

DIVISION 08 - OPENINGS

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08 00 00. OPENINGS

08 00 03. GENERAL PROVISIONS

- 08 00 10. ALL EXTERIOR DOORS shall be metal, including existing historical buildings (i.e. Hamilton Hall, etc.).
- 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 University Architect's Office ADA Specialist 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 are prohibited for anchorage of any materials.
- 08 00 80. DEMOLITION/REMODELING: Lock and door hardware removals shall be coordinated with The University Lock Shop through the University Architect's Office. All cylinders and cores removed shall remain the property of The Ohio State University, Department of Physical Facilities and are to be returned to the University Lock Shop.

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.

08 10 00. DOORS AND FRAMES (Cont'd)

08 11 13. HOLLOW METAL DOORS AND FRAMES: (Cont'd)

.3 ACCESS DOORS shall be provided at plumbing chases and in ceiling areas. Coordinate with Plumbing and HVAC Contractors. Access door locks to be Best Access Systems 7-pin with removable core. Type to be reviewed and approved by the University Architect's Office.

.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 Associate. 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 lockable access doors shall be equipped with Best Access Systems cylinders with removable 7-pin cores.

08 40 00. ENTRANCES, STOREFRONTS, AND CURTAIN WALLS

08 42 00. ENTRANCES

.1 NARROW STILE AND NARROW TOP AND BOTTOM RAIL ALUMINUM DOORS ARE PROHIBITED.

.2 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

.3 Doors shall be fully glazed.

.4 Doors may have a mid-rail located at the center of the exit devise.

.5 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

.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 barrier and be certified and labeled with AAMA certification.

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 barrier 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.

08 50 00. WINDOWS (Cont'd)

08 50 10. CUSTOM WINDOWS: (Cont'd)

.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.

.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 protection work.

.6 ALL SURFACE MOUNTED AND CONCEALED VERTICAL ROD EXIT DEVICES unless approval is received from the Department of Physical Facilities Lock Shop.

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

.8 SECTIONAL TRIM on mortise locksets.

08 70 00. HARDWARE (Cont'd)

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 Associate 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 sinkages are required.
- .3 PULLS: Bases for grips shall project straight out, perpendicular to face of door. No curved bases.
- .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 the Department of Physical Facilities 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. 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

GUARANTEE: All mortise locksets must have a minimum 3 year manufacturer's warranty. All door closers must have a minimum 10-year manufacturer's warranty. All exit devices must have a minimum 3-year manufacturer's warranty.

- 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.

08 70 00. HARDWARE (Cont'd)

08 71 10. BUTTS: (Cont'd)

.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, 3/4 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 to be supplied by the same manufacturer.

.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.

Door Location or Usage	BHMA No.	Function
.1.1 High Security	<u>F12</u>	Latch bolt by lever either side unless outside lever locked by stop button; when outside lever locked, latch bolt by key outside and lever inside; dead bolt by key outside and turnpiece inside; continuous turn of key retracts both latch and dead bolt.
.1.2 Normal Office	<u>F04</u>	Latch bolt by lever either side unless outside lever locked by stop button; when outside lever locked, latch bolt by key outside and lever inside; auxiliary latch deadlocks latch bolt.
.1.3 Private Office Door,	<u>F07</u>	Latch by lever inside and key Mechanical Equipment outside; outside lever rigid; Rooms, Storage auxiliary latch deadlocks Closets latch bolt.
.1.4 Classroom Door	<u>F05</u>	Latch bolt by lever either side unless outside lever is locked by key outside; inside lever always free; when outside lever is locked, latch bolt by key outside and lever inside; auxiliary latch deadlocks latch bolt.
.1.5 Communicating Doors	<u>F01</u>	Latch bolt by lever either side.
.1.6 Pipe Chase	*	<u>* Classroom Function Deadbolt</u> By key outside; turnpiece inside will retract dead bolt but will not project it; no levers.
.1.7 Outside Entrance Door	**	<u>** Verify function with Lockshop</u> Outside by key only; pull handle outside with no thumb piece; panic bar with <u>dogging by keyed</u> cylinder; latch bolt, no vertical rod.

08 70 00. HARDWARE (Cont'd)

08 71 20. LOCKS: (Cont'd)

.1 FUNCTIONS: (Cont'd)

.1.8 Bath/Privacy F22 Latchbolt retracted by lever or knob from either side unless outside is locked by inside turn piece. Operating inside lever/knob or closing door unlocks lever/knob. To unlock from outside, remove emergency button, insert emergency turn (furnished) in access hole and rotate.

.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.

.1.10 Acceptable lever lock sets are:

<u>Manufacturer</u>	<u>Series</u>	<u>Design</u>
Best Access Systems	35H	15J or 3J
Schlage	L9000	06N or 93N
<u>Corbin Russwin</u>	<u>ML2000</u>	<u>NSM or LSM</u>

08 71 30. CLOSERS: Specify only LCN 4041, Norton 7500, or Dorma 8916. Closers shall be surface mounted, non-handed, 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 exit devices are:

No substitutes/No equals.

