DIVISION 08 70 00—HARDWARE

FORMAT
1. Technical specifications content and numbering system shall be based on 2004 CSI MasterFormat.

BASIS OF DESIGN
1. BGSU Design Standards shall not replace fully developed, project and market specific technical specifications. Associate shall utilize the Standards as a minimum standard to guide the design.
2. NO SUBSTITUTES shall be specified or used for any of the items in this division unless noted.

COORDINATION
1. Selection of doors and hardware shall be coordinated with BGSU Physical Security Services, 419 372-7661.
   a. Associate shall submit shop drawings to Physical Security Services for review prior to their approval.
2. General Contractor shall be solely responsible for proper machining for hardware.
3. All door slabs shall be machined off-site in the vendor or manufacturer's facilities. Associate shall place the following note conspicuously on the each sheet showing the door schedule and in the technical specifications:

   “Door slabs and frames shall be ready for hardware installation before delivery to the work site. Door slabs and frames shall be machined for mortises, wire chases, etc., at the vendor or manufacturer's facilities.”

4. Associate shall ensure hardware installers complete Pre-training and Inspection training by the manufacturers prior to hardware installation.
5. Only approved fasteners shall be used to install hardware.
6. Location of RAPID ENTRY KEY VAULT shall be determined by Bowling Green Fire Department 419 352-3106; and BGSU Environmental Health & Safety 419 372-2171.

RELATED SECTION
1. 08—Openings
2. Appendix A (ADAAG)

DEMOLITION AND RENOVATION
1. Lock and door hardware removals shall be coordinated with BGSU Physical Security Services through the Office of Design and Construction. All cylinders and cores removed shall remain the property of the BGSU Physical Security Services and are to be returned to the University Lock Shop.
08 71 00—DOOR HARDWARE

GENERAL PROVISIONS
1. Lock supplier shall be a BGSU approved dealer of Russwin/Corbin hardware and purchased directly from Russwin/Corbin all locks and cylinders. Lock specifications: Russwin Master Ring ML2000MR series L2 Lustra design mortise locks, 626 finish, Russwin reverse H keyway section on number 52 bows stamped on one side with “PROPERTY OF STATE OF OHIO DO NOT DUPLICATE” and plain on the other side. All individual keys to be factory cut with the bitting stamped on the plain side of the bow. Five individual keys per change to be provided. Specific individual keyways will vary with each building, verify with BGSU Physical Security Services.
2. All keys shall be shipped directly to BGSU from the factory. The General Contractor or the supplier is not authorized to control the keys.
3. FUTURE EXPANSION: 0 bitted cylinders are to be provided at a rate of 10% of the total number of locks provided for the project. These are complete cylinders, 0 bitted. Additionally, 500 blank keys are to be provided per University specifications.
4. CYLINDERS AND KEYING INSTRUCTIONS: The successful hardware supplier shall make contact with BGSU Physical Security Services to receive instruction pertaining to key symbols, master keys and final approval of individual lock function. Contact BGSU Physical Security Services, 419 372-7661.
5. MASTER RING CYLINDERS: BGSU standardizes on “Master Ring” cylinders, whenever possible (excluding exteriors).
6. INTERCHANGABLE CORE CYLINDERS: Interchangeable core cylinders are to be used on all exterior doors and in special circumstances only. If Master ring cylinders are not used (i.e. exterior doors, pipe chases, etc.) use Russwin Interchangeable core cylinders.

FINISH
1. Standard hardware shall be 32D, satin stainless steel.
2. Associate shall ensure closers match finish and color of doors and frames they are attached to.

