

08 70 00 FINISH HARDWARE

Description

- .1 Supply and installation of all finish hardware.
- .2 Coordinate with other relevant sections including but not limited too; rough carpentry, masonry, doors and frames, curtain wall, aluminum storefronts, door accessories, glazing, electrical, power door operators, security, access control, etc...

Design Criteria and Notes

GENERAL:

- .1 It is intended that the following list of hardware will cover all finish hardware and accessories used by Queen's University, Kingston campus.
- .2 Only the items shown on the following list are permitted to be used on Queen's University, Kingston campus.
- .3 Any deviation for the items shown on the following list will need explicit approval from Queen's University construction project manager, as well as the Facilities Lock shop.
- .4 The use of a hardware item not covered will need explicit approval from Queen's University construction project manager, as well as the Facilities Lock shop.
- .5 All hardware items must be compatible with Queen's University, Kingston campus 'keying & cylinders' standards, NO EXCEPTIONS.
- .6 Provide a hardware schedule indicating the type of lockset or exit device recommended and the type cylinder required. Queen's Facilities will consult the potential occupying faculties or departments in order to establish their individual needs and develop a basic master- keying plan to meet these needs. For new capital projects or major building redevelopment the master key plan shall then be submitted to "Medeco Canada" keying records management for comments and approval.
- .7 The following products shall be avoided as much as possible:
 - Maglock installations.
 - Electrical Automatic Door Operator installation. Use the pneumatic types instead.

Application:

- .1 Only hardware items satisfying standards CAN/CGSB-69 series and ANSI/BHMA A156 series are acceptable for use, except otherwise indicated. Use hardware recognized by ULC for fire-rated-doors.
- .2 All hardware to match make of existing unless requested otherwise.

Keying & Cylinders:

- .1 The following two-cylinder manufactures are used exclusively on Queen's University, Kingston campus. No other cylinders acceptable, NO EXCEPTIONS:
 - Corbin / Russwin
 - Medeco

If provided by GC (see above):

- .1 All cylinders to be master-keyed on existing master key system as per Queen's University requirements, using keying Queen's Facilities Lock shop schedule standards.
- .2 Supply the following:
 - One key cabinet with the required capacity plus 10%, such as made by Lund.
 - Number of keys per lock: 3.
 - Number of master keys per system: 10.
 - Construction keys as required.
 - Extractor keys as required.
- .3 Supply keys directly to Owner, in properly identified envelopes.

If provided by Queen's University (see above):

- .1 Two (2) keys shall be supplied with each cylinder.
- .2 When installing the Medeco cylinders, the contractor shall use the accompanying change key to verify the cylinders are functional. Contractor shall then return the key to its original container which is returned to the university locksmith staff when the installation is complete.

Key functions:

- .1 Circuit Entry: Can be unlocked for periods of time but can also be locked on a personal basis.
- .2 Classroom: Can be unlocked to give access to groups of people.
- .3 Storage: Always remains on the lock position – key use is essential.
- .4 Passage: No cylinder.
- .5 Privacy: No cylinder

Fastenings:

- .1 Use fasteners compatible with the materials they penetrate. Exposed fastening devices to match finish of hardware. Stainless steel hardware to be fastened with stainless steel fasteners.
- .2 Where pull is scheduled on one side of door and push plate on other side, supply fastening devices, and install so pull can be secured through door from reverse side. Install push plate to cover fasteners.
- .3 Use cross recessed countersunk flat mushroom head screws for attachment of kickplates, push plates, and similar devices.

Electrified hardware:

General:

- .1 Classroom function is required on locksets at all electronically secured doors.
- .2 Wiring schematics detailing all electrical components for each door opening to be prepared by the hardware manufacture at the request and with the support of the hardware supplier.

Installation and wiring:

- .1 Shall be done by Electrical trades up to the Control boxes. All necessary pneumatic, conduit and wiring connections to the electrical hardware elements shall be done by this division.
- .2 All access-controlled doors to have door closers supplied and adjusted at time of installation.
- .3 All access control hardware to installed by qualified tradesman competent in the installation of finishing hardware with minimum of (5) years experience shall be used. The installer shall adjust, clean and make good all installation of Finishing hardware to the satisfaction of the Universities Security manager or hardware consultant.
- .4 Final inspection to be carried out by the Hardware Supplier consultant whose name is written on the cover sheet and Product representative. Representative to provide written certification that hardware has been installed and adjusted as intended. Once written documentation is provided that the access-controlled opening is functioning 100% will Protection Services dedicate the necessary resources to complete and commission the system at that door Above and beyond manufactures specifications, the door needs to be tested that:
 - It closes form any position in its swing including from a position resting on the latch.
 - That all door pins fit securely in receptacles.
 - No excessive play of latch in strike.
 - No preload exerted on electrified hardware.
 - Door does not rub on floor or any part of frame.
 - Door closer is adjusted properly, (not over tightened to make up for other door deficiencies.)
 - No excessive gaps under, above or between twin doors.

