08 00 00. OPENINGS
08 00 03. GENERAL PROVISIONS

08 00 10. ALL EXTERIOR DOORS shall be metal, existing historical buildings are to be reviewed on a case by case basis (e.g. but not limited to, Orton Hall, Hayes Hall, Hale Hall, Pomerene Hall, Hamilton Hall, etc.), and be equipped with pull handles per 08 70 30.3 and overhead surface mount door stops.

08 00 20. MULTIPLE EXTERIOR DOORS shall have fixed mullion separations except that at least one pair of doors shall have a removable mullion for equipment access. Also see 08 70 30.6.

08 00 30. DOORS FOR USE BY PERSONS WITH DISABILITIES.
   1. One door at each primary point of ingress and egress shall be equipped with a power door operator unless the entrance is not accessible.
   2. Refer to 08 72 00, confer with the Facilities Operations and Development’s ADA Coordinator on Power Door Operators.
   3. Revolving doors at entrances, darkrooms and other restrictive locations require provision for alternative means of access.

08 00 40. LABELED CONSTRUCTION AND LABELS shall be provided where required by the building code.

08 00 50. TRASH ROOM DOORS shall be no less than 3’-6” wide.

08 00 60. USE OF INK MARKING PENS ON SURFACES of any kind of materials is prohibited. Experience has shown that such marks bleed through paint and other finishes.

08 00 70. POWER OR POWDER DRIVEN ANCHORS refer to Appendix V Section 01 35 23 Safety Health & Environment 1.6 USE OF POWER ACTUATED FASTENER TOOLS -

08 00 80. DEMOLITION / REMODELING: Lock and door hardware removals shall be coordinated with Facilities Operations and Development’s Lock & Key Services. All cylinders and cores removed shall remain the property of The Ohio State University, and are to be returned to FOD’s Lock & Key Services.

08 10 00. DOORS AND FRAMES

08 11 13. HOLLOW METAL DOORS AND FRAMES
   1. EXTERIOR DOORS shall be not less than 16-gauge hot dipped zinc-coated steel sheets (Galvannealed) meeting ASTM A653, zinc-iron alloy-coated, with A60 coating. The top channel of each metal door shall be turned web up, to avoid a dirt pocket or moisture trap. Full glazed doors shall have 12-inch bottom rails. “High Frequency” hinge preparation and reinforcement is required.
   2. INTERIOR DOORS shall be not less than 18-gauge metal. Full glazed doors shall have 12-inch bottom rails.
   3. ACCESS DOORS shall be provided at plumbing chases, building equipment maintenance corridors, interstitial spaces, and in ceiling areas. Coordinate with
Plumbing, HVAC and Electrical Contractors. Access door locking devices shall be equipped with approved cylinders per 08 71 90.3 and 08 71 90.4 and accept Stanley Security Solutions small format 7-pin interchangeable core. Following approval by FOD’s Lock & Key Services of the final keying schedule, Stanley Security Solutions will combine permanent cores, cut, and tag one key per core and deliver cores and keys directly to FOD’s Lock & Key Services for installation. The type of access doors are to be reviewed and approved by Facilities Design and Construction. The supplying contractor of the cylinder and lock cores shall provide their contact name, address, phone number with the product submittal and a copy shall be provided by the A/E to FOD’s Lock & Key Services.

.3.1 The Architect/Engineer (A/E) shall place in the specifications that the Contractor supplying the Access Doors shall enter into an agreement with Facilities Operations and Development’s (FOD’s) Lock & Key Services to install the final cores during the construction period. Provide an allowance for this work after consulting with FOD’s Lock & Key Services for current/project charges per core (approximately 1/10 hour per core at the University’s current Skilled Craft Rate.)

.4 HOLLOW METAL FRAMES shall be one-piece, welded frames of not less than 16-gauge hot dipped zinc-coated steel sheets (Galvannealed) meeting ASTM A653, zinc-iron alloy-coated, with A60 coating for interior doors. Frames in interior walls through 8-inch thickness shall be full width of wall. Knock-down frames are generally prohibited; however, such frames may be used in movable partitions. In remodeling work, permission will be granted by the University Architect to use knock-down frames if conditions justify their use. Frames for exterior doors shall be one-piece, welded frames of 14-gauge or heavier metal. All entrance door frames shall be heavily reinforced at hinge, strike and closer locations for “High Frequency” use. Frames shall have a hot dipped zinc coating.