<u>Manufacturer</u>	<u>Series</u>	<u>Trim</u>
<u>Von Duprin</u>	<u>98/99 rim type</u>	<u>Exterior - 990 DT or NL</u> <u>Interior - 992L</u>
<u>Precision</u>	<u>Appex 2000 rim type</u>	<u>Exterior - 1703A or 1702A</u> <u>Interior - 4903A or 4908A</u>
<u>Dorma</u>	<u>9000 rim type</u>	<u>Exterior - V302 or V303</u> <u>Interior - YR08C or YR03R</u>

08 71 50. STOPS: Wall mounted convex rubber bumpers, with concealed fasteners. Provide 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.

08 71 60. FLUSH BOLTS: Specify extension type, top and bottom; avoid the use of vertical bars, either concealed or exposed.

08 70 00. HARDWARE (Cont'd)

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 decor. 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 Best Access Systems cylinders with removable 7-pin tumbler cores. For security while the building is under construction, locks shall be equipped with temporary keyed brass construction cores furnished by the Best Access Systems and installed by the General Contractor. Following approval by The University Lock Shop and the Using Agency of the final keying schedule, Best Access Systems will combine permanent cores, cut, and tag keys and deliver cores and keys directly to The University Lock Shop for installation by The University Lock Shop in exchange for temporary cores removed by The University Lock Shop and returned to the Best Access Systems.

.2 The Associate shall place in the specification that the Hardware Contractor shall enter into an agreement with the University Lock Shop to install the final cores during the construction period. Provide an allowance for this work after consulting with the University Lock Shop for current/projected charges per core (approximately 1/10 hour per core at the University's current Skilled Craft Rate).

.3 CYLINDERS FOR MISCELLANEOUS LOCKS: Specify Best Access Systems cylinders with 7-pin tumbler cores for all locking devices specified in any division of the specifications. Ascertain that locking devices will accept Best Access Systems cylinders.

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.

.3 INSTALLATION AND EQUIPMENT shall be provided by a factory authorized and trained distributor.

.4 OPERATOR SYSTEM - As approved by the University Architect's Office ADA Specialist.

.5 MAINTENANCE MANUALS in triplicate shall be provided to the University Architect's Office 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.

08 70 00. HARDWARE (Cont'd)

08 72 00. POWER DOOR OPERATORS (Cont'd)

.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 The following are the only acceptable handicapped operators: Besam Power Swing Model 350, LCN 4600, or Dorma Model ED800.

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/CENTRAL CAMPUS SECURITY SYSTEM – 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 Central Campus Access System.

08 70 00. HARDWARE (Cont'd)

08 74 00. ACCESS CONTROL/CENTRAL CAMPUS SECURITY SYSTEM Cont'd

.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 Continuous hinges/doors shall utilize Von Duprin EPT- 10 or equivalent power transfer hinges that are independent of the continuous hinge. No wired continuous hinges are permitted.

.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 Card Access and Alarm Monitoring System.

.7 DOOR APPLICATION / HARDWARE REQUIREMENTS - Central Campus System 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, latchbolt monitoring, door position.

.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, latchbolt monitoring, door position.

.7.3 Fire Exit Doors: Exit device doors - electrically locking lever trim (fail safe), request to exit, latchbolt monitoring, door position.

.7.4 Mortise lock doors: electrically locking, fail safe. (Temperature control devices may be required by some manufacturers). Request to exit, latchbolt monitoring, door position.

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

.7.6 Power Transfer Hinges: Exit Devices - Von Duprin EPT-10 or equivalent. Mortise Locks - wired ball bearing transfer hinges.

.7.7 Delayed Egress Devices: Von Duprin 99 Series Chexit or equivalent. Interior doors - Lever trim. Exterior doors - Exit only function.

.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 card access system. 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 access 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.

08 70 00. HARDWARE (Cont'd)

08 74 00. ACCESS CONTROL/CENTRAL CAMPUS SECURITY SYSTEM (Cont'd)

.7 DOOR APPLICATION / HARDWARE REQUIREMENTS (Cont'd)

.7.10 Prohibited Hardware

.7.10.1 No Vertical Rod hardware to be utilized on any card access system 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 BATTERY POWERED STAND-ALONE LOCK

.8.1 Mortise Lock Card Reader: Best BASIS V series 35HBV7EV15(or 03)DV626 (dual validation w/ 15 or 03 style lever). No substitutions.

.8.2 Exit Device Card Reader: Best BASIS V EX Trim series - Dual Validation, 15 or 03 style levers - Part number varies based on exit device manufacturer. No substitutions.

.8.3 Mortise lock keypad: Best EZ series keypad - 35HZ7EV15(or 03) KPSTK626 (Keypad w/ 15 or 03 style lever). No substitutions.

.8.4 Exit Device Keypad: Best EZ Exit Hardware Trim - 15 or 03 style levers. Part number varies based on exit device manufacturer. No substitutions.

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 GLASS: Glass for exterior aluminum doors shall be 1/4 inch thick laminated safety glass, or an approved equal.

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