

**BuildingName**  
**The Description of the Project**  
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**SPECIFICATION DIVISION 8**

NUMBER            SECTION DESCRIPTION

**DIVISION 08 OPENINGS**

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

**END OF CONTENTS TABLE**



**DIVISION 08 OPENINGS**

**SECTION 081113 - HOLLOW METAL DOORS AND FRAMES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Extent of steel doors and frames is indicated on drawings and in schedules.
  - B. Types of hollow metal work includes:
    - 1. Steel doors.
    - 2. Steel door frames.
    - 3. Steel window frames.
- USUALLY OMIT BELOW AND INCLUDE LOUVERS IN THIS SECTION, OR ELIMINATE IF NONE.*
- C. Work of Other Sections: Door louvers provided under Division 08 Section "Louvers and Vents".

**1.2 SUBMITTALS**

- A. Product Data: Mfr's standard details and specifications for steel doors and door and window frames.
- B. Shop Drawings: Indicate application of products to project.

**1.3 QUALITY ASSURANCE**

- A. Standards: Comply with Steel Door Institute (SDI) "Recommended Specifications for Standard Steel Doors and Frames" for materials quality, metal gages, and construction details for Grades and Models indicated in Part 2 of this Section.

**PART 2 - PRODUCTS**

**2.1 ACCEPTABLE MANUFACTURERS**

- A. Manufacturer: Subject to compliance with requirements, provide products of one of the following:
  - 1. Ceco Door; ASSA ABLOY.
  - 2. Curries Company; ASSA ABLOY.
  - 3. Pioneer Builders Products Corporation
  - 4. Republic Builders Products
  - 5. Steelcraft; an Allegion brand.

**2.2 STEEL DOORS AND FRAMES**

- A. Materials: Steel doors and frames; hot-rolled, pickled and oiled per ASTM A 569 and A 568; cold-rolled per ASTM A 366 and A 568.

*DELETE BELOW IF NO EXTERIOR DOORS/FRAMES OR INTERIOR FRAMES REQUIRING CORROSION PROTECTION*

1. Steel for exterior doors and frames, including their anchors, and interior doors and frames indicated as galvanized: ASTM A653/A653M, commercial quality, G90 coating designation.
- B. Steel Doors, General: Provide doors complying with material and construction requirements of ANSI/SDI-100 for the indicated Grades and Models:

**GENERALLY SELECT GRADE BELOW - NOTE THAT GRADE I CAN BE SUBSTITUTED FOR CHEAPNESS, OR TEMPORARY OR VERY LIGHT-DUTY USE.**

1. Grade II, heavy-duty (Level B); 1-3/4-inch thick; min. 18 gage face sheets.

**INCLUDE BELOW ONLY FOR VERY HEAVY-DUTY USE.**

2. Grade III, Extra Heavy-duty (Level A); 1-3/4-inch thick; min. 16 gage face sheets.

**USUALLY SELECT MODEL BELOW**

3. Model 3, Seamless - Hollow Steel Construction; or Model 4, Seamless - Composite Construction as standard with door manufacturer or to comply with other specified requirements of this Section.

**CONSIDER MODEL BELOW FOR RAPID-DELIVERY, OR CHEAPER DOOR**

4. Model 1, Full Flush - Hollow Steel Construction, except vertical edge seams shall be of mechanical interlock type.

**INCLUDE BELOW FOR EXTERIOR DOORS**

5. Provide steel doors located in exterior walls (exposed to weather) with thermally insulating core.

- C. Steel Frames, General: Provide frames complying with material and construction requirements of ANSI/SDI-111A, and as follows:

1. Metal Thickness: Min. 16 gage.

**USUALLY SELECT ABOVE AND DELETE BELOW. SDI RECOMMENDS 18 GAGE ONLY FOR USE WITH GRADE I DOORS.**

2. Metal Thickness: Min. 18 gage.
3. Type: Welded (masonry walls and partitions).

**DELETE EITHER ABOVE OR BELOW, OR RETAIN BOTH TO SUIT PROJECT**

4. Type: Drywall Slip-On (drywall walls and partitions).

**DELETE BELOW IF NO FIRE-RATED ASSEMBLIES**

- D. Fire-rated Assemblies: Provide units that are labeled and listed for rating indicated, by Underwriters' Laboratories or Warnock-Hersey.