08 11 16. ALUMINUM DOORS AND FRAMES

.1 Aluminum doors and frames shall be factory finished.

08 14 00. WOOD OR PLASTIC LAMINATE FACED WOOD DOORS

.1 All wood doors shall be at least 1-3/4" thick to accommodate mortise locks.

08 14 10. GUARANTEE: Interior doors, except some fire rated doors, shall be flush type, solid core, hardwood, with lifetime guarantee. Guarantee shall include removal, new door finishing, and hanging of doors at no cost to the University.

08 14 20. FIRE RATED DOORS

.1 2 hr. (120-minute), 1-1/2 hr. (90-minute), 3/4 hr. (45-minute) and 20-minute doors must have a U.L. label per NFPA Pamphlet 80.

.2 MINERAL CORE LABELED DOORS ARE PROHIBITED because the narrow rails and stiles, required to obtain U.L. approval, are expected to reduce the service life and security of these doors in rigorous service.

08 14 30. WOOD VENEERS: Judicious selection of face veneers shall be exercised. The contractor shall be required to make a grain selection, prior to placing wood doors in the more prominent or public places, subject to the approval of the Architect/Engineer (A/E). Wood doors in, or adjacent to, wood paneling will have veneers to match the paneling.
08 30 00. SPECIAL DOORS

.1 ACCESS DOORS TO MACHINE AND EQUIPMENT SPACES shall be hollow metal doors in 4-sided steel frames, minimum size 2'-0" by 4'-0". All access doors locking devices shall be equipped with cylinders per 08 71 90.3 and 08 71 90.4 and accept Stanley Security Solutions small format 7-pin interchangeable core. Following approval by FOD’s Lock & Key Services of the final keying schedule, Stanley Security Solutions will combine permanent cores, cut, and tag one key per core and deliver cores and keys directly to FOD’s Lock & Key Services for installation.

.2 The Architect/Engineer (A/E) shall place in the specifications that the Contractor supplying the Access Doors shall enter into an agreement with Facilities Operations and Development’s (FOD’s) Lock & Key Services to install the final cores during the construction period. Provide an allowance for this work after consulting with FOD’s Lock & Key Services for current/project charges per core (approximately 1/10 hour per core at the University’s current Skilled Craft Rate.)

08 40 00. ENTRANCES, STOREFRONTS, AND CURTAIN WALLS

08 40 00. ENTRANCES

08 42 00. ENTRANCES

.1 All doors shall be equipped with top and bottom rails and door stiles with the following minimum dimensions:

Dimensions of components shall be at least:

- Metal thickness - 1/8 inch
- Head rail size - 6-1/2 x 1-3/4 or 6 x 2 inches
- Stile size - 5-1/2 x 1-3/4 or 5 x 2 inches
- Bottom rail size - 12-1/2 x 1-3/4 or 12 x 2 inches
- Hardware reinforcement - 1/4 inch thick metal material

.2 Doors shall be fully glazed. Glass for exterior doors and all sidelights shall be ¼-inch thick laminated fully tempered insulated glass units.

.3 Doors may have a mid-rail located at the center of the exit device.

.4 ENTRANCE FRAMES:

Dimensions of components shall be at least:

- Metal thickness - 1/8 inch
- Head size - 4-1/2 x 1-3/4 or 4 x 2 inches
- Jamb size - 4-1/2 x 1-3/4 or 4 x 2 inches
- Hardware reinforcement - 1/4 inch thick metal material

08 50 00. WINDOWS

08 50 00. WINDOWS

.1 DESIGN FOR ENERGY CONSERVATION: Refer to PART ONE, paragraph 00034, and Facility Services-6. When practical, windows shall be provided with operable vent sections to obviate for the need conditioned air. All aluminum windows shall have a thermal break and be certified and labeled with AAMA certification, existing historical buildings with steel windows are to be reviewed on a case by case basis (e.g. but not limited to, Orton Hall, Hayes Hall, Hale Hall, Pomerene Hall, McCracken Power Plant, Faculty Club, Ramseyer Hall, Stillman Hall, etc.).

08 50 10. CUSTOM WINDOWS: The following requirements shall be included in the specifications:
.1 PERFORMANCE REQUIREMENTS: The manufacturer shall submit copies of reports of tests made on previously manufactured windows of the same type to be furnished for this project, made or witnessed by an independent testing laboratory and showing conformance to the following performance standards:

.1.1 Air infiltration of an assembled sash and frame shall not exceed 0.15 cubic feet per minute, per foot of sash perimeter, when the window is subjected to a static pressure equivalent to a wind velocity of 50 miles per hour.

