

08 10 00 – Doors and Frames

DIVISION 8 - Openings



STATEMENT OF PURPOSE & BACKGROUND

- Scope:
 - Furnishing and installing fire-rated and non-fire-rated wood doors and frames, fire-rated, storm-rated and non-fire-rated hollow metal doors and frames.
- Statement of goals:
 - Provide a high quality product that:
 - Minimizes maintenance
 - Is durable, consistent with the use of the space
- Revision history of section:
 - 03/06/2013
 - 10/05/2015
 - 05/02/2018
 - 03/28/2022
 - 10/28/2022

SELECTION AND APPLICATION CRITERIA

Application	Selection	Notes
Interior Doors, Typical	Solid core wood door Hollow metal door	Vision panel where indicated; rated per code reqts.
Interior Door, special use	Fiber Reinforced Laminate (FRL) wood doors; Fiberglass Reinforced Polyester (FRP); aluminum or stainless steel as noted	No vision panel, rated per code reqts.
Interior Mechanical Room	Hollow metal rated door	Rated per code reqts.
Storm Shelter Doors	Hollow metal storm-rated door and frame	Rated per code reqts

OUTLINE SPECIFICATION

- Part 1 General
 - Provide consistent, high quality products that:
 - Conform to all applicable codes for fire-rated doors and frames.
 - Are factory-finished to greatest extent possible to reduce the impact of field finishes on indoor air quality.
- Part 2 Products
 - Wood Doors:
 - Acceptable Manufacturers:
 - Masonite Architectural
 - VT Industries
 - Equivalent manufacturers who are approved WDMA Door Manufacturers, **approved, in writing, in advance, by the Architect**, may be substituted in accordance with the provisions of the Contract.

- Interior wood doors to meet or exceed Premium Grade AWI quality standards.
 - Wood doors to be solid core, 1-3/4" thick, with minimum 1-inch thick laminated edge on all 4 sides; Structural Composite Lumber Core or Bonded Structural Composite Lumber Core with matching hardwood veneer or FRL faces for interior use.
 - Vertical edges: same species as face veneer.
 - Veneer faces to be plain sliced red oak, white birch, maple, or other approved species matching existing doors in building, as applicable. Match grain on pairs of doors.
 - All edges of wood doors to be sealed.
 - All wood doors 20 minute rated or less shall be SCLC (Solid Composite Lumber Core).
 - Doors shall be pre-machined and factory finished.
 - Wood veneer doors to be factory finished with transparent finish, satin sheen; stain as selected by Architect.
 - Fiber Reinforced Laminate wood doors:
 - Basis of design: VT Industries, Heritage-FRL Doors
 - Laminate finish as selected by Architect.
 - Doors at individual inclusive toilet stalls shall have a maximum ¼ inch undercut and shall be adjusted to remain partially open (approximately 30 degrees) when unlatched.
 - Hinge screws must be pilot-hole drilled in wood doors.
 - Wood doors shall have 1/8" in 2" bevel both hinge and strike edge of door.
 - Fabricate fire-rated doors to AWI quality standards and UL requirements.
- Hollow Metal Doors:
- Acceptable Manufacturers:
 - Curries
 - Republic
 - Ceco
 - Steelcraft
 - Equivalent manufacturers, **approved, in writing, in advance, by the Architect**, may be substituted in accordance with the provisions of the Contract.
 - All hollow metal doors and frames shall be from a single source (manufacturer).
 - Specify only standard size hollow metal doors.
 - Hollow metal doors shall be fully flush or seamless style.
 - Doors shall have a minimum sound transmission rating (STC) of 26.
 - Manufacturers shall provide documentation from an approved testing agency stating that fire-resistance rated hollow metal assemblies have passed UL10C or NFPA 252 testing. All necessary instructions and documentation shall be supplied to job site as required for code officials' approval of application.
 - Doors at interior locations shall be 18 gauge cold rolled steel (exceptions noted below).
 - 16 gauge at multipurpose use zones as listed in door schedule.
 - 16 gauge at all athletic, cross corridor and area separation doors.
 - Doors in exterior and vestibule locations shall be 16 gauge hot dipped galvanized steel having A60 zinc-iron alloy coating per ASTM A653/A653M.
 - All doors leading to exterior (exit doors) will be number-labeled on the interior as well as on the exterior side. The numbering sequence and number installation will be by Owner.
 - Door Hardware reinforcements:

