

SECTION 08130
STAINLESS STEEL DOORS AND FRAMES

PART I GENERAL

1.1 SECTION INCLUDES

- A. Stainless steel doors.
- B. Stainless steel frames.
- C. Stainless steel vision light kits and/or louvers installed in stainless steel doors.

1.2 REFERENCES

- A. ANSI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors and Hardware Reinforcing.
- B. ASTM A 167 - Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
- C. ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions.
- D. ASTM E 413 - Classification for Rating Sound Insulation.
- E. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies
- F. UBC 7-2-97 - Fire Tests of Door Assemblies, Parts I and II
- G. UL10b - Fire Test of Door Assemblies
- H. UL10c - Positive Pressure Fire Test of Door Assemblies
- I. ASTM E 152 - Standard Methods of Fire Tests of Door Assemblies.
- J. AWS D9.1 - Sheet Metal Welding Code.
- K. NAAMM HMMA 866 - Guide Specifications for Stainless Steel Doors and Frames.
- L. NAAMM HMMA 861 - Guide Specifications for Commercial Hollow Metal Doors and Frames.
- M. NAAMM Metal Finishes Manual.
- N. ANSI 250.8 - Recommended Specifications Standard Steel Doors and Frames.
- O. NFPA 80 - Fire Doors and Windows.
- P. SDI 105 - Recommended Erection Instructions for Steel Frames.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Provide manufacturer's standard details and catalog data demonstrating compliance with referenced standards.
- C. Shop Drawings: Submit for approval the following:
 - 1. Shop drawings for the fabrication and installation of stainless steel doors and frames. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, location, installation requirements of finish hardware and reinforcements, and details of joints and connections, and vision lite requirements.
 - 2. Schedule of doors and frames shall use the same reference numbers for details and openings as those on the contract drawings.
 - 3. If grained finish, show all graining details.
- D. Samples: (only when required with submittals)
 - A. Door: 12-inch square corner section with hinge preparation, top and internal construction, and vertical edge.
 - B. Door Frame: 12-inch by 12-inch corner section with hinge reinforcement and plaster guard.
 - C. Finishes: 6-inch square flat piece for each finish.
- E. Advise in writing should any doors be ineligible for standard fire labels due to door size, hardware, vision openings, or other features required by the Contract Documents.
- F. Submit manufacturer's recommended cleaning and maintenance instructions.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store products indoors and protect from moisture, construction traffic, and damage.
- B. Store doors and frames on non-metal skids a minimum of 4 inches off the ground, with minimum 1/4-inch spacers between adjacent units, doors and/or frames. Cover to permit air circulation.
- C. All material to be fully crated for transit such that it would survive any distance of transportation to the job site or storage location.
- D. Store uncrated 3 sided frames standing upside down. Do not place objects on flat surface of horizontally stacked doors.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Provide stainless steel doors and frames fabricated by Next Door Company; 1300 N.W. 74th Street, Miami, Florida 33147.
- B. Provide both doors and frames from a single manufacturer who has specialized in the manufacture of commercial stainless steel entry doors and frames for no less than 10 years.
- C. Stainless Steel doors and frames to be manufactured in the USA. All fabrication including bending, forming, shearing, assembly, and finishing is performed in a United States facility.

2.2 MATERIALS

Delete one of the two following paragraphs. Type #304 stainless steel is standard. Type #316 stainless steel is used in extreme corrosive environments.

- A. Steel: ASTM A 167, commercial quality type #304L stainless steel.
- B. Steel: ASTM A 167, commercial quality type #316L stainless steel.

2.3 FABRICATION

A. General:

- a) Door shall be integrally manufactured using face sheets of prime stainless steel. No cladding or substrate will be allowed.
- b) All internal components, reinforcements and anchors shall be fabricated from stainless steel.
- c) Fabricate in compliance with referenced standards, except where exceeded by the requirements of this Specification.

B. Stainless Steel Doors:

1. Gauge

Delete non-applicable options.

- a) 18 gauge (0.053" min.)
- b) 16 gauge (0.062" min.)
- c) As indicated on door schedule

Delete all but one of the following paragraphs, unless more than one type of core or construction style is required. In that case, edit the specification to indicate the types required and where each type is used. Consult the manufacturer's literature for more information on sound ratings and fire ratings.

2. Core

- a) Construct doors with polystyrene insulation cores, permanently bonded to face skins.
- b) Construct doors with polyurethane insulation cores, permanently bonded to face skins. These doors will not be fire rated.
- c) Construct doors with honeycomb internal construction, permanently bonded to face skins.
- d) Construct Door with vertical stainless steel stiffeners of 100% stainless steel, with mineral rock wool or polystyrene insulation placed between stiffeners and stiffeners bonded to door face skins with epoxy. Stainless steel stiffened cores may be welded in place;

this method and will cause blemishes on door face. Either method must be capable of receiving fire label.