.1.2 There shall be no apparent water leakage to the interior side of the window when tested for fifteen minutes with water spray at a rate of five gallons per square foot per hour under a pressure equivalent to a wind velocity of 50 miles per hour.

.1.3 All aluminum windows shall have a thermal break and be certified and labeled with AAMA certification.

.2 WINDOW GLAZING METHOD: Windows shall preferably be designed for glazing from inside only; for other methods of glazing, confer with the University Architect.

.3 DESIGN: Avoid sliding and double-hung sash; use hoppers and types with compression gaskets.

.4 GUARANTEE: Provide a written guarantee that all parts of the installation will meet specified performance requirements and will be free from defects in materials and workmanship for a period of five years following acceptance. Weatherstripping shall be guaranteed for a period of five years. Guarantee shall certify that all work is in accordance with the Contract Documents and shall contain a statement that, should any defects develop during the guarantee period, caused by improper workmanship or materials, such defects will be repaired or windows will be replaced at no expense to the University.

.5 TESTING: Field testing of non-standard installed windows may be required by the University.

.6 CLAD WINDOWS (clad with vinyl or aluminum on the exterior) are prohibited unless special permission is received from the University Architect in writing.

08 60 00. ROOF WINDOWS AND SKYLIGHTS

.1 SKYLIGHTS are prohibited unless special permission is received from the University Architect in writing.

08 70 00. HARDWARE

08 70 10. SPECIFICATIONS FORMAT: It is preferred that this section include all items of finish hardware, including items listed in the CSI MASTERFORMAT, with the exception of window operators, which should be included with section in which windows are specified. Such a format will facilitate the writing of hardware specifications in the form usually used by Architectural Hardware Consultants.

08 70 20. PROHIBITED MATERIALS AND INSTALLATIONS:

.1_THRESHOLDS RAISED ABOVE FLOOR LEVELS at doors to trash and receiving rooms and over 1/2-inch high at doors along routes that are otherwise accessible or those intended for use of persons with disabilities.
.2 FLOOR MOUNTED DOORSTOPS.

.3 DOORKNOBS OR LEVERS CONTAINING LOCK CORES OR KEYING DEVICES.

**OARDC:** OARDC permits cylinder locksets with integral cores in accepted interior locations. Consult with the Project Manager and OARDC for the acceptable locations.

.4 FLOOR CLOSERS AND CLOSERS CONCEALED IN DOOR HEADS.

.5 DOOR CLOSERS WITH INTEGRAL SMOKE DETECTORS: Smoke detection systems must be made a part of the documents for Fire Detection and Alarm per 28 31 00.

.6 ALL CONCEALED VERTICAL ROD EXIT DEVICES. Surface mount vertical rods, less bottom rods, are permitted only with approval of Facilities Operations and Development’s (FOD) Lock & Key Services and only on openings when typically held open and automatically released upon fire alarm.

.7 PASSIVE INFRARED (PIR) MOTION DETECTORS at door location for request to exit on alarmed doors.

.8 SECTIONAL TRIM on mortise locksets.

.9 All electrified vertical rod exit devices.

.10 All sliding doors and “Pocket doors.”

.11 All doors and hardware not specifically prohibited or approved in these standards shall be submitted to Facilities Operations and Development’s Lock & Key Services for approval prior to being specified.

.12 Roller Latches.

08 70 30. GENERAL REQUIREMENTS:

.1 ALLOWANCE: Consult the University Architect regarding provisions for a contingency allowance to cover items inadvertently omitted in hardware schedules. Provisions for this allowance might be particularly desirable for remodeling projects in which some existing hardware is scheduled for reinstallation. Allowance stipulated should not exceed 1/2 of 1 percent of the estimated cost of contract subdivision for finish hardware. Permission to specify this allowance shall in no way relieve the Architect/Engineer (A/E) of responsibility to furnish a complete and accurate hardware schedule.

.2 HARDWARE FOR ENTRANCE DOORS: All hardware for such doors shall be furnished by the hardware supplier. Weather seals for aluminum entrance doors shall be provided by the door supplier. With the exception of hardware furnished and installed by the door manufacturer, all hardware for such doors shall be furnished under this section. Specify that hardware supplier furnish, to the door manufacturer, templates or the actual items of hardware for which cutouts and signage are required.

