SECTION 08110
HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work in this section.

1.2 REFERENCES:

A. ANSI A117.1 - Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.
B. ASCE 7-98 – Minimum Design Loads for Buildings and other Structures.
C. ASTM A591/A591M-98 - Standard Specification for Steel Sheet, Electrolytic Zinc-Coated, for Light Coating Weight [Mass] Applications
D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
E. ASTM C1363 – Standard Test Method for Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus.
F. ASTM E2074 – Standard Methods of Fire Tests of Door Assemblies, Including Positive Pressure Testing of Side-Hinged and Pivoted Swinging Door Assemblies.
G. ASTM E413 - Classification for Determination of Sound Transmission Class.
H. DHI (Door Hardware Institute) - The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builder's Hardware.
I. NFPA 80 - Fire Doors and Windows.
J. NFPA 252 - Fire Tests for Door Assemblies.
K. FBC - Florida Building Code.
L. SDI-100 - Standard Steel Doors and Frames.
M. UL 10B - Fire Tests for Door Assemblies.

1.3 QUALITY ASSURANCE:

A. Conform to requirements of SDI-100 and ANSI A117.1.
B. Manufacturer: Company specializing in manufacturing the products specified in this section with a minimum of three-years documented experience.
C. Product Approval: Door / Frame Assemblies shall meet current Florida Building Code Product Approval System requirements.

1.4 SHOP DRAWINGS AND PRODUCT DATA:

A. Submit shop drawings, product data, manufacturer's literature and installation instructions. Include details of each frame type, elevations of door design types, conditions at openings details of construction, location and installation requirements of finish hardware and reinforcements and details of joints and connections.
B. Indicate door and frame configuration, anchor spacing, anchor types, location of cutouts for hardware and glazing, and internal reinforcement.
C. Performance Requirements: Provide hollow metal doors and frame assemblies that comply with performance requirements as demonstrated by testing manufacturer’s assemblies in accordance

with ASCE 7-98.

1.5 DELIVERY, STORAGE, AND PROTECTION:

A. Deliver doors and frames marked to identify doors with frames with openings.
B. Store doors and frame in a dry area on end with spacers between units to allow ventilation.
C. Ship and store frames with temporary stiffeners and spacers in place to prevent distortion.

1.6 WARRANTY:

A. Provide five-year manufacturer's warranty under provisions of Section 01700.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS:

A. CECO Doors
B. Fire Door Corporation
C. Curries Manufacturing, Inc.
D. Republic
E. Steelcraft
F. Pre-Approved Equal

2.2 DOORS AND FRAMES:

A. Material: Electro-Zinc coat bonderized conforming to ASTM A591/A591M-98.
B. Exterior Door Certification – Exterior door assemblies shall comply with wind and impact resistance requirements of the Florida Building Code.
C. Core: 20-gauge cold rolled sheet steel vertical stiffeners in a "Z" configuration, spaced not more than 6" o.c. and spot welded to the face sheet. Vertical stiffeners extend the full length of door cavity, except in areas of reinforcement. Core between stiffeners filled with mineral wool batting.
D. Door Face: 16-gauges.
E. Frame Gauge: 16-gauges for interior frames, 14-gauge for exterior frames.
F. Fire Rated: Provide fire rated assembly where scheduled or required by Code. All installations shall be in accordance with the requirements of NFPA 80.

2.3 ACCESSORIES:

A. Door Silencers: Except on weather-stripped frames, drill stops to receive three silencers on strike jambs of single frames and two silencers on heads of double frames.
B. Jamb Anchors: Provide a minimum of four anchors on both the hinge and latch jambs. Provide 14-gauge galvanized sheet steel, angle anchors welded for each jamb which extends to the floor, punched for a minimum of two ¼" bolts.
C. Spreader: Provide frames with temporary steel spreader bars tack welded to jamb bottoms to maintain full rigidity and proper alignment during installation.
D. Astragals: Provide steel astragals (removable) as scheduled.

2.4 PROTECTIVE COATINGS:

A. Frames: Provide with full immersion dip coat of rust-inhibitive metal primer to reach all hidden surfaces.
B. Doors: Provide full coverage electrostatic spray coat of rust-inhibitive metal primer.
C. Dry all frames and doors in a baking oven process.
D. Bituminous Coating: Coat inside of frame profile with bituminous coating to a minimum thickness of 1/16".

2.5 FABRICATION:

A. Door Fabrication: Fully welded seamless construction. Metal tabs are un-accepted.
B. Door Reinforcement: Door bottom to have 16-gauge channel extending full width of door.
C. Frame Fabrication: Fully welded mitered corners ground smooth. Fully weld the interior intersection of jambs. Integral stops minimum ⅝" depth and minimum 2½" width. Punch frames to receive silencers three on strike jamb of single leaf jambs. Provide 26-gauge sheet metal grout guards at hinges, lock, bolts, door closer, foot, and silencer locations.
D. Frame Reinforcement: Hinge reinforcing steel plate 3/16" thick x 1½" wide x 10" long and secured by a minimum of six spot-welds. Door closer foot is to be reinforcing 10-gauge steel plate, 14" long x stop width anchored by a minimum of 8 spot welds in the hinge corner of the head section of the jamb.
E. Hardware Location: Locate in accordance with "Recommended Locations for Builder's Hardware" published by National Builder's Hardware Association.

PART 3 EXECUTION

3.1 INSTALLATION:

A. Examine new and existing adjacent framing and rough opening preparation for conditions, which would prevent quality installation of doors and frames.
B. Install frames in accordance with NAAMM CHM-1-74 and ASCE 7-98.
C. Install doors in accordance with SDI-100 and DHI and ASCE 7-98.
D. Coordinate with masonry wall construction for anchor placement.
E. Install roll-formed-steel reinforcement channels between two abutting frames. Anchor to structure and floor.
F. Fully grout both interior and exterior hollow metal frames with non-shrink grout.
G. Install with no spaces between the frame and the structure to prevent water or pest from entering the building.

3.2 TOLERANCES:

A. Maximum Diagonal Distortion: 1/16" measured with straight edge, corner to corner.

3.3 ADJUSTING AND CLEANING:

A. Adjust for smooth and balanced door movement.
B. Check and readjust operating finish hardware items, leaving steel doors and frames undamaged and in complete and proper operating condition.

END OF SECTION