PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section includes the following:
 - 1. Stainless steel doors and frames.
- B. Related Sections include the following:
 - 1. Division 1 Section "Sustainable Design Requirements" for additional LEED requirements.
 - 2. Division 4 Section "Unit Masonry Assemblies" for building anchors into and grouting custom steel frames in masonry construction.
 - 3. Division 8 Sections for door hardware for custom steel doors.

1.3 DEFINITIONS

- A Minimum Thickness: Minimum thickness of base metal without coatings.
- B. Stainless steel sheet thicknesses are indicated as the specified thickness for which over and under thickness tolerances apply according to ASTM A480/A480M.

1.4 QUALITY ASSURANCE

- A. The work of this section shall be performed by a company which specializes in the type of custom steel doors and frame work required for this Project, with a minimum of 5 years of documented successful experience and shall be performed by skilled workmen thoroughly experienced in the necessary crafts.
 - 1. Work shall be performed in compliance with Owner's insurance underwriters' requirements and UL approvals and testing for materials, assemblies and procedures.
- B. Manufacturer shall specialize in manufacturing the type of custom steel doors and frames specified in this section, with a minimum of 5 years of documented successful experience, and have the facilities capable of meeting all requirements of Contract Documents as a single-source responsibility and warranty.
- C. Installer Qualifications: An employer of workers trained and approved by manufacturer.
- D. Testing Agency Qualifications: An independent agency qualified according to ASTM E329 for testing indicated, as documented according to ASTM E548.
- E. Source Limitations: Obtain custom steel doors and frames through one source from a single manufacturer.
- F. Fire-Rated Door Frame Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated.
 - 1. Test Pressure: Test according to NFPA 252 or UL 10C.
 - a. After 5 minutes into the test, the neutral pressure level in furnace shall be established at 40" (1000 mm) or less above the sill.
 - 2. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a testing agency acceptable to authorities having jurisdiction that doors comply with standard construction requirements for tested and labeled fire-protection-rated door assemblies except for size.
 - 3. Temperature-Rise Rating: At exit enclosures, provide doors that have a temperature-rise rating of 450 °F (250 ℃) maximum in 30 minutes of fire exposure.
- G. Smoke-Control Door Assemblies: Comply with NFPA 105 or UL 1784.
- H. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."
- I. Manufacturer's identification tags or marks are not acceptable on surfaces which will remain exposed to view after installation.
 - 1. Evidence of "patching after removal of tags or marks is not acceptable.

1.5 SUBMITTALS

- A. Submit the following according to Conditions of the Construction Contract and Division 1 Specification Sections.
- B. Product Data: Include construction details, material descriptions, core descriptions, label compliance, fireresistance and temperature-rise ratings, and finishes for each type of custom steel door and frame specified.
- C. LEED Submittals:
 - 1. LEED Submittal: MRc4 list all materials with recycled content indicating material cost broken out by postindustrial (pre-consumer) and post-consumer content. Only include data for materials permanently installed on the project site.
 - 2. LEED Submittal: EQc4.1 for adhesive and sealants used inside the waterproofing system, include printed statement of VOC content.
- D. Shop Drawings: In addition to requirements below, provide a schedule of custom steel doors and frames using same reference numbers for details and openings as those on Drawings:
 - 1. Elevations of each door design.
 - 2. Details of doors, including vertical and horizontal edge details.
 - 3. Frame details for each frame type, including dimensioned profiles.
 - 4. Details and locations of reinforcement and preparations for hardware.
 - 5. Details of each different wall opening condition.
 - 6. Details of anchorages, accessories, joints, and connections.
 - 7. Details of glazing frames and stops showing glazing.
 - 8. Details of conduit and preparations for electrified door hardware and controls.
- E. Coordination Drawings: Drawings of each opening, including door and frame, drawn to scale and coordinating door hardware.
 - 1. Show elevations of each door design type, showing dimensions, locations of door hardware, and preparations for power, signal, and electrified control systems.
- F. Samples for Verification: For each type of exposed finish required, prepared on Samples of not less than 3" x 5" (75 by 125 mm).
- G. Construction Samples: 12" x 12" (300-by-300-mm) corner section representing the specified construction of custom steel doors and frames to be furnished by manufacturer.
 - 1. Doors: Show vertical-edge, top, and internal construction; and hinge and other door hardware reinforcement. a. Include glazing stops, with stops applied to show corner joint.
 - 2. Frames: Show welded corner joint at head to jamb; and hinge mortise and reinforcement.
 - a. Include glazing stops, with stops applied to show corner joint.
- H. Oversize Construction Certification: For custom steel door assemblies required to be fire rated and exceeding limitations of labeled assemblies; include statement that doors comply with requirements of design, materials, and construction but have not been subjected to fire test.
- I. Qualification Data: For Installer and testing agency.
- J. Product Test Reports: Based on evaluation of comprehensive fire tests performed by a qualified testing agency, for each type of custom steel door and frame.
- K. Hazardous Materials Notification: In the event no product or material is available that does not contain asbestos, PCB or other hazardous materials as determined by the Owner, a "Material Safety Data Sheet" (MSDS) equivalent to OSHA Form 20 shall be submitted for that proposed product or material prior to installation.
- L. Asbestos and PCB Certification: After completion of installation, but prior to Substantial Completion, Contractor shall certify in writing that products and materials installed, and processes used, do not contain asbestos or polychlorinated biphenyls (PCB), using format in Article 3 of General Conditions.