3. Door Thickness: 1-3/4" unless otherwise specified.

4. Vertical Door Edge

- a) Seamless: fully and continuously welded except at hardware cutouts; if door is #4 finish, refinish and polish door edge to match face surface. Exposed joints or visible seams are not acceptable.
- b) LockSeam: spot welded interlocking door edges with visible vertical edge seam on hinge and lock edges except where hardware cutouts exist.

C. Stainless Steel Frames

Delete non-applicable options.

1. Gauge

- a) 16 gauge (0.062" min.)
- b) 14 gauge (0.078" min.)
- c) As indicated on door schedule

2. Welded Frames

- a) Face Trim Weld - head face fully welded to jamb face trim. If #4 finish frame, dress weld and polish to match #4 with no visible trim seam.
- b) Full Weld - continuous weld throat, face, rabbet, stop. Dress face welds and polish to match #4 with no visible seams.

NOTE: Weld marks or burns on #4 finish frames are not acceptable.

3. Anchors

- a) Anchors of 100% stainless steel.
- b) Type of anchor determined by wall condition and size of opening.

D. Hardware Reinforcements:

1. Door and Frame reinforcements for builder's hardware, to be of 100% Stainless steel.

- a) Hinge reinforcements: 1-1/4 inch x. 10 inches long x 7 gauge, stainless steel.
- b) Strike reinforcements: 14 gage stainless steel.
- c) Closer reinforcements: 14 gage stainless steel.
- d) Surface hardware reinforcements: 14 gage stainless steel.
- e) Dust covers: At frame hinge preps, 1/4" thick closed cell polyurethane foam with acrylic self-adhesive backing or minimum 22 gage stainless steel; minimum 22 gage stainless steel provided behind all other mortised hardware cutouts.

Note: Weld or burn marks on the exposed faces will not be acceptable.

2. Fabricate all components for doors and frames from stainless steel. Other types of metal, or non-stainless steel will not be acceptable.

3. Welding: Execute welding such that no weld marks are visible on any exposed surface, Comply with AWS D9.1. Perform welding with gas tungsten arc (TIG) equipment, alloy 308 stainless welding rods. Maintain proper welding temperature to avoid discoloring adjacent metal. Clamp components in appropriate jigs to avoid distortion and warpage. Discolored, distorted, or warped work will not be accepted.

2.4 FINISHES

- A. Doors:
 - 1. #4 brushed satin finish
 - 2. 2B mill finish
- B. Frames:
 - 1. #4 brushed satin finish
 - 2. 2B mill finish
- C. #4 Finish Welds: Exposed spot welds or other weld marks on exposed surfaces are not acceptable. Grind exposed welds smooth, and re-polish to match specified and surrounding finishes.
- D. Graining: For #4 finish, all trim faces shall be re-polished to attain consistent vertical graining.
- E. #4 brushed satin graining shall run in the direction of the longest dimension of the fabrication member (eg. head, jamb, mullion, bar) prior to assembly.
- F. 2B is a mill rolled finish that unlike #4 satin, cannot be polished or restored after welding and grinding are performed during fabrication. Welding and grinding marks are acceptable on fabricated 2B finish products from the factory. 2B stainless steel doors and frames can be primed and painted in the field if necessary for aesthetic reasons.

2.5 PERFORMANCE FEATURES

- A. Fire-Rated Doors: Provide assemblies labeled by INTERTEK Warnock-Hersey or UL, complying with NFPA 80, and tested in accordance with ASTM E 152.
 - 1. Door cores in accordance with tested assemblies.
 - 2. Oversize elevations to be label construction.
 - 3. Sound rated assemblies tested in accordance with ASTM-E90 and classified according to door schedule.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that dimensions are correct and project conditions are suitable for installation. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install doors and frames in accordance with manufacturer's instructions and referenced standards
- B. Locate, secure, and brace frames prior to construction of adjacent walls and partitions.
 - 1. Remove shipping spreader before installation of frame.
 - 2. Provide temporary supports, and remove only after anchoring frames to permanent construction.

- C. Ensure that doors and frames are installed plumb and true, free of warp or twist, within tolerances specified in referenced standards.

3.3 ADJUST AND CLEAN

- A. Clean doors and frames in accordance with manufacturer's instructions.
- B. For #4 Finish, restore slight blemishes in finishes in accordance with manufacturer's instructions to match original finish.

END OF SECTION