SECTION 08110 - STEEL DOORS AND FRAMES

1.1 GENERAL

A. Submittals:

1. Product Data and Shop Drawings for each type of door and frame indicated.
2. Door Schedule using same reference designations indicated on Drawings in preparing schedule for doors and frames.

B. Quality Assurance:

1. Comply with ANSI A 250.8, unless more stringent requirements are indicated.
2. Fire-Rated Door 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, based on testing according to NFPA 252.

1.2 PRODUCTS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Steel Doors and Frames:

a. Ceco Door Products; a United Dominion Company.
b. Curries Company.
c. Steelcraft; a division of Ingersoll-Rand.

B. Materials:

1. Hot-Rolled Steel Sheets: ASTM A1011A/1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Door Frames – Borrowed Lite Frames: Provide steel frames that comply with ANSI A250.8 and with steel sheet thickness as indicated for door level selected below:

1. For Level 2 steel doors (heavy duty 16 gauge).
2. Door Silencers: Three silencers on single-door frames and two silencers on double-door frames.
3. Supports and Anchors: Not less than 0.042-inch- thick, zinc-coated steel sheet.
4. Inserts, Bolts, and Fasteners: Manufacturer's standard units. Where zinc-coated items are to be built into exterior walls, comply with ASTM A 153/A 153M, Class C or D as applicable.

D. Fabricate steel door and frame units to comply with ANSI A250.8 and to be free from defects including warp and buckle. Where practical, fit and assemble units in manufacturer's plant.

1. Interior Door Faces: Fabricate exposed faces of doors and panels, including stiles and rails of nonflush units, from cold-rolled steel sheet (18 gauge).
2. Core Construction: Manufacturer's standard core construction that produces a door complying with SDI standards.
3. Door-Edge Profile: Beveled edge.
4. Tolerances: Comply with SDI 117.
5. Prepare doors and frames to receive hardware. Reinforce doors and frames to receive surface-applied hardware. Comply with applicable requirements in ANSI A250.6 and ANSI A115 Series

specifications for door and frame preparation for hardware. Minimum Thickness of hardware reinforcement places shown by as follows:

6. Frame Reinforcement:
   a. Hinge and pivot reinforcements - 7 gage.
   b. 1 5/8” x 10” minimum size
   c. Strike reinforcements - 14 gage
   d. Flush bolt reinforcements - 12 gage
   e. Closer reinforcements - 12 gage
   f. Reinforcements for: surface-mounted hardware - 12 gage
   g. Hold open arms - 12 gage
   h. Surface panic devices - 12 gage
7. Door Hardware Reinforcement: Fabricate reinforcement plates of sufficient strength from same material as door face sheets to support hardware without through bolting and to comply with the following minimum sizes:
   a. Hinges: Minimum 0.123 inch thick (10 gage) by 1-1/2 inches wide by 6 inches longer than hinge, secured by not less than 6 spot welds.
   b. Lock face, Flush Bolts, Closers, and Concealed Holders: Minimum 0.067 inch thick (8 gage).
   c. All other Surface-Mounted Hardware: Minimum 0.067 inch thick (8 gage).
8. Fabricate knock-down, drywall slip-on frames for in-place gypsum board partitions.
9. Provide screw-applied, removable, glazing stops on inside of glass, louvers, and other panels in doors.

E. Astragals: As required by NFPA 80 to provide fire ratings indicated.

F. Prime Finish: Manufacturer's standard, factory-applied coat of rust-inhibiting primer complying with ANSI A250.10 for acceptance criteria.

1.3 EXECUTION

A. Install doors and frames according to Shop Drawings and manufacturer's data.

1. Frames: Install steel frames for doors and other openings, of size and profile indicated.

   a. Set masonry anchorage devices where required for securing frames to in-place concrete or masonry construction.
   b. Provide at least three wall anchors per jamb. For openings 90 inches or more in height, install an additional anchor at hinge and strike jambs.
   c. For in-place gypsum board partitions, install knock-down, drywall slip-on frames.
   d. Install fire-rated frames according to NFPA 80.
   e. Placing Frames: Comply with provisions in SDI 105, unless otherwise indicated. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.

      1) At existing concrete or masonry construction, set frames and secure in place with machine screws and masonry anchorage devices.
      2) At fire-rated openings, install frames according to NFPA 80.

2. Doors: Install to comply with ANSI A250.8. Shim as necessary to comply with SDI 122 and ANSI/DHI A115.1G. Fit non-fire-rated doors accurately in their respective frames, with the following clearances:

   a. Jambs and Head: 1/8 inch.

b. Meeting Edges, Pairs of Doors: 1/4 inch.
c. Bottom: 3/4 inch.

3. Fire-Rated Doors: Install within clearances specified in NFPA 80.
4. Smoke-Control Doors: Install according to NFPA 105.

B. Adjusting and Cleaning:

1. Prime-Coat Touchup: Sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying primer.
2. Protection Removal: Immediately before final inspection, remove protective wrappings from doors and frames.

END OF SECTION 08110