1.6 DELIVERY, HANDLING, STORAGE

A. Comply with General Conditions and Division 1 Section "Product Requirements".

- B. Deliver doors and frames palletized, wrapped, or crated to provide protection during transit and Project-site storage.
 - 1. Do not use nonvented plastic.
 - 2. Provide additional protection to prevent damage to finish of factory-finished doors and frames.
- C. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- D. Store doors and frames under cover at Project site.
 - 1. Place units in a vertical position with heads up, spaced by blocking, on minimum 4" (100-mm-) high, wood blocking.
 - a. Avoid using nonvented plastic or canvas shelters that could create a humidity chamber.
 - 2. If wrappers on doors become wet, remove cartons immediately.
 - a. Provide minimum 1/4" (6-mm) space between each stacked door to permit air circulation.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify openings by field measurements before fabrication and indicate measurements on Shop Drawings.

1.8 COORDINATION

- A. Coordinate installation of anchorages for custom steel frames.
 - 1. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry.
 - a. Deliver such items to Project site in time for installation.

1.9 WARRANTY

- A. Comply with General Conditions and Division 1 Section "Product Requirements" agreeing to repair or replace specified materials or Work that has failed within the warranty period. Failures include but are not limited to the following:
 - 1. Indentations, rust and surface defects.
 - 2. Inadequate or misplaced hardware reinforcement.
 - 3. Through-bolting of overhead door closers.
 - 4. Through-bolting of door holders as specified in Electrical Division 16.
 - 5. Surface imperfections or discoloration of finish.
 - 6. Loose, faulty or exposed fastening of finish.

PART 2 PRODUCTS

2.1 UNAUTHORIZED MATERIALS

A. Materials and products required for work of this section shall not contain asbestos, polychlorinated biphenyls (PCB) or other hazardous materials identified by the Owner.

2.2 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Stainless-Steel Doors and Frames:
 - a. American Steel Products Corp.
 - b. Ceco Door Products.
 - c. Curries Company.
 - d. Steelcraft; a division of Ingersoll-Rand.
- B. Substitutions: Comply with General Conditions using form in Division 1 Section "Substitution Request Form".

2.3 MATERIALS

- A. Stainless Steel Sheets: ASTM A666, austenitic stainless steel, Type 304.
- B. Supports and Anchors: After fabricating, galvanize units to be built into exterior walls according to ASTM A153/A153M, Class B.

- C. Inserts, Bolts, and Fasteners: Provide items to be built into exterior walls, hot-dip galvanized according to ASTM A153/A153M.
- D. Powder-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching custom steel door frames of type indicated.
- E. Grout: Comply with ASTM C476, with a slump of 4" (102 mm) for custom steel door frames built into concrete or masonry, as measured according to ASTM C143/C143M.
- F. Mineral-Fiber Insulation: ASTM C665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool with 6- to 12-lb/cu. ft. (96- to 192-kg/cu. m) density; with maximum flame-spread and smoke-developed indexes of 25 and 50 respectively; passing ASTM E136 for combustion characteristics.
- G. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil (0.4-mm) dry film thickness per coat.
 - 1. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.
- H. Door Silencers: As specified in Division 8 Sections for door hardware for custom steel doors
- I. Recycled Content: For materials containing post-industrial (pre-consumer) and/or post-consumer recycled content, Contractor shall document the cost and percentage (by weight) of each material broken out by post-industrial (pre-consumer) and post-consumer content.
- J. VOC Content: Adhesive and sealants used inside the waterproofing system and applied on site shall have VOC content equal to or less than the applicable VOC limits. Refer to Division 1 Section 'Sustainable Design Requirements' for additional information.

