SECTION 08 11 13 – HOLLOW METAL DOORS AND FRAMES - Addendum 2 (Revision 3)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Steel doors.
   2. Steel door frames.
   3. Sidelight frames
   4. Borrowed-light frames.
   5. Fire-rated door and frame assemblies.
   6. Fire-rated window frames.
   7. Louvers in doors.
   8. Bullet-resistant steel door and frame assemblies.

B. Related Sections include the following:
   1. Division 04 Section "Unit Masonry" for installing anchors and grouting frames in masonry construction.
   2. Division 08 Section "Flush Wood Doors" for wood doors installed in steel frames.
   3. Division 08 Section "Door Hardware"
   4. Division 08 Section "Glass Glazing" for glass in glazed openings in doors and frames.
   5. Division 09 Section "Gypsum Board Assemblies" for spot-grouting frames installed in steel-framed gypsum board partitions.
   6. Division 09 Section "Painting" for field painting factory-primed doors and frames.

1.3 DEFINITIONS

A. Steel Sheet Thicknesses or gages: Thickness dimensions, including those referenced in ANSI A250.8, are minimums as defined in referenced ASTM standards for both uncoated steel sheet and the uncoated base metal of metallic-coated steel sheets.

1.4 SUBMITTALS

A. Product Data: For each type of door and frame indicated, include door designation, type, level and model, material description, core description, construction details, label compliance, sound and fire-resistance ratings.

B. Shop Drawings: Show the following:
   1. Elevations of each door design.
   2. Details of doors including vertical and horizontal edge details.
   3. Frame details for each frame type including dimensioned profiles.
   4. Details and locations of reinforcement and preparations for hardware.
   5. Details of each different wall opening condition.
   6. Details of anchorages, accessories, joints, and connections.
   7. Coordination of glazing frames and stops with glass and glazing requirements.

C. Door Schedule: Use same reference designations indicated on Drawings in preparing schedule for doors and frames.

1.5 QUALITY ASSURANCE

A. Steel Door and Frame Standard: Comply with ANSI A 250.8, unless more stringent requirements are indicated.

B. 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. After 5 minutes into the NFPA 252 test the neutral pressure plane shall be established in the furnace at 40"or less above the floor.

C. Fire-Rated Window Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 257.

D. Smoke-Control Door Assemblies: Comply with NFPA 105 or UL 1784.

E. Bullet Resistant Door and Frame Assemblies: Comply with UL 752, level 3.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver doors and frames cardboard-wrapped or crated to provide protection during transit and job storage. Provide additional protection to prevent damage to finish of factory-finished doors and frames.

B. Inspect doors and frames on delivery for damage, and notify shipper and supplier if damage is found. Minor damages may be repaired provided refinished items match new work and are acceptable to Architect. Remove and replace damaged items that cannot be repaired as directed.

C. Store doors and frames at building site under cover. Place units on minimum 4-inch- high wood blocking. Avoid using non-vented plastic or canvas shelters that could create a humidity chamber. If door packaging becomes wet, remove cartons immediately. Provide minimum 1/4-inch spaces between stacked doors to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Steel Doors and Frames:
      a. Amweld Building Products, LLC.
      b. Ceco Door Products; an ASSA ABLOY Group Company.
      c. CURRIES Company; an ASSA ABLOY Group Company.
      d. Steelcraft; an Ingersoll-Rand Company.
      e. Fleming Door Products Ltd.; an ASSA ABLOY Group Company.
      f. D&D Specialties
      g. Concept Frames Incorporated
   2. Bullet Resistant Doors and Frames
      a. Action Bullet Resistant, West Islip, NY, (800) 962-8088.

b. U.S. Bulletproofing, Marlboro, MD, (301) 218-7920
c. North American Bulletproof, Cibolo, TX. (210) 225-0982
d. Amweld Building Products, LLC.
e. Ceco Door Products; an ASSA ABLOY Group Company.
f. CURRIES Company; an ASSA ABLOY Group Company.
g. Steelcraft; an Ingersoll-Rand Company.
h. Chicago Bullet Proof, University Park, IL (708) 534-9102

2.2 MATERIALS

A. Hot-Rolled Steel Sheets: ASTM A 569, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

B. Cold-Rolled Steel Sheets: ASTM A 366, Commercial Steel (CS), or ASTM A 620, Drawing Steel (DS), Type B; stretcher-leveled standard of flatness.

