



Policy Title: Directive 8-2 Doors and Frames

Responsible Office: Design & Construction

Last Revised Date: July 2019

Summary:

This Directive provides requirements for doors and frames used on Fund projects.

Overview:

Projects should be designed using hollow metal products. Wood, fiberglass reinforced polymer (FRP) or other materials may be used if acceptable to the Campus, appropriate for the application, and affordable within the Budget.

Responsibility:

The Consultant is responsible for complying with this Directive, Directive 8-1 Door Hardware, and the Campus standards. See Directive 1C-10 Coordination with Individual Campus Standards.

Procedures

- I. General
 - A. For steel doors and frames, comply with the current recommendations, guidelines and other information published by the National Association of Architectural Metal Manufacturers (Hollow Metal Manufacturers Association) in their HMMA standards.
 - B. For aluminum doors and frames, comply with the current recommendations, guidelines and other information published by the American Architectural Manufacturers Association in their standards.
 - C. For wood doors and frames, do not use exposed wood in exterior application unless required by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP).
 - 1) In a historic building, exterior wood may be used.
 - a) As may be commercially available and acceptable to OPRHP, use a durable, extremely decay resistant wood such as old growth wood or quarter sawn white oak, mahogany or South American walnut.
 - b) Select coatings for wood that provide for long term protection with minimal maintenance.
 - c) If wood is used, provide exterior wood doors with overhead protection from water.
 - 2) See Directive 1C-9 Historic Preservation for interaction with OPRHP.
 - D. All doors and frames shall be designed for institutional use; do not use the residential standards. Fire Doors shall comply with NFPA 80 Standard for Fire Doors and Other Opening Protectives.

- E. See Directive 1B-1 Building Codes for code compliance requirements and applicable versions of references standards mentioned in this Directive.

II. Doors

- A. Provide doors with bottom stiles or plates that accommodates Campus standard usage, custodial and maintenance activities. Use stile and plate sizes preferred by the Campus.
 - 1) Undercuts must be less than $\frac{3}{4}$ inch.
 - 2) Specifications must provide the proper internal construction of the doors to support the undercutting, if any, required for the Project, as discussed below in III.D.
- B. The minimum door width shall allow for optimal ADA accessibility and comply with the Campus preference. Standardize door widths where feasible.
- C. Choose door heights that allows for the installation of standard, commercially available hardware. Choose the height that complies with the Campus standards and preferences. In general, choose a single door height for use in the Project if it accommodates the programmatic use of the openings.
- D. For wood doors, specify solid, institutional level concealed blocking for closers and other hardware.
- E. Steel door face sheets shall be not less than 18-gauge (for interior doors and 16 gauge for exterior doors).

III. Frames

- A. Steel frames shall be not less than 16-gauge for interior door openings 4'-0" or less in width and 14 gauge for interior openings wider than 4'-0" and all exterior frames.
 - 1) Frames shall be continuously welded at corners and joints.
 - 2) Do not specify knock-down frames.
 - 3) Wall anchors shall be 16 ga minimum
 - 4) Frame heads may be deeper than jambs when needed to fit masonry coursing.
- B. To minimize the impact of uneven floor slabs, unless critical for aesthetics, frames should be installed to provide for the proper undercut in lieu of aligning the tops of all door heads along a level line. If tops of door heads must be aligned, provide for the floor leveling, floor finishes and other accommodations in the Construction Documents needed to provide the proper undercuts.
- C. For ADA compliance, select thresholds that can be installed to meet the tolerances required in Directive 1A-6 Construction Document (Pre-Bid) Phase.
- D. Where frames are mounted on one side of a wall at openings subjected to heavy traffic, ask the Campus if the exposed wall jambs must be protected with steel frames extending the full thickness of the wall.

IV. Constructability and Operational Considerations

- A. Steel doors and frames exposed to the exterior, in swimming pools, and other severely corrosive environments shall be stainless steel, or have a minimum of a G60 (Z180) zinc coating applied by hot-dip process conforming to ASTM A653/A653M.
- B. Do not use wood doors and frames if the interior environmental conditions cannot maintain the dimensional integrity of the wood.
- C. Provide sidelights with curbs that accommodates Campus standard custodial and maintenance activities. Exterior sidelights curbs must elevate metal above snow and resist impact of snow removal equipment. Interior sidelight curbs must resist impact of floor cleaning machines. Review curb design with the Campus as early in the design process as possible.
- D. Roof and other doors with curbs must have fixed, permanent stairs if the step height is over 12 inches. Curbs on the roof or waterproofed side or doors must be at least 8 inches above the membrane surface and must be designed to allow for future reroofing.
- E. For glass doors and adjacent glass, comply with State of New York, Department of Labor - Industrial Code Rule 47 - Transparent Glass Doors in Mercantile Establishments and in Public and Commercial Buildings and Structures, NFPA 257: Standard on Fire Test for Window and Glass Block Assemblies, and 16 CFR 1201, U.S. Consumer Product Safety Commission, "Standard for Architectural Glazing."
- F. For doors with electronic access control, develop project specific wiring diagrams for typical and special applications, and identify Campus installed work. To minimize operational issues after installation, ask for a review of the diagrams by the Campus access hardware "expert", which could be an outside vendor.
- G. Non-Swinging Doors: If permitted by code, sliding, rolling, coiling, revolving, or other non-swinging doors may be used. Review the operational modes of these doors with the Campus. Consider using motorized operation for optimal control of the opening and closing process, even if the normal operating position is "held open", such as for coiling smoke doors. Unless a faster descent rate is required by code or Campus operational practice, the governor controlling descent shall be set at the slowest rate permitted in the door listing.
- H. Specifications must require commissioning of all doors by the installer supervised by an Architectural Hardware Consultant who is thoroughly knowledgeable of the various components and systems.
 - 1) Include testing of opening force, closing device, complete closure of the door within clearance tolerances, and full engagement of latch(es) where required by door type. Verify cleanliness of labels, fusible links and other components that cannot be painted.
 - 2) Functional testing of automatic-closing or power-operated fire door assemblies and electrically controlled latching hardware or release devices must be coordinated with the other electrically controlled system specified by the Consultant.

- 3) After all doors have been commissioned and prior their acceptance, the Consultant, in consultation with the Campus and Fund, will select doors (at least one for each operational type) whose full range operation must be demonstrated by the Contractor to the satisfaction of the Consultant.
- I. For rated fire doors, coordinate the specifications for the door, frame and hardware so the door can be installed with the appropriate frame, hardware, and other accessories required by the rating.
 - J. If there is any question regarding a fire label, the rating must be verified using an inspection or certification service that provides acceptable documentation.
 - K. Avoid the use of door assemblies larger than the maximum size indicated in the manufacturer's fire door listing. If such a door is requested by the Campus, the Consultant must verify that a testing laboratory is prepared to furnish a label or certificate of inspection for such oversize door assemblies, and that the label or certificate of inspection can be mounted in a manner that is visible during future annual fire code inspections.
 - L. Lined or electromagnetic shielded doors, frames and hardware shall match the room protection requirements.