  .2.1 All exterior doors shall have full perimeter weather seals, including door sweeps.

.3 PULLS: Bases for grips shall project straight out, perpendicular to face of door. No curved bases.
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.4 QUALITY AND DESIGN: Hardware must be adequate for the intended use and must satisfy code requirements, but shall not be excessively sophisticated or unnecessarily expensive. Specifications for finish hardware shall be reviewed with the University Architect, the using agency, and Facilities Operations and Development’s Lock & Key Services prior to completion of construction documents. Make submittal at a time that will allow for adequate review and for making required changes before final printing.

.5 STANDARDS AND APPROVED EQUALS: For each item, specify and schedule products of one manufacturer as the standard and, whenever possible, name two other manufacturers whose products are PROVEN equal.

.5.1 A complete list of items proposed as the standards, together with manufacturers’ names and with the names of manufacturers whose products are proposed as equals must be included in the outline specifications for the Basic Submittal. Approval of the items must be obtained before their inclusion in the hardware schedule in final documents.

.6 REMOVABLE MULLIONS: A minimum of one pair of exterior double doors shall have a keyed, removable mullion with lock strike unless approval is given by the University Architect to deviate from this requirement. The keyed removable mullion shall accept the approved cylinders per section 08 71 90.4, also see 08 00 20.

.7 A COORDINATION MEETING for the electrical contractor and the hardware supplier is required prior to the creation of shop drawings on projects that require card readers or similar electronic access devices.

08 71 00. FINISH HARDWARE WARRANTY

A. Manufacturer’s Warranty:
   1. Closers: Ten years
   2. Exit Devices: Three years
   3. Mortise locksets & Cylinders: Three years
   4. All other Hardware: Two years

08 71 10. BUTTS: Five-knuckle, wrought-steel. Specify ball bearing butts for doors equipped with closers. Butts shall be heavy duty, with 4 bb for exterior doors and interior doors over 3 feet wide; use standard weight butts with 2 bb for interior doors up to 3 feet wide. Specify non-bb for all doors without closers.

.1 STAINLESS STEEL BUTTS must be used on exterior doors. Continuous stainless steel hinges may also be used, except at security/electrified doors.

08 71 20. LOCKS: Locksets and latchsets shall be heavy duty mortise type with hinged, anti-friction, ¾ inch throw latchbolt with anti-friction piece made of self lubricating stainless steel. Deadbolt function shall be 1-inch projection with two hardened steel roll pins. All locksets and latchsets must conform to ANSI A156.13, Series 1000, Operational Grade 1 and Security Grade 2 and be listed by UL. All locksets are to be supplied by the same manufacturer.

OARDC: OARDC requires mortise locksets on exterior and higher security doors and will permit cylinder locksets with integral cores in accepted interior locations. Consult with the Project Manager and OARDC for the acceptable locations.

.1 FUNCTIONS: Unless instructed otherwise by the University Architect, select locksets and latchsets having the following functions. Specifications or door schedules shall
show both the Building Hardware Manufacturers Association (BHMA) and the manufacturer's numbers to aid checking of documents and reduce the opportunity for error in function.