- E. Anchors and Accessories: Manufacturer's standard units. Use galvanized items for units built into exterior walls, complying with ASTM A 153.

## 2.3 FABRICATION

- A. Fabricate units to be rigid, neat in appearance, and free from defects, warp or buckle. Weld exposed joints continuously, grind, dress, and make smooth, flush and invisible.

*THE FOLLOWING IS A MICHIGAN BARRIER FREE CODE REQUIREMENT (REF. 4.13.14).*

- B. Cut-Outs: Regardless of cut-out locations shown on Drawings, provide flush panel at the bottom 10 inches of each door, in compliance with State of Michigan barrier-free requirements.
- C. Prepare steel doors and frames to receive mortised and concealed finish hardware, including cutouts, reinforcing, drilling and tapping, complying with ANSI A 115 "Specifications for Door and Frame Preparation for Hardware".
1. Prepare frames to receive 3 silencers on strike jambs of single-swing frames and on heads of double-swing frames.
  2. Provide 26-gage steel mortar boxes, welded to frame, at back of hardware cutouts where installed in concrete, masonry or plaster openings.
- D. Locate finish hardware per DHI "Recommended Locations for Builder's Hardware".
- E. Shop paint exposed surfaces of doors and frame units, including galvanized surfaces, using mfr's standard baked-on rust inhibitive primer.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Placing Frames: Comply with provisions of SDI 105, unless otherwise indicated. Set frames, with spreaders, 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. Except for frames located in existing concrete, masonry, or gypsum board assembly construction, place frames before constructing enclosing walls and ceilings.

*DELETE BELOW IF NO NEW MASONRY CONSTRUCTION.*

2. In masonry construction, install at least 3 wall anchors per jamb adjacent to hinge location on hinge jamb and at corresponding heights on strike jamb. Acceptable anchors include masonry wire anchors and masonry T-shaped anchors.

*DELETE BELOW IF NO EXISTING MASONRY CONSTRUCTION.*

3. At existing concrete or masonry construction, install at least 3 completed opening anchors per jamb adjacent to hinge location on hinge jamb and at corresponding heights on strike jamb. Set frames and secure to adjacent construction with bolts and masonry anchorage devices.

*DELETE BELOW IF NO NEW STEEL STUD/GYPSUM BOARD PARTITIONS.*

4. In steel-stud partitions, install at least 3 wall anchors per jamb at hinge and strike levels; attach wall anchors to studs with screws.

**DELETE BELOW IF NO EXISTING STEEL STUD/GYPSUM BOARD PARTITIONS.**

5. In in-place gypsum board partitions, install knock-down, slip-on, drywall frames.

**DELETE BELOW IF NO FIRE-RATED FRAMES.**

6. Install fire-rated frames according to NFPA 80.

- B. Door Installation: Fit hollow-metal doors accurately in frames, within clearances specified in ANSI/SDI 100.

1. Fitting Clearances for Non-Rated Doors: Provide 1/8-inch at jambs and heads; 1/16-inch per leaf at meeting stiles for pairs of doors; and 1/2-inch from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 1/8-inch clearance from bottom of door to top of threshold.

**DELETE BELOW IF NOT APPLICABLE.**

2. Fire-Rated Doors: Smoke and draft control door assemblies must be tested in accordance with UL 1784. Provide fitting clearances as required to meet the testing requirements of UL 1784 without the use of applied gasketing. Installation and clearances shall be in accordance with NFPA 80.
3. Smoke-Control Doors: Comply with NFPA 105.

### **3.2 ADJUSTING AND CLEANING**

- A. Prime Coat Touchup: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touchup of compatible air-drying primer.
- B. Protection Removal: Immediately before final inspection, remove protective wrappings from doors and frames.

**END OF SECTION 081113**