Low Voltage Wiring for Electrified Hardware:

- .1 All wiring to be stranded, FT6 rated (exposed) or FT4 rated (totally enclosed in a non-combustible raceway): EMT conduit or as indicated on drawings. Use as specified, 18ga 2 conductor wires, stranded; 22ga foil shielded 4 conductor wires, stranded; and 22ga foil shielded 6 conductor wires, stranded.

UofO Standard Products: For Protection Wiring:

- .1 White & Green Conductors are reserved for:
 - Latch Bolt Monitor (Electric Strike)
 - Exit to Request (Electrified Mortise)
 - Door Contact
- .2 Red & Black Conductors, 22ga, are reserved to provide power to:
 - Electric Strike
 - Electrified Mortise
- .3 Pneumatic tubing: To be rated plenum.
- .4 Automatic Door Closer Delay Timing: Delay: Unless otherwise requested, operation

required delays to be:

- 5 seconds after actuator is pushed before the door closer is activated.
- 12 seconds when door is full opened before closing.

Actuators:

- .1 Actuators, whether wired or wireless, to be connected individually to the door closers control box.
- .2 Run an additional 6 Conductor Wires to actuator for eventual card reader installation, on corridor side.

Electric Strikes:

- .1 Door frames to adapt to sizes of specified electric strikes.
- .2 To install a Classroom function lock to permit locking the door if electric strike is out of order.
- .3 Fail safe position during power outage shall be in unlock position. Fail secure position during power outage shall be in locked position.
- .4 Power to be connected to the Red or White and Black Conductor wires, 22ga.
- .5 Latch Bolt Monitor to be connected to Green & White Conductor wires.

Connection:

- .1 If a scheduled card-reader or similar security system is to be connected to Fire- rated door, electrified mortises or similar electrified hardware should be installed and not electrical strikes, in order to maintain a positive latch all the time.
- .2 In Fire-rated doors, door operators to be connected to electrical strike, and card readers to be connected to electrified mortises.

PRODUCTS

Hardware Items

- .1 Some of the listed products are shown as different choices, to adapt to different situations.
 - Coordination with Facilities personnel is mandatory.
 - Queen's University Standard Products:

| DEVICE | TYPE | SUPPLIER | PRODUCT | FINISH | NOTES |
|--|--|----------------------|---------|--------|--|
| Actuator switches: These are the "Preferred" Any version of Camden Door Controls would be acceptable for operating/controlling ADO's. Any Equivalent LCN product would be acceptable as well. | | | | | |
| | 4-1/2" (121mm) x 2" (50mm) rectangular 4-1/2" Square | Camden Door Controls | CM-35/4 | SS | Wired Wheelchair symbol, blue (To be used with discretion) |
| | | Camden Door Controls | CM-45/4 | SS | |

| | | | | | |
|-----------------|---|----------------------|----------|-----|--|
| Actuator Switch | 6" Round | Camden Door Controls | CM-60/4 | SS | Wired Wheelchair symbol, blue 6" for replacements only UofO Standard |
| | Wireless Transmitter | Camden Door Controls | CM-TX-9 | n/a | |
| | For 4 1/2" (114mm) Actuator Switch | Camden Door Controls | CM-59S | SS | Tapered edge CM-49A is Semi-recessed into wall |
| | | LCN | CM-49A | ABS | |
| Escutcheon | For 6" (152mm) Actuator Switch 1 1/2" (38mm) x 4 3/4" (121mm) rectangular 4 1/2" x 4 1/2" x 2" Square | Camden Door Controls | CM-89S | SS | Tapered edge |
| | | Camden Door Controls | CM-23 | ABS | |
| | | Camden Door Controls | CM-43CBL | ABS | |
| | 6" x 1-3/4" Round 6-1/2"W x 6 1/2"H x 2". For use with CM-45/46 Series | Camden Door Controls | CM-69S | ABS | Flush box, Standard Depth, flame/Impact resistant black polymer (ABS) |
| | | Camden Door Controls | CM-55CBL | ABS | |
| Surface Box | 6-5/8"DIA x 2"D 4-1/2" (121mm) x 2" (50mm) rectangular | Camden Door Controls | CM-57CBL | ABS | Flush, Round, Standard Depth, flame/Impact resistant black polymer Wired Wheelchair symbol, blue (To be used with discretion) |
| | | Camden Door Controls | CM-35/4 | SS | |
| | 4-1/2" Square 6" Round | Camden Door Controls | CM-45/4 | SS | Wired Wheelchair symbol, blue 6" for replacements only UofO Standard |
| | | Camden Door Controls | CM-60/4 | SS | |
| | Wireless Transmitter For 4 1/2" (114mm) Actuator Switch | Camden Door Controls | CM-TX-9 | n/a | Wireless Transmitter (To be used with discretion) Tapered edge CM-49A is Semi-recessed into wall |
| | | Camden Door Controls | CM-59S | SS | |