<table>
<thead>
<tr>
<th>Door Location or Usage</th>
<th>BHMA No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>.1.1 High Security</td>
<td>F12</td>
<td>Latch bolt by lever either side unless lever locked by stop button; when lever locked, latch bolt by key outside lever inside; dead bolt by key outside turnpiece inside; continuous turn of key retracts both latch and dead bolt.</td>
</tr>
<tr>
<td>.1.2 Normal Office</td>
<td>F04</td>
<td>Latch bolt by lever either side unless lever locked by stop button; when lever locked, latch bolt by key outside lever inside; auxiliary latch deadlocks bolt.</td>
</tr>
<tr>
<td>.1.3 Private Office Door,</td>
<td>F07</td>
<td>Latch by lever inside and key Equipment outside; outside lever rigid; Rooms, Storage auxiliary latch Closets latch bolt.</td>
</tr>
<tr>
<td>Mechanical Rooms, Storage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>.1.4 Classroom Door</td>
<td>F05</td>
<td>Latch bolt by lever either side unless lever is locked by key outside; inside always free; when outside lever is latch bolt by key outside and lever auxiliary latch deadlocks latch bolt.</td>
</tr>
<tr>
<td>.1.5 Communicating Doors</td>
<td>F01</td>
<td>Latch bolt by lever either side.</td>
</tr>
<tr>
<td>.1.6 Pipe Chase</td>
<td>*</td>
<td>*Classroom Function Deadbolt By key outside; turnpiece inside will dead bolt but will not project it; no levers.</td>
</tr>
<tr>
<td>retraction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>.1.7 Outside Entrance Door</td>
<td>**</td>
<td>** Verify function with FOD Lock &amp; Key Services; Outside by key only; pull handle outside with no thumb piece; panic bar with dogging by keyed cylinder; latch bolt, no vertical rod.</td>
</tr>
<tr>
<td>.1.8 Bath/Privacy</td>
<td>F22</td>
<td>Latchbolt retracted by lever - from either side unless outside is locked by turn piece. Operating inside lever- or closing door unlocks lever-. To unlock from outside, remove emergency button, insert emergency turn (furnished) in hole and rotate.</td>
</tr>
<tr>
<td>.1.9 Lever Handles shall be wrought brass, bronze or stainless steel of simple design, heavy duty, and must have inside lever handle secured in place by a dowel screw and the outside lever handle (secure side) pinned to the spindle.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>.1.10 Acceptable lever lock sets are:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Manufacturer | Series | Lever Style
Best 35H Series is available only to Ohio State University. No substitutions/No equals.

08 71 30. CLOSERS: Acceptable closers are: No substitutions/No equals

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Series</th>
<th>Trim</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCN</td>
<td>4000 series,</td>
<td></td>
</tr>
<tr>
<td>Stanley</td>
<td>D4550 series,</td>
<td></td>
</tr>
<tr>
<td>Sargent</td>
<td>421 series</td>
<td></td>
</tr>
</tbody>
</table>

Closers shall be surface mounted, with full rack and pinion hydraulic action. Specify very heavy-duty type with broad range of adjustments permitting adjustment of door. Open pressure of 8 pounds to 15 pounds. Covers shall be of clean line design with lacquer finish and shall be type that DOES REQUIRE removal to make adjustments.

.1 INSTALLATION: Closers for interior doors shall be installed on room side of doors and shall not be visible from corridors, lobbies, and other public spaces.

.2 Acceptable NON-ELECTRIFIED exit devices are: No substitutes/No equals.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Series</th>
<th>Trim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Von Duprin</td>
<td>98/99 rim type</td>
<td>Exterior – 990 DT or NL</td>
</tr>
<tr>
<td></td>
<td>9927 LBR only</td>
<td>Interior – 996L</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(see 08 70 20.6)</td>
</tr>
<tr>
<td></td>
<td>Apex 2000 rim type</td>
<td>Exterior – 1703A or 1702A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interior – 4903A or 4908A</td>
</tr>
</tbody>
</table>

08 71 50. STOPS: Wall mounted convex rubber bumpers, with concealed fasteners. Provide noncombustible blocking in wall as required for bumper installation

.1 OVERHEAD STOPS AND HOLDERS: Size as recommended by the manufacturer. Degree of opening, as determined by building conditions. Stops required on all exterior doors.

08 71 60. FLUSH BOLTS: Specify extension type, top and bottom; avoid the use of vertical bars, either concealed or exposed. Minimum ½-inch diameter rods of, brass, bronze, or stainless steel with minimum 12-inch long rod for doors up to 7'-0" in height. Provide 1-inch minimum throw for all dead bolts. Auto flush bolts to be used only with approval of Facilities Operations and Development’s Lock & Key Services. Not to be used on the centrally supported Alarm and Card Access Management Systems (ACAMS) monitored doors.

08 71 70. KICK PLATES: Plastic laminate, stainless steel and bronze kick plates are acceptable for wood doors. Omit on steel and aluminum doors.

08 71 80. FINISHES: Closers shall be finished to suit room décor. For all other hardware, specify US-10 or US-26D. Other finishes may be used only where necessary to match materials to which hardware is applied.