C. Metallic-Coated Steel Sheets: ASTM A 653, Commercial Steel (CS), Type B, with an A40 zinc-iron-alloy (galvannealed) coating; stretcher-leveled standard of flatness.

2.3 DOORS

A. General: Provide doors of sizes, thicknesses, gages, and designs indicated. Fabricate all doors and frames in accordance with ANSI A250.8-1998/S.D.I.-100 except where more stringent requirements are specified. Bevel lock edges 1/8 inch in 2 inches.

1. Interior Doors: Classification; 1-3/4" thick, Level 2 – Model 1, 18 gauge cold rolled, full flush of composite construction. The top and bottom of the doors shall be closed by 16 gage inverted steel channels. Top channel shall receive flush metal top cap.
2. Exterior Doors: Classification; 1-3/4" thick, Level 32 – Model 21, 16 gauge A-90 galvanized, seamless edge construction. The top and bottom of the doors shall be closed by 16 gage inverted steel channels. Top channel shall receive flush metal top cap.
3. Bullet-Resistant Doors: 1-3/4" thick, construction not less than for interior doors, but to comply with the requirements of UL 752, level 3.

B. Door Louvers: Provide louvers for interior doors, where indicated, that comply with SDI 111C, with blades or baffles formed of 0.020-inch- thick, cold-rolled steel sheet set into 0.032-inch-thick steel frame.

C. Vision Lite Systems: Manufacturer's standard kits consisting of glass lite moldings to accommodate glass thickness and size of vision lite indicated.

D. Bullet Resistant Vision Lite Systems: Manufacturer's standard kits consisting of glass lite moldings to accommodate glass thickness and size of vision lite indicated and comply with the requirements of UL 752, level 3.

2.4 FRAMES

A. General: Provide steel frames for doors, transoms, sidelights, borrowed lights, and other openings that comply with ANSI A250.8 and with details indicated for type and profile. Conceal fastenings, unless otherwise indicated.

B. Frames of 16 gage A90 metallic-coated steel sheet for:
1. Exterior steel doors.

C. Frames of 16 gage cold rolled steel sheet for:
   1. Interior Steel and Wood doors.

D. Hinge reinforcements shall be 7-gage steel for hinge sizes shown. Where heavyweight hinges are scheduled, weld high-frequency hinge straps to the top and bottom of each reinforcement and frame.

E. Door Silencers: Except on weather-stripped frames, fabricate stops to receive three silencers on strike jambs of single-door frames and two silencers on heads of double-door frames.

F. Where indicated furnish Kerfed type jamb profile to accept manufacturer's appropriate gasket for smoke seals, sound seals or weather-stripping.

G. Plaster Guards: Provide 0.016-inch- thick, steel sheet plaster guards or mortar boxes to close off interior of openings; place at back of hardware cutouts where mortar or other materials might obstruct hardware operation.

H. Supports and Anchors: Fabricated from not less than 0.042-inch- thick, electrolytic zinc-coated or metallic-coated steel sheet.
   1. Wall Anchors in Masonry Construction: 0.177-inch- diameter, steel wire complying with ASTM A 510 may be used in place of steel sheet.

I. Inserts, Bolts, and Fasteners: Manufacturer's standard units. Where zinc-coated items are to be built into exterior walls, comply with ASTM A 153, Class C or D as applicable.

J. Bullet-Resistant Frames: Construction not less than for interior door frames, but shall comply with the requirements of UL 752, level 3

2.5 FABRICATION

A. General: Fabricate steel door and frame units to comply with ANSI A250.8 and to be rigid, neat in appearance, and free from defects including warp and buckle. Where practical, fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory assembled before shipment, to assure proper assembly at Project site.

