

## **Basis of Design**

This section applies to the selection and installation of hardware for exterior and interior doors.

### **Background**

Door hardware must be appropriate to the use of the door, durable, serviceable, and replaceable.

### **Programming**

Coordinate with CAAMS and Exterior Doors.

### **Design Criteria**

- Work with University carpenters and Lock Shop to set level of quality for finished hardware for each project.
- Product lists and substitutions must be approved by the University.
- Products must be serviceable. Parts must be available at local distribution centers for a reasonable period of time after an installation is complete. Product manufacturer's representatives must be locally available for consultation at the University within a reasonable time.
- Hardware shall be designed and installed in accordance with appropriate provisions of, DHI, BHMA, SDI, NAAMM, and ASAHC.
- All exterior doors with locks shall have exterior keying for Fire Department access.

## **Design Evaluation**

**The following information is required to evaluate the design:**

- Programming Phase: Identify special needs, i.e., automatic door operators. Will hardware specification be written by the Architect, a private consultant or a hardware supplier? Hardware designer must be available to the University during design and construction. Coordinate with CAAMS.
- Schematic Design: Verify Program information. See CAAMS. Prepare outline specification listing hardware by group for specific functions.
- Design Development: Plan drawings showing all doors needing hardware. Identify each door with a unique number. Draft specification listing hardware by function and acceptable manufacturers. List CAAMS hardware to be furnished by the hardware supplier. Prepare a schedule of hardware needs in "door-by-door" format. Hardware "groups" may be used for the various configurations. Finish samples.
- Contract Documents: As noted for DD submittal and, prepare drawing showing hardware placement. Include CAAMS items. Complete the drawings, specifications and hardware schedule for construction.

## Construction Submittals

The following minimum submittals are required from the Contractor:

- Finish hardware schedule. Confirm format before submitting.
- Samples of actual hardware for all finishes
- Certificate of local availability
- Product data for each hardware item
- Keying schedule

## Related Sections

- Facilities Services Design Guide - Access Control - CAAMS
- Facilities Services Design Guide - Exterior Doors
- Facilities Services Design Guide - Interior Doors
- Environmental Health & Safety Design Guide - Fire Alarm System

## Products, Materials and Equipment

Following is a list of hardware items and acceptable manufacturers. Substitutions must be pre-approved by the University. Where existing conditions are different, consult the University for directions.

Hardware Item	Manufacturer
• Cylinders	Schlage, Medeco
• Butts	Stanley, McKinney (or approved)
• Electric transfer hinge	Von Duprin (or approved)
• Key switch	Von Duprin
• Continuous hinge	(Geared Hinges)
• Exit devices	Von Duprin, Corbin, Russwin (no others)
• Locksets and latches	Corbin, Schlage, Medeco (no others)
• Closers (typical)	LCN (no others)
• Closers (180° swing)	Norton (no others)
• Astragal	Pemko
• Door stops	Glen Johnson (or approved)
• Push/pull	Builders Brass (or approved)
• Kickplates	Builders Brass (or approved)
• Thresholds and weatherstrip	Pemko (or approved)
• Door operators (ADA)	Keane Monroe (no others)
• Automatic door sensors (ADA)	B.E.A. (no others)
• Door actuators (ADA)	Largo (or approved)
• Door position switch (CAAMS)	Sentrol (or approved)
• Door Holders	Rixon; wall or floor (or approved)

Some hardware has been shown to be difficult to maintain or does not perform well in our institution, and is therefore undesirable.

- Floor closers and floor hinges: Use overhead closers.
- Butts at exterior doors: Use continuous hinge.
- Concealed exit devices: Use exposed exit devices.

### **Installation, Fabrication and Construction**

- Conduct a pre-installation conference with all parties associated with doors, hardware CAAMS and other related fields.
  - 1) Discuss locations of items not specifically shown on the drawings, i.e., electrical boxes in ceiling spaces and conduit runs.
  - 2) Discuss rough-ins.
  - 3) Resolve conflicts.
- Provide two sets of any special tool required for maintenance or repair of hardware.

END OF DESIGN GUIDE SECTION