LOCKS & LATCH SETS (FULL MORTISE)
1. Where Corbin-Russwin is used, trim shall be LWA Lustra.
2. Each area is to receive the following lock & latchsets:

<table>
<thead>
<tr>
<th>Location</th>
<th>Device</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classrooms, labs, teaching labs,</td>
<td>CR lockset ML</td>
<td>Keyed on both sides</td>
</tr>
<tr>
<td>exterior entrances with locks</td>
<td>2042MR</td>
<td></td>
</tr>
<tr>
<td>Offices</td>
<td>CR lockset ML</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2051MR</td>
<td></td>
</tr>
<tr>
<td>Closet or passage set</td>
<td>CR lockset ML 2010</td>
<td></td>
</tr>
</tbody>
</table>
Custodial closets and storage spaces
   CR lockset ML 2057MR
Doors to roofs, and from penthouse to roofs 2 floors or less above grade
   CR lockset ML 2032MR
Mechanical & transformer rooms; steam service tunnel access; telephone closets; and from public building space to roof, 3 floors or more above grade.
   CR lockset ML 2057MR
Penthouse to roof access, 3 floors or more above grade.
   CR lockset ML 2057MR
Student resident hall room, and toilet room with single WC
   CR lockset ML 2065MR
Gang toilet rooms in residence halls
   Trilogy T2 Digital Access Door Locks DL2700WP
Loading dock floors w/ heavy cart traffic
   Rockwood trim protector bar RIOOLPB

HINGES
1. Exterior, stairwell and corridor doors shall use Select brand Heavy Duty continuous hinges.
2. Low traffic doors 3' wide or less shall use full mortise 4 ½” x 4 ½” ball bearing, heavy duty, butt hinges with non-removable pin.
3. Doors wider than 3’-0” shall receive Select brand heavy-duty continuous hinge.
4. Doors 7’-2” and higher shall have 4 hinges; doors under 7’-2” shall have 3 hinges.

EXIT DEVICES
1. Exit devices shall be rim-mounted and reversible.
2. Concealed vertical rod shall not be used. Surface mounted vertical rods shall use Von Duprin Latchguard RG-27.
3. Standard trim for Von Duprin shall be 992L-03.

<table>
<thead>
<tr>
<th>Location</th>
<th>Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stairwell with no lock and cannot be dogged down</td>
<td>VonDuprin 98L-F-BE</td>
</tr>
<tr>
<td>Stairwell with lock, or entrance in labeled opening where device cannot be dogged down during the day.</td>
<td>VD 98L-F</td>
</tr>
<tr>
<td>Entrance with dogging and outside pull trim and keyed cylinder</td>
<td>VD 98DL</td>
</tr>
<tr>
<td>Entrance with dogging and outside pull trim</td>
<td>VD 98NL</td>
</tr>
<tr>
<td>Fire escapes or low occupancy classrooms with exit-only requirements.</td>
<td>VD EO-F</td>
</tr>
<tr>
<td>Residence hall wide stile entrance doors with dogging and without cylinders</td>
<td>VD 98DT (pull trim &amp; blank escutcheon)</td>
</tr>
</tbody>
</table>
Residence hall wide stile entrance-exit doors with dogging and cylinder
Access control entrances

VD 98NL (pull trim & cylinder)
VD 99EL (trim may very depending on use of door)

DEAD BOLTS
1. Dead bolt shall be full-motise Corbin/Russwin ML2200 Series with thumb turn lever 519FIO with 2 ¾" backset.
2. For public toilet rooms use push/pull and CR ML 2017MR.

REMOVABLE MULLIONS
1. Removable mullion shall be VonDuprin 4954, factory primed and painted to match adjacent doors.
2. At least one door to exterior and large assembly areas shall have removable mullions.

MISCELLANEOUS HARDWARE
1. Push/pull plates shall be stainless steel, and bolted through plate and door, .050" thick.
   a. Toilet Rooms shall have 8" x 16" stainless steel plates.
2. Door stops shall be wall mounted except in unusual circumstances.
3. Kick Plates shall be stainless steel, .050" thick.
4. Door hold-opens shall be stainless steel.

KEY LOCK BOXES
1. Rapid entry key vault shall be recessed Knox Box brand, model no. 3227-R.

