



STEEL DOORS AND FRAMES

SECTION 08100

PART 1 – GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this section.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this section. Extent of steel doors and frames required is indicated on drawings and in schedules.
 - 1. Furnish and Install:
 - a. Steel frames for hollow metal doors
 - b. Steel frames for wood doors
 - c. Steel sidelite, borrowed lite, and transom frames
 - d. Hollow metal doors
 - 2. Install Only: Finish hardware for hollow metal doors as specified in Section 08710 Finish Hardware.
- B. Related work specified elsewhere:
 - 1. SECTION 08210: WOOD DOORS
 - 2. SECTION 08710: FINISH HARDWARE
 - 3. SECTION 09900: PAINTING

1.03 QUALITY ASSURANCE; SUBMITTALS:

- A. General: Comply with requirements of SECTION 01300 - SUBMITTALS, MEETINGS & RECORD DOCUMENTS and SECTION 01400 - QUALITY CONTROL SERVICES.
- B. Manufacturer: Provide steel doors and frames complying with these specifications from one of the following:
 - 1. CECO
 - 2. Curries
 - 3. Steelcraft



- C. Supplier: A recognized hollow metal supplier, with in-house fabrication facilities, who has been furnishing doors and frames in the project's vicinity for a period of not less than five years.
- D. Product Data: Submit four copies of manufacturers technical product data for each item. Include whatever information may be necessary to show compliance with requirements, and include instructions for installation and maintenance.
- E. Door Schedule: Submit final door schedule in manufacturer's standard format and as outlined below. Coordinate doors, frames and related work to ensure proper size, thickness, hand, function, and fasteners.

1. **NOTE: Contractor shall make all submittals for finish hardware, doors, frames and related items simultaneously, only after proper review and coordination by own staff beforehand.**

2. Final Door Schedule Content: Based on doors and frames in drawings, organize door schedule to indicate complete designations of every item required for each door or opening. Include the following information:

- a. Type, style, hand, size and construction of each item.
- b. Anchors and fastenings to related work.
- c. Corner construction of welded and/or knocked down frames.
- d. Location of door and frame cross-referenced to indications on drawings both on floor plans and in hardware schedule.
- e. Explanation of all abbreviations, symbols, codes, etc. contained in schedule.
- f. Mounting locations for hardware.
- g. Door construction and materials.
- h. Gage and finish of all materials.

3. Shop Drawings: Submit separate detail drawings, referenced to door schedule, showing size, hand, construction, fasteners, anchors and all other details pertinent to the fabrication of doors and frames for this project.

1.04 APPROVAL OF SUBSTITUTIONS:

- A. Manufacturers and model numbers specified herein are to establish a standard of quality. If products other than those specifically identified herein are to be considered for this Project, they must be submitted for approval of the Architect not less than ten (10) calendar days prior to receipt of General Bids.
- B. Requests for approval of substitutions shall be in writing, accompanied by catalog cuts, technical information and physical samples.
- C. Approval of substitutions shall only be valid when issued by Architect to all bidders in the form of Addendum.

1.05 REFERENCES:



- A. ANSI A115 Series: Standards for Steel Doors And Frames.
 - B. NFPA 80, NFPA 101.
 - C. Other applicable building and life safety codes.
 - D. Door and Hardware Institute: "Recommended Locations for Builder's Hardware.
 - E. ANSI A117.1: American National Standard Providing Accessibility and Usability for Physically Handicapped People.
 - F. Other applicable industry standards.
- 1.06 PRODUCT PACKAGING AND HANDLING:
- A. Tag each item or package separately, with identification related to final door schedule.
 - B. All doors shall be packaged in full cartons and securely banded.
 - C. Doors and frames shall be received by the contractor at the jobsite and handled in a manner so as not to be damaged. They shall be stored upright in a protected area on wood runners or skids and shall be covered with vented tarpaulins or plastic.
- 1.07 WARRANTY: Doors and frames specified for this Project shall be guaranteed against defects in material and workmanship for a period of one (1) year from date of Substantial Completion of Project.

