixed moldings on inmate side of glazed openings and removable stops on non-inmate side.
  1. Height: As required to provide minimum 1-inch glass engagement, but not less than 1-1/4 inches.
  2. Fixed Moldings: Formed from same material as security door and frame face sheets, but not less than 0.093 inch thick, and spot welded to face sheets a maximum of 5 inches o.c.
  3. Removable Stops: Formed from 0.123-inch- thick angle, of same material as security door face sheets. Secure with button head security fasteners spaced uniformly not more than 6 inches o.c. and not more than 2 inches from each corner, and as necessary to satisfy performance requirements. Form corners with notched or mitered hairline joints.
- B. Coordinate rabbet width between fixed and removable stops with glass or panel type and installation type indicated.

## **2.7 SECURITY CHASE ACCESS PANELS**

- A. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide products specified manufactured by Southern Steel Model 590 Hinged Access Door.
  1. Size: 2'-0" X 4'-8".
  2. Lock: See Section 08 71 63 "Detention Door Hardware."
  3. Frame: 10 gauge steel plate.
  4. Finish: Factory primed.

## **2.8 MATERIALS**

- A. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, CS (Commercial Steel), Type B.
- B. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, CS (Commercial Steel), Type B.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, CS (Commercial Steel), Type B; with G60 zinc (galvanized) or A60 zinc-iron-alloy (galvannealed) coating designation.
- D. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- E. Concealed Bolts: ASTM A 307, Grade A.
- F. Masonry Anchors: Same steel sheet as door face.
- G. Embedded Anchors: Hot-dip galvanized according to ASTM A 153/A 153M.
- H. Post-Installed Anchors: Torque-controlled expansion anchors.

- I. Welding Rods and Bare Electrodes: According to AWS specifications for metal alloy welded.
- J. Glazing: Comply with Section 088853 "Security Glazing."
- K. Grout: Comply with ASTM C 476, with a slump of not more than 4 inches as measured according to ASTM C 143/C 143M.
- L. Insulation: Slag-wool-fiber/rock-wool-fiber or glass-fiber blanket insulation.
- M. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil dry film thickness per coat.

## **2.9 FABRICATION**

- A. Fabricate security doors and frames rigid, neat in appearance, and free of defects, warp, or buckle.
- B. Tolerances: Comply with NAAMM-HMMA 863.
- C. Removable Jamb Faces: Provide removable jamb faces where required for access to embedded anchors. Fabricate to allow secure reattachment of removable face with security fasteners.
- D. Fabricate multiple-opening security frames with mullions that have closed tubular shapes and with no visible seams or joints.
- E. Exterior Security Doors: Provide weep-hole openings in bottoms of security doors to permit entrapped moisture to escape. Seal joints in top edges of security doors against water penetration.
- F. Hardware Preparation: Factory prepare security doors and frames to receive mortised hardware, including cutouts, reinforcement, mortising, drilling, and tapping, according to final Door Hardware Schedule and templates provided by security door hardware supplier.
- G. Factory cut openings in security doors.
- H. Weld components to comply with referenced AWS standard. Weld before finishing components to greatest extent possible. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

## **2.10 FINISHES**

- A. Factory Priming for Field-Painted Finish: Apply shop primer immediately after surface preparation and pretreatment. Apply a smooth coat of even consistency to provide a uniform dry film thickness of not less than 0.7 mil.
  - 1. Shop Primer: Manufacturer's or fabricator's standard, fast-curing, corrosion-inhibiting, lead- and chromate-free, universal primer complying with SDI A250.10.

## **2.11 SECURITY FASTENERS**

- A. Operable only by tools produced by fastener manufacturer or other licensed fabricator for use on specific fastener type.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Acument Global Technologies North America: [www.acument.com](http://www.acument.com).
    - b. Bryce Fastener: [www.brycefastener.com](http://www.brycefastener.com).
    - c. Safety Socket LLC: [www.safetysocket.com](http://www.safetysocket.com).
    - d. Tamperproof Screw Co., Inc.: [tamperproof.com](http://tamperproof.com).
    - e. Tamper-Pruf Screws: [www.tamper-pruff-screws.com](http://www.tamper-pruff-screws.com).
  - 2. Drive-System Type: Pinned Torx-Plus.

## **2.12 SECURITY SEALANTS**

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- A. See Section 07 92 00 "Joint Sealants."