08 71 90. KEYING: Include the following paragraph in the specifications:

.1 LOCKING DEVICES shall be equipped with approved cylinders per 08 71 90.3 and 08 71 90.4 and accept Stanley Security Solutions small format 7-pin interchangeable core. For security while the building is under construction the exterior doors locks
shall be equipped with temporary keyed brass construction cores furnished and
installed by the General Contractor. The GC is to provide (5) five master keys and
one change key for the construction cores to be delivered to FOD’s Lock and Key
Services through the University’s Project Manager. The GC shall install the
disposable black plastic construction cores that come with the locks, as the interior
door locking devices are installed. Following approval by Facilities Operations and
Development’s (FOD’s) Lock & Key Services and the Using Agency of the final keying
schedule, Stanley Security Solutions will combine permanent cores, cut, and tag
one key per core and deliver cores and keys directly to FOD’s Lock & Key Services
for installation by FOD’s Lock & Key Services in exchange for temporary cores
removed by FOD’s Lock & Key Services and returned to the General Contractor.

.1.1 For Regional Campus projects: Locking Devices shall be equipped and keyed
as stated in 08 71 90.1 with the following revisions:

a. The temporary keys are to be delivered to the Regional Campus
through the Project Manager.

b. Following approval by the Regional Campus with consultation with
Facilities Operations and Development’s (FOD’s) Lock & Key
Services and the Using Agency of the final keying schedule, Stanley
Security Solutions will combine permanent cores, cut, and tag one
key per core and deliver cores and keys directly to the Regional
Campus for installation by the Regional Campus in exchange for
temporary cores removed by the Regional Campus and returned to
the General Contractor. The cost for cores and keys is the
responsibility of the General Contractor.

Commentary: Regional Campus consultation with Facilities Operations
and Development’s Lock & Key Services is for the
purpose of maintaining a central data base for keying and
provide general support to the Regional Campuses.

c. OARDC: Interchangeable cores for OARDC projects are to be
BEST, 6-pin, “A” keyway by Stanley Security Solutions. No
Substitutions.

d. OARDC: Master and change (core) keys for OARDC projects are to
be delivered as un-cut key blanks directly to OARDC Facilities
Services.

.2 The Architect/Engineer (A/E) shall place in the specification that the Hardware
Contractor shall enter into an agreement with Facilities Operations and
Development’s (FOD’s) Lock & Key Services to install the final cores during the
construction period. Provide an allowance for this work after consulting with FOD’s
Lock & Key Services for current/projected charges per core (approximately 1/10 hour
per core at the University’s current Skilled Craft Rate).

.2.1 For Regional Campus projects the Architect / Engineer (A/E) shall place in the
specification that the Hardware Contractor shall enter into an agreement with
the Regional Campus to install the final cores during the construction period.
Provide an allowance for this work after consulting with the Regional Campus
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for current/ projected charges per core (approximately 1/10 hour per core at the University's current Skilled Craft Rate).

OARDC: Final cores installed for OARDC projects will be installed at no cost by OARDC's Facilities Services.

.3 CYLINDERS FOR MISCELLANEOUS LOCKS: Approved cylinders per 08 71 90.4 shall accept Stanley Security Solutions small format 7-pin interchangeable core.

.4 Approved cylinders are: No substitutions/No equals

Stanley Security Solutions 1E7 Series
Arrow 16CR
Falcon C Series
Marshall Best MBS-IC (M or R) 726D

08 72 00. POWER DOOR OPERATORS

.1 POWER DOOR OPERATORS providing access for individuals with disabilities may be surface mounted. Concealed operators are not permitted. All operator switches providing access for individuals with disabilities shall be 6 inches in diameter with the handicapped logo.

.2 ELECTRIC OPERATOR SWITCHES may be wall-mounted or post-mounted, and are required to be wired to the door operator. Wireless switches are not permitted.

.3 INSTALLATION AND EQUIPMENT shall be provided by a manufacturer’s authorized and trained distributor. Final connection between equipment and the wiring system to be made by or under the direct supervision of the manufacturer’s authorized and trained distributor.

.4 OPERATOR SYSTEM - As approved by Facilities Operations and Development’s ADA Coordinator.

.5 MAINTENANCE MANUALS in triplicate shall be provided to Facilities Operations and Development showing templates, wiring diagrams and full maintenance instructions.

.6 AUTOMATIC RESET is required. If the door is locked or if door encounters an obstacle when the operator is activated, the operator system will do one of the following:

.6.1 Continue to push gently on the door until the time delay period expires, then close.

.6.2 Sense the resistance, shut off power and close.

.7 OPERATOR SYSTEMS shall have:

.7.1 Adjustable time delay period (opening time plus hold-open time) shall be approximately 20 seconds, adjustable from at least 40 seconds to 7 seconds minimum.