PART 2 - PRODUCTS

- 2.01 MATERIALS:
- A. Doors shall be manufactured from commercial quality cold-rolled steel sheets. Exterior doors shall be A60 hot-dipped galvanized.
 - B. Frames shall be manufactured from commercial quality cold-rolled steel sheets. Exterior frames shall be A60 hot-dipped galvanized.
 - C. Steel shall conform to ASTM standards A366 or A620 and A568 (uncoated), ASTM A526 or A642 and A525 (galvanized).
 - D. All doors and frames shall be chemically treated for paint adhesion and prime painted to meet performance requirements of ANSI A224.1.
- 2.02 DOOR FABRICATION:
- A. Interior doors shall be 1-3/4" thick, manufactured from two 18 gage steel sheets. A one piece resin-impregnated honeycomb core with sanded edges shall be securely bonded to both face sheets. Doors shall have mechanically interlocked vertical edges, flush face sheets, and hairline seam edges. The top and bottom of the door shall be closed flush by 16 gage steel channels (where concealed door bottoms are specified, bottom channel shall be reversed to allow insertion of door bottom into door web). At contractor option, in lieu of

honeycomb cores, doors may be provided with a rigid polystyrene foam core, continuous bonded to the face sheets, and completely filling the door.

- B. Exterior doors shall be 1-3/4" thick, manufactured from two 16 gage galvanized steel sheets. The interior of the doors shall be completely filled with a foamed-inplace polyurethane core, chemically bonded to all interior surfaces. Doors shall have mechanically interlocked vertical edges, flush face sheets, and hairline seam edges. The top and bottom of the door shall be closed flush by 16 gage steel channels (where concealed door bottoms are specified, bottom channel shall be reversed to allow insertion of door bottom into door web).
- C. All doors shall be handed type with factory preparation for all concealed or mortised Finish Hardware scheduled. Door closer reinforcements shall be provided for all doors whether scheduled to received closer or not. Reinforce doors for all surface applied hardware.
- D. Non-handed doors, and/or filler plates for cutouts not required for scheduled hardware preparation shall NOT be acceptable.

2.03 FRAME FABRICATION:

- A. General: Frames shall be knocked down and field assembled or welded type at contractor option.
- B. Standard knockdown or welded frames shall be manufactured form 16 gage steel sheets with 2" face and 5/8" integral stop. Jamb depth to be determined by wall thickness in accordance with the drawings. Supply appropriate anchors for wall construction.
- C. Drywall frames shall be manufactured form 16 gage steel sheets with 2" face and 5/8" integral stop and double back bend to grip the partition firmly without marring the wall surface. Jamb depth to be determined by wall thickness in accordance with the drawings. Provide adjustable plumb anchors to insure square and plumb installation. Supply standard floor anchors for bottom of each jamb.
- D. Prepare frames for all concealed or mortised hardware and reinforce for all surface applied hardware.
- E. Provide plaster guards for all hardware cutouts.
- F. Prepare frames to receive pneumatic type silencers: two for each pair frame, three for each single frame.
- G. Exterior frames shall be 16 ga welded, galvanized with thermally broken jambs.

2.04 FIRE RATED ASSEMBLIES

- A. All labeled fire doors and frames shall be of a type tested in accordance with ANSI/UL-10b, ASTM E-152, NFPA-252, or UL-305, and shall provide the degree of fire protection, heat transmission, panic-loading capabilities, and/or smoke control as indicated on the label and required by the drawings.
- B. Labeled doors and frames shall bear the label of Underwriters Laboratories, Warnock Hersey, or Factory Mutual and shall meet all requirements of the labeling agencies current procedures and policies.



PART 3 - EXECUTION

3.01 INSTALLATION

- A. Doors and frames shall be assembled, installed, and erected plumb and in true alignment and in conformance with manufacturer's recommendations and final approved shop drawings. Preparation for surface applied hardware shall be performed on the jobsite. Frames shall be rigid and securely anchored in place. Doors shall be installed in a manner to achieve functional operation and appearance.
- B. Install hardware in compliance with 08710 FINISH HARDWARE.

END OF SECTION