- Reinforce for rim exit devices with 14 gauge steel channels projection welded or bonded to the door edge at lock and hinge side of door. Reinforce at top and bottom of doors for surface mounted vertical latches.
- Reinforcement for Mortise locks shall be 14 gauge steel projection welded to edge of door with stabilizing tabs to keep lock body centered in mortise.
- Reinforcement for cylindrical latch/locksets with 16 gauge steel projection welded to edge of door. The reinforcement to include tabs to center the latch bolt horizontally and vertically.
- Reinforcement for flushbolts shall be 16 gauge steel angle projection welded to edge of door or 14 gauge steel astragal with tabs drilled and tapped to receive flush bolt.
- Reinforcement for surface mounted door closers and overhead stops and holders shall be 14 gauge steel channel 14" deep x 20" long.
- Mortised hardware preps including function holes shall be prepared by manufacturer or supplier prior to delivery to job site using hardware manufacturers' templates. Trim holes and mounting holes shall be field drilled and tapped.
- Surface mounted hardware shall be drilled and tapped in the field.
- Doors shall have 1/8" in 2" bevel both hinge and strike edge of door.
- Reinforce top and bottom of door with 18 gauge steel channel welded to face skins.
- Light kits shall be one piece 24 gage formed steel with reinforced and welded corners. Kits shall be flush with face of door and have no exposed fasteners.
- Finish tops of exterior doors with flush top cap welded or applied with screws to secure top cap into top channel of door. All seams and exposed fasteners shall be completely sealed & watertight.
- Vertically stiffened doors shall be steel ribbed core as standard construction. All vertical edges to be welded with seamless edge appearance.
- Manufacturers shall provide documentation illustrating test results of ANSI A250.4.
- Prepare all exterior doors for wire chase, EPT power transfer hinge and filler plate.
- Specialty Doors:
 - At pool areas, corrosive areas, or similar spaces:
 - Doors and frames shall be Fiberglass Reinforced Polyester (FRP).
 - Aluminum or stainless steel doors and frames may also be specified in such locations if compliant with industry standards.
- Storm Shelter Doors and Frames:
 - At tornado shelter enclosures as required by code:
 - Steelcraft Paladin PW Series Flush Doors and Paladin FP14 Series Flush Frames are Bases of Design.
 - Equivalent products, **approved, in writing, in advance, by the Architect**, may be substituted in accordance with the provisions of the Contract.
- Hollow Metal Frames:
 - Acceptable Manufacturers:
 - Ceco
 - Curries
 - Republic
 - Steelcraft
 - Equivalent manufacturers, **approved, in writing, in advance, by the Architect**, may be substituted in accordance with the provisions of the Contract.
 - All hollow metal doors and frames shall be from a single source (manufacturer).

- Hollow metal door frames shall be specified for early separate delivery to facilitate construction progress.
- Manufacturers shall provide documentation from an approved testing agency stating that fire-resistance rated hollow metal assemblies have passed UL10C or NFPA 252 testing. All necessary instructions and documentation shall be supplied to job site as required for code officials' approval of application.
- Industry standards for steel used for hollow metal doors and frames include:
 - Galvannealed steel conforming to ASTM A653/A653M,
 - Cold rolled steel conforming to ASTM A1008/A1008M, or
 - Hot-rolled pickled and oiled (HRPO) steel conforming to ASTM A1011/A1011M Commercial Steel (CS) Type B.
- All frames shall be set up and arc welded. Knock down frames will not be accepted.
- Frames in interior locations shall be 14 gauge steel free from scale, pits or other defects.
- Frames at Single-user Toilet Rooms/Stalls shall be 16 gauge hot dipped galvannealed steel having A60 zinc-iron alloy coating per ASTM A653/A653M.
- Frames in exterior and vestibules, athletic, cross corridor and area separation door locations shall be 14 gauge hot dipped galvannealed steel having A60 zinc – iron alloy coating per ASTM A653/A653M. Frames to have high frequency hinge reinforcement straps welded in.
- Frames in exterior doors to be kerfed type frame for weather-stripping.
- Hollow metal frames in masonry construction shall be grouted full with Portland cement grout.
- Frame reinforcements
 - Spreader bars – 16 gauge channel (2 min per door opening) Spreader bars shall be removed prior to plumbing and securing frame in wall.
 - Hinge reinforcements shall be 7 gauge.
 - Provide high frequency hinge reinforcements at top & bottom hinge of all exterior frames and in high traffic applications such as cafeteria, stair wells, and loading dock areas.
 - Reinforcement for surface mounted closers, overhead stops and holders shall be 14 gauge steel plate welded inside jamb. Exterior doors to have full sleeve frame reinforcement.
 - Reinforcement for door closers shall be full sleeve in frame head.
 - Reinforce for rim-mounted strikes with 14 gauge steel sheet welded on inside of jamb.
 - Drill and tap for surface mounted hardware at job site.
 - Strikes for mortise locks and cylindrical locks shall be 4-7/8" and conform to ANSI A115.1 and A115.2.
 - Frames in masonry construction shall be anchored with "T" anchors. Wire anchors are not allowed.
- Fully enclosed mortar boxes over all mortise hardware preparations.
- Frames shall be tenon and butt type construction with face corners mitered. Fully back weld inner jamb including stops.
- A sample section of welded frame corners shall be submitted for review at Architect's request.
- All mortised Hardware shall be prepared by manufacturer or supplier prior to delivery using hardware manufacturers templates. Surface hardware shall be drilled and tapped in the field.
- Provide a minimum of 3 anchors per standard height or 2'-6" on center. Provide additional anchors per manufacturers recommendations for frames 7'-6" and higher and fire rated frames.

- Provide all necessary sleeves or clips at frame splices and weld all field splices to match frame. Splices must be welded and ground smooth and puttied if necessary to conceal splice.
 - Frames shall have three rubber silencers per strike jamb and two per double door head applied by manufacturer.
 - Prepare all exterior door frames for conduit. Provide EPT power transfer hinge to bring power from the frame to the door. Provide box and conduit on all frame heads, latch side, for door monitor contact wire leads.
- Part 3 Execution
 - Per Consultant and / or manufacturer specification.

End of Section