.7.2 Adjustable opening speed (time from activation until door is fully open) shall be approximately 7 seconds, adjustable from at least 11 seconds to 5 seconds minimum.

.7.3 Slow closing speed of approximately 7 seconds. Adjustability is desirable but not mandatory.
.7.4 Full compliance with ANSI/BHMA A156.10 and Ohio Building Code.

.7.5 Weatherproof controls and circuitry.

.7.6 Low voltage current from operators to controls.

.7.7 Heavy-duty "supermarket" quality.

.7.8 Easy manual door operation. In event of power failure or pedestrian impatience, pressure on strike side of door equal to that required to open a conventional 36" wide door with closer shall be adequate to open the door manually. Maximum of 15lbs. Opening pressure.

.7.9 Easy access for maintenance. Access covers, if provided, must also have vandal resistant screw attachment.

.7.10 Operation must be smooth and quiet.

.7.11 Closer shall be spring type which functions with power on or off.

.7.12 Approved Power Door Operators are: No substitutions/No Equals

   LCN        4600 Series and 9500 Series
   Gyro Tech  GT710 Series
   Stanley    D4990 Series

The Architect/Engineer (A/E) shall review the manufacturer’s door weight limits.

08 73 00. PROVISIONS FOR NOISE CONTROL: Refer to PART ONE and to the Program of Requirements for possible special requirements. On machine room doors and other doors where excessive noise is anticipated, weatherstripping at heads and jambs and surface applied automatic door bottoms shall be specified.

08 74 00. ACCESS CONTROL and ALARM MONITORING SYSTEM (ACAMS) – Doors, Frames and Hardware

.1 All card reader and/or electrically unlocked or monitored doors shall be equipped with Request to Exit functions and latchbolt monitoring integral to the door hardware. Door position switches required for each door.

.2 Card reader and/or electrically unlocked doors shall be operated as pairs where applicable.

.3 Wiring in door frames shall be in conduit from the transfer hinge location to a junction box external to the frame for connection to the Access Control and Alarm Monitoring System (ACAMS).

.4 Hardware equipped with a cylinder/core shall be installed such that the key retracts the latch only and the key action will not permit the door hardware to remain in an unlocked condition.

.5 Doors with electrified exit devices shall utilize Von Duprin EPT-10 power transfer hinges. No substitutions/No equals.

.6 All hardware under this section to be installed per manufacturers specifications. Failure to follow specifications will result in door hardware and security system
malfunctions. Door hardware, electrical, and security contractors shall coordinate the installation and adjustment of door hardware components to perform as part of an integrated Access Control and Alarm Monitoring System.

.7 DOOR APPLICATION / HARDWARE REQUIREMENTS Access Control and Alarm Monitoring System (ACAMS) Doors

.7.1 Exterior Doors with exit devices: Exit devices shall be equipped with electric latch retract, cylinder dogging, pull handle (no thumb latch), request to exit, fully adjustable latchbolt monitoring, door position switches.

.7.2 Interior Doors with exit devices: Exit devices shall be equipped with electric latch retract or electrically unlocking (fail secure) lever trim, request to exit, fully adjustable latchbolt monitoring, door position switches.

.7.3 Fire Exit Doors: Fire Exit - doors with exit devices-fail safe electric trim with request to exit, fully adjustable latchbolt monitoring, and door position switches.

.7.4 Fire exit doors with mortise lock-fail safe, (Temperature control module where required by manufacturer) request to exit, latchbolt monitoring, door position switches.

.7.5 Mortise Lock Doors: Fail Secure, request to exit, latchbolt monitoring, door position switches.

.7.6 Power Transfer Hinges: Exit Devices - Von Duprin EPT-10, No substitutions/No equals. Mortise Locks - wired ball bearing transfer hinges.


.7.8 Power Supplies: Per manufacturer's specifications.

.7.9 Auto opener/card reader operated door: Access system shall enable outside button upon authorized card swipe as determined by the Access Control and Alarm Monitoring System (ACAMS). A successful card swipe shall not automatically energize the automatic opener. The interior button shall remain active at all times and provide a request to exit signal to the ACAMS system as well as initiate the auto opener. There shall be a delay in the auto opener activation such that the door hardware latches are retracted fully before the auto opener begins the door open cycle.