DOOR CLOSERS
1. All closers shall be overhead, surface mounted.
2. Closers shall be LCN 4041. Corridor and exterior doors shall have “cush-n-stop.”
3. Power assisted openers shall be LCN 4642, with Auto-equalizer.
4. In all cases, closers shall have parallel arms.
5. Closers shall match finish and color of doors and frames they are operating.

08 74 00—ACCESS CONTROL HARDWARE

ELECTRIC STRIKES
1. The following spaces shall be access controlled with electric strikes:
   a. Select exterior doors and interior doors to be determined by BGSU
   b. BDF Rooms
   c. Computer labs
   d. Hall director apartments
   e. Residence hall main offices
## DOOR ACCESS IDENTIFICATION TABLE

<table>
<thead>
<tr>
<th>Designation</th>
<th>Designation</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exterior/Corridor Doors</strong></td>
<td><strong>Exterior/Corridor Doors</strong></td>
<td><strong>Exterior/Corridor Doors</strong></td>
</tr>
<tr>
<td>Double EED²</td>
<td>1-2-2-E3-M3-5</td>
<td>Double ED²</td>
</tr>
<tr>
<td>Single EES²</td>
<td>1-2-E3-5</td>
<td>Single SD²</td>
</tr>
<tr>
<td><strong>Exit Only, Emergency Exit Device Required</strong></td>
<td><strong>Exit Only, Emergency Exit Device Required</strong></td>
<td><strong>Exit Only, Emergency Exit Device Required</strong></td>
</tr>
<tr>
<td>Double EXD²</td>
<td>1-2-2-M3-M3</td>
<td>Double IND²</td>
</tr>
<tr>
<td>Single EXS²</td>
<td>1-2-M3</td>
<td>Single INS²</td>
</tr>
<tr>
<td><strong>Emergency Exit Only</strong></td>
<td><strong>Emergency Exit Only</strong></td>
<td><strong>Emergency Exit Only</strong></td>
</tr>
<tr>
<td>Double EMD²</td>
<td>2-2-M3-M3</td>
<td>NA</td>
</tr>
<tr>
<td>Single EMS²</td>
<td>2-M3</td>
<td></td>
</tr>
</tbody>
</table>

### Device Function Notes

<table>
<thead>
<tr>
<th>Device</th>
<th>Function</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request to Exit Motion Sensor</td>
<td>Allows door to be exited without tripping an alarm</td>
<td></td>
</tr>
<tr>
<td>Door Position Switch</td>
<td>Sends signal that door has been opened w/o valid read or request</td>
<td></td>
</tr>
<tr>
<td>E3 Electrified Lock (Von Duprin EL exit device, EPT2)</td>
<td>Unlocks and relocks door</td>
<td>Door is wired</td>
</tr>
<tr>
<td>M3 Non-electrified Lock (Von Duprin exit device)</td>
<td>Latches and relatches door</td>
<td>Typically inactive leaf</td>
</tr>
<tr>
<td>Fail Secure Electric Strike (mechanical lockset)</td>
<td>Unlocks and relocks door</td>
<td>Frame, inactive leaf or mullion is wired</td>
</tr>
<tr>
<td>Reader¹</td>
<td></td>
<td>Lenel (24V DC) or Marlok (12V DC)³</td>
</tr>
</tbody>
</table>

### General Notes:

1) For doors with Lenel or Marlok the designations shall have an "L" or "M" suffix, e.g., EESL.
2) If space is alarmed, two Marlok readers shall be installed: one reader to activate and deactivate the alarm, a second reader to unlock the door. The door reader will open the door only after the alarm is deactivated. Designations in such doors will have an "A" suffix, e.g., INSMA.
3) Marlok doors typically do not receive Request to Exit Motion Sensor or Door Position Switch.
4) Often "Exits Only" also serve as emergency exits as defined by Ohio Building Code. The "Exit Only" is an operational designation meaning it is used for ordinary exiting in addition to having a required emergency exit device. Accordingly, a request to exit motion sensor is required. For doors that don't require an emergency exit device (Type ED & SD) only a Door Position Switch is required.