## **2.13 ACCESSORIES**

- A. Concealed Bolts: ASTM A 307, Grade A unless otherwise indicated.
- B. Embedded Plate Anchors: Mild steel shapes and plates, minimum 3/16 inch thick; with minimum 1/2-inch- diameter, headed studs welded to back of plate.
- C. Welding Rods and Bare Electrodes: According to AWS specifications.
- D. Pass-Through Openings: Fabricate flush openings using 0.093-inch- thick interior channels of same material as security door faces, inverted to be flush with openings, welded to inside of both face sheets and with corners fully welded. Mount shutters on non-inmate side of security doors. Reinforce for locks and food-pass hinges.
1. Inset Shutters: Fabricate from two steel plates, 0.123 inch thick, of same material as security door face sheets, spot welded together and sized to inset inside opening and to prevent inmate tampering of lock and hinges.
  2. Overlapping Shutters: For surface application on non-inmate side of door. Fabricate from a single steel plate, of same material as security door face sheets, 0.187 inch thick, sized to overlap
    - a. food-pass openings by 1/2 inch.
  3. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide products specified manufactured by Southern Steel Model 262 Food Pass.
- E. Speaking Apertures: Consist of a rectangular pattern of holes, minimum 1 inch high by 4 inches wide, with holes 1/4 inch in diameter. Locate holes in both face sheets directly across from each other and spaced not more than 1 inch o.c. vertically and horizontally. Provide 0.067-inch- thick, pressed-steel baffles in interior of security door between hole patterns to prevent passage of objects.
- F. Gun Ports: Fabricate units to comply with UL 752 and to resist same security level as security doors in which they are installed.
- G. Security Bars: Tool resistant steel bars minimum 0.75 inch in diameter, spaced as indicated on drawings, installed in security frame by frame manufacturer's standard method.

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for embedded and built-in anchors to verify actual locations of security frame connections before security frame installation.

### **3.2 PREPARATION**

- A. Before installation and with shipping spreaders removed, adjust security frames for squareness, alignment, twist, and plumbness to the following tolerances:
1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb and perpendicular to frame head.
  2. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of face.
  3. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of door rabbet.
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4. Plumbness: Plus or minus 1/16 inch, measured at jambs on a perpendicular line from head to floor.

### **3.3 INSTALLATION**

- A. Anchorage: Set security frame anchorage devices according to details on Shop Drawings and according to anchorage device manufacturer's written instructions.
- B. Where security frames are fabricated in sections due to shipping limitations, assemble frames and install angle splices at each corner, of same material and thickness as security frame, and extend at least 4 inches on both sides of joint.
  1. Field splice only at approved locations. Weld, grind, and finish as required to conceal evidence of splicing on exposed faces.
  2. Continuously weld and finish smooth joints between faces of abutted, multiple-opening, security frame members.
- C. Apply bituminous coating to backs of frames before filling with grout.
- D. Placing Security Frames: Install security frames of sizes and profiles indicated. Set security frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.
- E. Grout: Fully grout security frame jambs and heads. Completely fill space between frames and adjacent substrates. Hand trowel grout and take other precautions, including bracing security frames, to ensure that frames are not deformed or damaged by grout forces.
- F. Security Sealant: Apply security sealant at all exposed gaps between security frames and adjacent substrates.
- G. Swinging Security Doors: Fit non-fire-rated security doors accurately in their frames, with the clearances according to NAAMM-HMMA 863.
- H. Sliding Security Doors: Fit sliding security doors in their frames according to manufacturer's written instructions and as required to allow doors to slide without binding.
- I. Fire-Rated Security Doors: Install with clearances as specified in NFPA 80.
- J. Smoke-Control Security Doors: Install according to NFPA 105.
- K. Installation Tolerances: Comply with NAAMM-HMMA 863.
- L. Glazing: Comply with installation requirements in Section 088853 "Security Glazing" unless otherwise indicated.

### **3.4 FIELD QUALITY CONTROL**

- A. Inspect installed products to verify compliance with requirements. Prepare inspection reports and indicate compliance with and deviations from the Contract Documents.
- B. Prepare field quality-control certification that states installed products comply with requirements in the Contract Documents.

### **3.5 ADJUSTING AND CLEANING**

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including security doors and frames that are warped, bowed, or otherwise unacceptable.

**END OF SECTION 08 34 60**