.7.10 Prohibited Hardware

.7.10.1 No Vertical Rod hardware to be utilized on any Access Control and Alarm Monitoring System (ACAMS) operated or monitored door.

.7.10.2 No electric strikes.

.7.10.3 No magnetic locks.

.7.10.4 No PIR request to exit.

.8 ELECTRICALLY LOCKING / UNLOCKING DOOR HARDWARE- ACCESS CONTROL and ALARM MONITORING SYSTEM (ACAMS)

.8.1 Approved exit devices with integrated request to exit, and fully adjustable latchbolt monitoring switches: No substitutions/No equals
Von Duprin RXLXEL99L-NL rim exit device (latch retract)
Von Duprin RXLXE99L-NL rim exit device (electric trim)

.8.2 Approved delayed egress exit devices – Von Duprin CX99 Chexit.
No substitution/No equals.

The door position switch is to be wired to the device, and the device alarm output connected to the Alarm and Card Access Management System (ACAMS).

.8.3 Approved mortise locks without integrated card reader,
No substitutions/No equals.

Best 35HW7EWEU(15 or 3)J626IDHLS
Best 35HW7EWEL(15 or 3)J626IDHLS
Schlage XL12-245 L9080EU with Latch Monitoring
Schlage XL12-246 L9080EL with Latch Monitoring
(15 or 3) above denotes lever style
BEST 35H Series is available only to Ohio State University.
No substitutions / No equals.

.8.4 Approved mortise locks with integrated card reader,
No substitutions / No equals.

Best 35HW7EEU(15 or 3)MS626 IDH MAX
Best 35HW7EEL(15 or 3)MS626 IDH MAX
(15 or 3) above denotes lever style
BEST 35H Series is available only to Ohio State University.
No substitutions/No equals.

08 75 00 BATTERY POWERED STAND-ALONE LOCKS

.1 Approved Exit Device Card Reader
Best B.A.S.I.S. V EX Trim Series Dual Validation (15 or 3 lever style)
Part number varies based on exit device manufacturer
No substitutions / No equals

.2 Approved Mortise Lock Keypad
Best EZ Series Keypad 35HZ7EV15(or 03) KPSTK626 (Keypad w/ 15 or 3 lever style)
No substitutions / No equals

.3 Approved Exit Device Keypad
Best EZ Exit Hardware Trim
Part number varies based on exit device manufacturer (15 or 3 lever style)
No substitutions / No equals

08 80 00. GLAZING
08 80 10. DESIGN FOR ENERGY CONSERVATION: Refer to PART ONE, paragraph 00030.
08 80 14. WIRED GLASS: Wired glass is not allowed. Substitute InfernoLite FRP 200 and 400 by Globe Amerada, PyroEdge and Pyrobel by Interedge Technologies, SuperLite I and SuperLite I-XL by SAFTI Division of O'Keefe's Inc. and FireLite and Pilkington Pyrostop by Technical Glass Products.
08 80 22. LAMINATED FULLY TEMPERED GLASS: Glass for exterior aluminum and stainless steel doors shall be 1/4 inch thick laminated fully tempered glass insulated units.

.1 LAMINATED FULLY TEMPERED GLASS: Glass for interior doors with vision panels and all sidelights shall be ¼-inch thick laminated fully tempered glass.
.2 LAMINATED FULLY TEMPERED GLASS: Glass for guardrails and balusters shall be 
½-inch thick laminated fully tempered glass.

08 82 30. INSULATING GLASS: The following paragraph shall be included in the specifications; 
edit the heading to apply to the particular type of glass specified.

.1 INSULATING AND REFLECTIVE INSULATING GLASS, GUARANTEE: Provide 
manufacturer’s written guarantee that, for ten years from date of building completion, 
a replacement will be provided for any unit which develops edge separation or other 
defects which materially obstruct vision through the glass or safety or affects the 
insulating qualities; except, that guarantee shall not cover glass breakage from 
physical abuse, earthquake, storm, or similar causes.

.2 PARTIAL SHADING OF INSULATING GLASS can cause stress breakage. 
Manufacturers consider this to be a design error and will not replace glass broken by 
temperature differential stresses. Avoid partial shading of large panes.

08 83 00. MIRROR GLASS: Framed mirrors for toilet and shower rooms should be included in 
Division 10. Large mirrors unframed, or in custom made frames, should be included 
in this division.

END OF DIVISION 08 - OPENINGS