2.4 CUSTOM STAINLESS STEEL DOORS

- A. General: Provide doors of design indicated, not less than 1-3/4" (44 mm) thick, of seamless hollow construction, unless otherwise indicated.
 - 1. Construct doors with smooth surfaces without visible joints or seams on exposed faces.
 - 2. Design: Flush panel.
- B. Stainless Steel Doors: Fabricate face sheets of doors from two 0.0500" (1.3-mm-) thick, stainless steel sheets permanently and continuously bonded to non-metallic cores or welded to rigid, internal stainless steel core.
 - 1. Laminated Steel-Stiffened Core: 0.026" (0.6-mm-) thick, steel vertical stiffeners extending full-door height, with vertical webs spaced not more than 6" (152 mm) apart, fastened to face sheets with waterproof adhesive. a. Spaces filled between stiffeners with glass- or mineral-fiber insulation.
 - 2. Reinforce tops and bottoms of doors with 0.0500" (1.3-mm-) thick, stainless steel horizontal channels spot welded a maximum of 6" (150 mm) o.c. to door faces.
 - a. For exterior doors, close bottom edge with minimum 0.0500" (1.3-mm-) thick, stainless steel closing channel and top edge with same thickness of stainless steel filler channel, so webs of channels are flush with bottom and top door edges.
 - b. Provide weep-hole openings in bottom of doors to permit entrapped moisture to escape.
- C. Hardware Reinforcement: Fabricate reinforcement plates from same material as door face sheets to comply with the following minimum sizes:
 - 1. Hinges and Pivots: Minimum 0.167" (4.2 mm) thick by 1-1/2" (38 mm) wide by 6" (152 mm) longer than hinge, secured by not less than 6 spot welds.
 - 2. Lock Face Closers, and Concealed Holders: Minimum 0.093" (2.3 mm) thick.
 - 3. All Other Surface-Mounted Hardware: Minimum 0.067" (1.7 mm) thick.
- D. Hardware Enclosures: Provide enclosures and junction boxes within doors for electrically operated door hardware, interconnected with UL-approved, 1/2" (12.7-mm-) diameter conduit and connectors.
 - 1. Where indicated for installation of wiring, provide access plates to junction boxes, fabricated from same material and thickness as face sheet and fastened with at least 4 security fasteners spaced not more than 6" (152 mm) o.c.

2.5 CUSTOM STAINLESS STEEL PANELS

A. Provide custom steel panels of same materials, construction, and finish as specified for adjoining custom steel doors.

2.6 CUSTOM STAINLESS STEEL FRAMES

- A. General: Fabricate frames of construction indicated, with faces of corners mitered and contact edges closed tight.
 1. Frames for Doors: Welded.
- B. Exterior Frames: Formed from stainless steel sheet.
 - 1. For stainless-steel doors, form frames from 0.0625" (1.6-mm) thick, stainless-steel sheets with No. 4 finish.
- C. Interior Frames: Formed from stainless steel sheet, unless otherwise indicated to comply with exterior frame requirements.
 - 1. For stainless-steel doors, form frames from 0.0625" (1.6-mm) thick, stainless-steel sheets with No. 4 finish.
- D. Hardware Reinforcement: Fabricate reinforcement plates from same material as frames to comply with the following minimum sizes:
 - 1. Hinges and Pivots: Minimum 0.167" (4.2 mm) thick by 1-1/4" (32 mm) wide by 10" (254 mm) long, secured by not less than 6 spot welds.
 - 2. Strikes, Flush Bolts, Hold-Open Arms, and Closers: Minimum 0.093" (2.3 mm) thick.
 - 3. Surface-Mounted Hardware: Minimum 0.093" (2.3 mm) thick.
- E Head Reinforcement: Minimum 0.093" (2.3-mm-) thick, stainless steel channel or angle stiffener.
- F. Jamb Anchors:
 - 1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.053" (1.3 mm) thick, with corrugated or perforated straps not less than 2" (50 mm) wide by 10" (250 mm) long; or wire anchors not less than 0.156" (4.0 mm) thick.
 - 2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042" (1.0 mm) thick.
- G. Floor Anchors: Formed from same material as frames, not less than 0.067" (1.7 mm) thick, and as follows:
 - 1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
 - 2. Separate Topping Concrete Slabs: Adjustable-type anchors with extension clips, allowing not less than 2" (50-mm) height adjustment.
 - a. Terminate bottom of frames at finish floor surface.

