

FINISH HARDWARE

General

For University of Michigan Hospitals and Health Centers projects refer to Design Guideline 08710-H available at:

<http://www.med.umich.edu/facilities/planningdevelopment/ae/dg/doc/a/08710H.pdf>

In general, follow the guidelines below when selecting and specifying finish hardware. Unless specifically indicated otherwise, these guidelines are not intended to restrict or replace professional judgment.

University Preferred Manufacturers

Preferred manufacturers are listed in a separate document, "Architectural Preferred Manufacturers List." Obtain current copy from Project Coordinator.

Design Requirements

General - Comply with the following hardware-related requirements:

- Do not use cash allowance provisions for hardware.
- Include a hardware schedule on drawings or in specifications. Note keyside on door schedule.
- Do not specify floor checks and pivots.
- Do not specify locks of any type on fire egress stair doors.
- Locate hardware in accordance with Door and Hardware Institute (DHI) "Recommended Locations for Architectural Hardware for Wood Flush Doors" and "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
- Trim Styles: Unless otherwise approved by the University Project Coordinator, trim styles used in renovation work should match hardware currently in the building. Contact the Project Coordinator for information regarding existing hardware.
- Finishes: Unless otherwise approved by the University Project Coordinator, comply with the following:
 - Finishes of hardware items should be uniform throughout the project.
 - For renovation work, match hardware finish of existing units.
 - Hardware applied to aluminum entry doors should match the finish color of the door.

Hinges - Comply with the following:

- Specify hinges with non-removable pins with set screw, not merely non-rising type with knurled pin.
- Unless otherwise determined by the Project Coordinator, specify ball bearing hinges.
- For aluminum entrances, specify ball bearing butt hinges or heavy-duty continuous gear hinges.

Closers - Specify surface mounted units only; concealed closers are not permitted (including aluminum entrance doors). Require closers to be mounted on room side of doors. Never specify hold-open function in conjunction with exterior building entrances and vestibules.

Pulls - Through-bolt all pulls. Do not specify offset pulls on doors

Locksets - Comply with the following:

- Lever handles are required on each new lockset.
- Typically specify locks with office function, as opposed to classroom function, for offices, laboratories, conference rooms, and other occupied spaces. Restrict classroom function units to areas serving specifically and only as classrooms.
- Digital Locks: For specific models and features, refer to "Architectural Preferred Manufacturers List."
- Attic Stock: Require attic stock to be delivered to Owner's Key Office in manufacturer's original packaging, with Project title, including building and description, and University of Michigan Project Number marked on each box. Require attic stock for each individual lock function type, provide additional locksets of the same function in the following quantities:
 - For less than 20 locksets: No attic stock.
 - For 20 locksets or more, but less than 100 locksets: 2 additional units.
 - For 100 locksets or more: 4 additional units.
 - For each 50 additional locksets over 100 units: 1 additional unit.
 - When 20 or more locksets of all function types are scheduled, but less than 20 are of a single function, provide 2 additional locksets of functions selected by the Project Coordinator from the range of function types included in the Project.

- Keying: Include keying and masterkeying. Specify that keying and masterkeying will be coordinated by the University Key Office.
- Strikes: Specify curved-lip strikes; flat (reversible) strikes are not acceptable. Require extended lip strikes where required to protect door frame from being marred by latchbolt (frequently needed at wood door frames).
- Cylinders: 7-pin removable core type cylinders. Refer to "Architectural Preferred Manufacturers List" for manufacturers. In existing buildings, match existing cylinder type for ease of keying.
- Construction Keying: For project security, provide a construction core as determined by the University Project Coordinator. Always include construction cores for building entrance doors with cylinders.

Panic Hardware - Either tube-or pad type crash bars are acceptable, provided the type selected will meet the requirements of the application. Dogging, where provided, should be hex-key wrench type as opposed to key cylinder type. Exit devices with concealed vertical rods are not permitted in any application. In addition, comply with the following:

- On single doors, select rim-type panic hardware; do not specify mortise units. Refer to "fire-rated and securable doors" paragraph below for additional information.
- On double doors with mullions, provide rim-type, center latching devices. Refer to "fire-rated and securable doors" paragraph below for additional information.
- On double doors without mullions, provide the following exit device types for each indicated application:
 - Aluminum Entrance Doors: Mullionless applications are not permitted.
 - Fire-rated wood and steel doors: Usually specify mortise lock device with double cylinder on one door of pair (refer to "fire-rated and securable doors" paragraph below), and exit only function vertical rod device on other door. Where fire-rating can be maintained, omit bottom rods.
 - Non-fire-rated wood and steel doors: Usually specify mortise lock device on one door (refer to "fire-rated and securable doors" paragraph below), and exit only function vertical rod device on other door. . Omit bottom rods where feasible.
- For fire-rated doors and securable, non-fire rated doors with rim and mortise type panic device applications (requiring an active lever handle), provide an exterior-side cylinder that retracts the latch bolt (but will not unlock outside trim) in conjunction with an interior-side, separately keyed cylinder, mounted in the latch head, that will unlock the outside trim.

- Specify pulls in conjunction with panic hardware, except where levers are required for fire-rated devices, or are necessary to match adjacent trim. Never select lever handles for use on public entrance doors to buildings.
- Where lever trim must be provided to match existing non-fire-rated hardware in a given location, specify rigid lever function only.

Coordinators: At all double doors without mullions, include a coordinator and carry bar. Fire-rated steel doors, and non-fire-rated wood and steel doors with a mortise lock on the active door may have an open-back strike substituted for the coordinator and carry bar.

Mullions - On double doors, where a fixed mullion is not included, provide a removable mullion. Key operated mullions are preferred. Where provision of a mullion is not considered feasible, provide special exit device hardware indicated above.

Thresholds - Require that aluminum thresholds be cut-in around mullions, frame members, and stops, not simply butted to them, to provide a continuous surface across the full width of the opening from jamb to jamb.

Stabilizers - Require stabilizer sets on all aluminum entrance doors and frames.

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