SECTION 08100

METAL DOORS AND FRAMES

PART 1 - GENERAL

1.01 SUMMARY

A. Furnish materials and perform labor required to execute this work as indicated on the drawings, as specified and as necessary to complete the contract, including but not limited to these major items:
   1. Hollow metal doors.
   2. Steel frames.
   3. Shop prime coat.
   4. Installation of frames.

B. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.02 GENERAL REQUIREMENTS

A. Codes: Materials and work shall conform to the governing Building Code. In case of conflict between these specifications, the standard specifications and the Building Code, the more stringent shall govern.

B. Shop Drawings: In accordance with Shop Drawings and Samples Section, submit the following: Doors and frames, showing gages and types of metal, frame anchorage, construction, location of hardware and reinforcements and preparation to receive hardware. Include a schedule relating the type of door and frame to be installed in each scheduled door opening or place of installation.

C. Coordination of work: Coordinate rough opening dimensions and door frame placement prior to the construction of walls. Coordinate with the supplier of finish hardware and supplier of other doors to be installed in hollow metal frames. Templates will be furnished by the hardware supplier for use in preparation of shop drawings and for preparation and reinforcement of doors and frames to receive the hardware.

D. In the event of damage, immediately make replacements and repairs to the approval of the Owner at no additional cost.

1.03 QUALITY ASSURANCE:

A. Approved manufacturers: Ceco, Kreiger Steel Products Co., Security Metal Products Corp. and Republic.

B. Warranty: In accordance with general conditions section, submit written warranty in approved form that all defective materials or workmanship reported within a period of 2 years after final acceptance will be promptly repaired or replaced to the satisfaction of the Owner.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Comply with pertinent provisions of Section 01600.

PART 2 - PRODUCTS

2.01 DOORS

A. Fabricate from commercial quality 18 gauge roller leveled carbon steel, fully reinforced along full length and width for hardware acceptance. Provide sound deadening material and insulation within door, as standard with door manufacturer. For doors indicated on Drawings, provide 12" x 24" metal louvers in locations shown. Paint louvers to match door.

B. Reinforcement: Mortise and reinforce doors for hardware in accordance with templates furnished by hardware supplier. Drill and tap to receive mortise hardware. Provide suitable reinforcement for surface applied hardware ties; drilling and tapping for surface applied items will be done in field. Reinforcement for hinges: 9 gage flat bar reinforcement, drilled and tapped for hinges. Reinforcement for locks and other mortise type hardware: Not less than 12 gage. Provide 14 gage reinforcement for surface applied items.

C. Clearances: Bevel lock edges and meeting stiles of pairs of doors 1/8" in 2". Allow 1/8" clearance at top rails and at lock and hinge stiles. At floors and thresholds, allow 1/4" nominal clearance, except where otherwise indicated or scheduled.

2.02 STEEL FRAMES

A. Material and fabrication: Form of not less than 16 gauge cold-rolled or hot-rolled prime carbon steel sheet, free of defects impairing strength, durability and appearance. Miter corners and continuously weld, with exposed joints ground smooth to a true plane, flush with surface of base metal. Form surfaces free of warp, wave, buckle and other defects, with edges, angles and corners square, clean and sharp. Mortise and reinforce frames to receive all hardware.

B. Reinforcement: Mortise and reinforce frames to receive all hardware. Drill and tap in accordance with templates furnished by hardware supplier. Punch door stops to receive rubber silencers. Provide hinge reinforcement of 3/16" thick flat steel bar welded to frame at each hinge cutout, drilled and tapped. Provide 12 gage minimum reinforcing plates, spot welded to frames at lock, latch, and other mortise hardware locations, including door closures and brackets. Reinforce at surface applied hardware locations with 14 gage minimum reinforcement.

C. Anchors: Provide 14 gage steel anchors, spot welded to inside of frames, fixed or with adjustable feature as required by wall conditions, spaced not to exceed 24" o.c. at jambs and head. Where installed in masonry walls, arrange anchors to provide vertical adjustment to coincide with horizontal masonry joints. Attach 14 gage steel floor clips, spot welded to each jamb and punched for anchorage to floor. Do not remove steel spreader until frames are securely anchored in place, square and plumb.

2.03 FINISH

A. Doors and frames: After assembly, grind door edges smooth and fill flush with mineral filler to conceal seams. Follow with thorough cleaning, rinsing, and phosphate coating of all exposed surfaces. Give doors and frames one shop coat of baked-on, rust-inhibitive metal primer, as standard with manufacturer, not less than 1 mil thick.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be installed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 INSTALLATION

A. Placing frames:
1. Except where specifically otherwise directed by the Owner or not practicable because of construction conditions, place frames prior to construction of enclosing walls and ceilings.
2. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set.
3. Door frames at CMU walls shall be grouted solid.
4. After wall construction is completed, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.

B. Installing doors:
1. Fit doors accurately in their respective frames.

3.03 CAULKING

A. Provide caulking where frames are required to be installed with watertight and weathertight construction. Conform to the requirements of caulking and sealants Section 07920 for information on materials and workmanship.

3.04 ADJUST AND CLEAN

A. Check and readjust finish hardware items in hollow metal work just prior to final inspection. Leave work in proper and complete operating condition.

B. Immediately after erection, sand smooth all rusted or damaged areas of prime coat and apply touchup of compatible air-drying primer.

3.05 FRAME INSTALLATION

A. Installation in existing walls: attach frames to walls as recommended by the manufacturer and as appropriate to the wall material insuring frames are installed plumbed, aligned, and with respect to the locations indicated in the drawings.

END OF SECTION - 08100