2.7 FABRICATION

- A. General: Fabricate custom steel doors and frames to be rigid and free of defects, warp, or buckle.
 - 1. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal.
 - 2. Where practical, fit and assemble units in manufacturer's plant.
 - 3. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Custom Stainless Steel Doors: Comply with ANSI A250.4, Level A.
 - 1. Exterior Doors: Provide weep-hole openings in bottom of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
 - 2. Single-Acting Doors: Bevel both vertical edges 1/8" in 2" (3 mm in 50 mm).
 - 3. Edges: Door face sheets joined at vertical edges by continuous weld extending full height of door; with edges ground and polished, providing smooth, flush surfaces with no visible seams.
- C. Custom Stainless Steel Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
 - 1. Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
 - 2. Mullion Frames: Provide closed tubular members with no visible face seams or joints.
 - a. Fasten members at crossings and to jambs by butt welding according to joint designs in HMMA 820.
 - b. Provide false head member to receive lower ceiling where frames extend to finish ceilings of different heights.
 - 3. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners, unless otherwise indicated.

- 4. Plaster Guards: Weld guards to frame at back of hardware mortises in frames installed in concrete or masonry.
- 5. Where installed in masonry, leave vertical mullions in frames open at top for grouting.
- 6. Thermal-Break Frame: Where indicated, provide custom stainless steel frames fabricated with thermally broken frame system that separates exterior and interior frame sections by continuous rigid vinyl or PVC spline.
- 7. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
- 8. Jamb Anchors: Provide number and spacing of anchors as follows:
 - a. Masonry Type: Locate anchors not more than 18" (457 mm) from top and bottom of frame.
 - 1) Space anchors not more than 32" (813 mm) o.c. and as follows:
 - 2) Two anchors per jamb up to 60" (1524 mm) in height.
 - 3) Three anchors per jamb from 60" to 90" (1524 to 2286 mm) in height.
 - 4) Four anchors per jamb from 90" to 96" (2286 to 2438 mm) in height.
 - 5) Four anchors per jamb plus 1 additional anchor per jamb for each 24" (610 mm) or fraction thereof more than 96" (2438 mm) in height.
 - b. Stud-Wall Type: Locate anchors not more than 18" (457 mm) from top and bottom of frame.
 - Space anchors not more than 32" (813 mm) o.c. and as follows:
 - a) Three anchors per jamb up to 60" (1524 mm) in height.
 - b) Four anchors per jamb from 60" to 90" (1524 to 2286 mm) in height.
 - c) Five anchors per jamb from 90" to 96" (2286 to 2438 mm) in height.
 - d) Five anchors per jamb plus 1 additional anchor per jamb for each 24" (610 mm) or fraction thereof more than 96" (2438 mm) in height.
 - e) Two anchors per head for frames more than 42" (1066 mm) wide and mounted in metal-stud partitions.
- 9. Head Reinforcement: For frames more than 48" (1219 mm) wide, provide continuous head reinforcement for full width of opening, welded to back of frame at head.
- 10. Door Silencers: Except on weather-stripped doors and on fire-rated doors, drill stops to receive door silencers as follows.
 - a. Provide plastic plugs to keep holes clear during construction.
 - b. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
 - c. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
- D. Hardware Preparation: Factory prepare custom steel doors and frames to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping, according to the Door Hardware Schedule and templates furnished as specified in Division 8 Section "Door Hardware."
 - 1. Reinforce doors and frames to receive non-templated mortised and surface-mounted door hardware.
 - 2. Locate door hardware as indicated, or if not indicated, according to HMMA 831, "Recommended Hardware Locations for Custom Hollow Metal Doors and Frames."