B. Clearances for Non-Fire-Rated Doors: Not more than 1/8 inch at jambs and heads, except not more than 1/4 inch between pairs of doors. Not more than 3/4 inch at bottom.

C. Clearances for Fire-Rated Doors: As required by NFPA 80 and UL10-C.

D. Single-Acting, Door-Edge Profile: Square edge, unless beveled edge is indicated.

E. Double-Acting, Door-Edge Profile: Round vertical edges with 2-1/8-inch radius.

F. Tolerances: Comply with SDI 117, "Manufacturing Tolerances for Standard Steel Doors and Frames."

G. Fabricate concealed stiffeners, reinforcement, edge channels, louvers, and moldings from either cold- or hot-rolled steel sheet.

H. Exposed Fasteners: Unless otherwise indicated, provide countersunk flat or oval heads for exposed screws and bolts.

I. Thermal-Rated (Insulating) Assemblies: At exterior locations and elsewhere as shown or scheduled, provide doors fabricated as thermal-insulating door and frame assemblies and tested

according to ASTM C 236 or ASTM C 976 on fully operable door assemblies. Minimum insulation value of U-0.5.

J. Sound-Rated (Acoustical) Assemblies: Where shown or scheduled, provide door and frame assemblies fabricated as sound-reducing type, tested according to ASTM E 1408, and classified according to ASTM E 413.

K. Hardware Preparation: Prepare doors and frames to receive mortised and concealed hardware according to final door hardware schedule and templates provided by hardware supplier. Comply with applicable requirements in ANSI A250.6 and ANSI A115 Series specifications for door and frame preparation for hardware.

L. Frame Construction: Fabricate frames to shape shown.
   1. Fabricate frames with mitered or coped and continuously welded corners

M. Reinforce doors and frames to receive surface-applied hardware. Drilling and tapping for surface-applied hardware may be done at Project site.

N. Locate hardware as indicated on Shop Drawings or, if not indicated, according to ANSI A250.8.

O. Glazing Stops: Manufacturer's standard, formed from 0.032-inch- thick steel sheet.
   1. Provide non-removable stops on outside of exterior doors and on secure side of interior doors for glass, louvers, and other panels in doors.
   2. Provide screw-applied, removable, glazing stops on inside of glass, louvers, and other panels in doors.

P. Astragals: Furnish at pairs as required by NFPA 80 to provide fire ratings indicated.

2.6 FINISHES

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

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Install steel doors, frames, and accessories according to Shop Drawings, manufacturer's data, and as specified.

B. 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. Except for frames located in existing walls or partitions, place frames before construction of enclosing walls and ceilings.
   2. In masonry construction, provide at least three wall anchors per jamb; install 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.
   3. In existing concrete or masonry construction, provide at least three completed opening anchors per jamb; install 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.

4. In metal-stud partitions, provide at least three wall anchors per jamb; install adjacent to hinge location on hinge jamb and at corresponding heights on strike jamb. Attach wall anchors to studs with screws.
5. Install fire-rated frames according to NFPA 80.
6. For openings 90 inches or more in height, install an additional anchor at hinge and strike jambs.

C. Door Installation: Comply with ANSI A250.8. Fit hollow-metal doors accurately in frames, within clearances specified in ANSI A250.8. Shim as necessary to comply with SDI 122 and ANSI/DHI A115.1G.
1. Fire-Rated Doors: Install within clearances specified in NFPA 80.
2. Smoke-Control Doors: Install to comply with NFPA 105.

3.2 ADJUSTING AND CLEANING

A. Prime-Coat Touchup: Immediately after installation, sand smooth any rusted or damaged areas of prime coat and apply touch up of compatible air-drying primer.

B. Protection Removal: Immediately before final inspection, remove protective wrappings from doors and frames.

END OF SECTION 08 11 13