2.8 STAINLESS STEEL FINISHES

1)

- A. Remove tool and die marks and stretch lines or blend into finish.
 - 1. Grind and polish surfaces to produce uniform, directionally textured polished finish indicated, free of cross scratches.
 - 2. Run grain with long dimension of each piece.
 - 3. Bright, Directional Polish: No. 4 finish.
 - 4. When polishing is completed, passivate and rinse surfaces.
 - a. Remove embedded foreign matter and leave surfaces chemically clean.

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 custom stainless steel doors and frames.
 - 1. Examine roughing-in for embedded and built-in anchors to verify actual locations of custom steel frame connections before frame installation.
 - 2. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
 - 3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory.
- B. Prior to installation and with installation spreaders in place, adjust and securely brace custom stainless steel door frames for squareness, alignment, twist, and plumb to the following tolerances:
 - 1. Squareness: Plus or minus 1/16" (1.6 mm), measured at door rabbet on a line 90° from jamb perpendicular to frame head.
 - 2. Alignment: Plus or minus 1/16" (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
 - 3. Twist: Plus or minus 1/16" (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - 4. Plumbness: Plus or minus 1/16" (1.6 mm), measured at jambs on a perpendicular line from head to floor.
- C. Drill and tap doors and frames to receive non-templated mortised and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Provide doors of sizes, thicknesses, and designs indicated.

- 1. Install custom stainless steel doors and frames plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.
- B. Custom Stainless Steel Frames: Install custom stainless steel frames for doors and other openings, of size and profile indicated.
 - 1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set.
 - a. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
 - b. At fire-protection-rated openings, install frames according to NFPA 80.
 - c. Where frames are fabricated in sections due to shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - d. Install door silencers in frames before grouting.
 - e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - f. Check plumb, squareness, and twist of frames as walls are constructed.
 - 1) Shim as necessary to comply with installation tolerances.
 - g. Apply bituminous coating to backs of frames that are filled with mortar, grout, and plaster containing antifreezing agents.
 - 2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor and secure with postinstalled expansion anchors.
 - a. Floor anchors may be set with powder-actuated fasteners instead of post-installed expansion anchors, if so indicated and approved on Shop Drawings.
 - 3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation behind frames.
 - 4. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with mortar as specified in Division 4 Section "Unit Masonry Assemblies."
 - 5. Concrete Walls: Solidly fill space between frames and concrete with grout.
 - a. Install grout in lifts and take precautions, including bracing frames, to ensure that frames are not deformed or damaged by grout forces.
 - 6. In-Place Concrete or Masonry Construction: Secure frames in place with post-installed expansion anchors. a. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
 - 7. In-Place Gypsum Board Partitions: Secure frames in place with post-installed expansion anchors through floor anchors at each jamb.
 - a. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
 - 8. Installation Tolerances: Adjust custom stainless steel door frames for squareness, alignment, twist, and plumb to the following tolerances:
 - a. Squareness: Plus or minus 1/16" (1.6 mm), measured at door rabbet on a line 90° from jamb perpendicular to frame head.
 - b. Alignment: Plus or minus 1/16" (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
 - c. Twist: Plus or minus 1/16" (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - d. Plumpness: Plus or minus 1/16" (1.6 mm), measured at jambs at floor.

- C. Custom Stainless Steel Doors: Fit hollow-metal doors accurately in frames, within clearances indicated below.
 1. Shim as necessary.
 - 2. Non-Fire-Rated Doors:
 - a. Jambs and Head: 1/8" (3 mm) plus or minus 1/16" (1.6 mm).
 - b. Between Edges of Pairs of Doors: 1/8" (3 mm) plus or minus 1/16" (1.6 mm).
 - c. Between Bottom of Door and Top of Threshold: Maximum 3/8" (9.5 mm).
 - d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4" (19 mm).
 - 3. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
 - 4. Smoke-Control Doors: Install doors according to NFPA 105.

3.4 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection.
 - 1. Leave work in complete and proper operating condition.
 - 2. Remove and replace defective work including custom steel doors or frames that are warped, bowed, or otherwise unacceptable.
- B. Clean grout and other bonding material off custom steel doors and frames immediately after installation.
- C. Stainless Steel Touch-up: Immediately after erection, smooth any abraded areas and finish to match undamaged finish.

END OF SECTION