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|---------------------------|---|-------------------------|------------------------------|-----------|--|
| Flush Box | 1 1/2" (38mm) x 4 3/4" (121mm) | LCN | CM-49A | ABS | Rectangular |
| | For 6" (152mm) Actuator Switch | Camden Door Controls | CM-89S | SS | Tapered edge |
| | 1 1/2" (38mm) x 4 3/4" (121mm) rectangular | Camden Door Controls | CM-23 | ABS | |
| Door Closers: | | | | | |
| Automatic Door Openers | Electromechanical | LCN Senior Swing | 9540 LCN PREFFERED | | Push Side |
| | Electromechanical | LCN Senior Swing | 9530 LCN PREFFERED | | Pull Side |
| | Electromechanical | LCN Senior Swing | 2800 LCN PREFFERED | | Double Operating Door Applications |
| | | | LCN 4600 Series | 4631 | Pull Side |
| | | | LCN 4600 Series | 4642 | Push Side |
| | Pneumatic | LCN | 4810 c/w 925 tubing | 689 | Pull side |
| 4820 c/w 925 tubing | | | 689 | Push side | |
| Control Boxes | With or without Compressor | LCN | 7981 | | One door operation |
| | | | 7982 | | Two door operation |
| Controls | Barrier free | DCI Glyn Johnson | | | |
| Closers | Surface mount | LCN | 1461 Narrow styles | 689 | Acceptable for all doors except exterior stairwells and corridors |
| | | | 4040XP PREFFERED | | Acceptable for all doors |

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| Overhead Stop | Concealed | Glynn-Johnson | 100 series | US32D (alum) | |
| | | | | | |
| Coordinator: | | | | | |
| Door Coordinator | Carry Bar | IR Security & Safety | COR32, 42, 52, 60,72 | | Model to suit conditions |
| | | | | | |
| Cylinders & Locks: | | | | | |
| Coded locks | Cylindrical Mortise | Schlage | C0-100 | 26D | |
| | Mailbox | Weiser, Riopel | | | |
| Locks | Deadlock latch paddle | Adams Rite | MS 1850 series 4710 X 4590 | Match door | For Exterior Aluminium Framed Glass Doors |
| Cylinders | Interior or Exterior | Medeco | To suit lock type | 626 | |
| Dead locks | Mortise | Schlage Sargent | L460 series 4870 series | 626 26D | |
| Patiobolt | Deadlock | Abloy | MC82 | Satin Chrome | Surface-mount, for sliding and bi- fold doors |
| | | | | | |
| Electrical Strikes: | | | | | |
| | | | | | To include LBM and LCM monitoring and be configured for 24Vdc operation |
| Electric Strikes | Frame surface Mounted | HES | 9600 Series | 630 | c/w latch monitor - 6 wires |
| | | HES | 9500 Series | 630 | For panic bars c/w latch monitor – 6 wires |
| | | HES | 9400 Series | 630 | |
| Electric | Frame Mortise Mounted | HES | 1600/1500 Series | 630 | |

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|--|------------------|-------------------------|--|-----|----------------------------------|--------------------|-----|---|
| Strikes With Fire Rating (Fixed panel mounted) | | | Preferred | | | | | |
| | | | HES | | | HES 1006 LBM | 630 | For Mortise lock c/w latch monitor – 6 wires |
| | | | HES | | | HES 8500 Series | 630 | For narrow Panels 1-1/4 " (32mm) W x 4/7/8" (124mm)H (Face Plate) x1-5/16" (33mm) D c/w latch monitor – 6 wires |
| Power Supply | Electric Strikes | Von Duprin Securiton | | | | | | |
| | | | | | | | | |
| Exit Devices: | | | | | | | | |
| Exit device (Panic Bar) | Rim/Mortise | Von Duprin | 98 series | 626 | If Electrified use QEL System | | | |
| | | Von Duprin | 35A Series | 626 | | | | |
| Exit Lever Trim | | Von Duprin | 996L with 98E O or 99E O | 626 | | | | |
| Electrified Breakaway Lever Trim | | Von Duprin | E996L with 98E O or 99E O | 626 | | | | |
| Hinges: | | | | | | | | |
| Hinges | Butt* | Hager | BB1168 | 26D | | | | |
| | | McKinney | TA2714, T4A3786 | 26D | | | | |
| | | Stanley | FBB179, FBB168 | 26D | | | | |

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|---|-------------------------------|----------------|--------------------------------------|-----|---|
| | Continuous | McKinney | MCK-12HD / MCK- 25D | CLA | |
| | | Roton | 780 112 HD(alum) 780 224 HD (HMD) | CLA | |
| | | Select | SL11HD (alum) SL24HD (HMD) | CLA | |
| *Note: Consider using offset hinges in order to accommodate the latest OBC recommended minimum Accessibility door clearances. | | | | | |
| Latch Guard: | | | | | |
| Latch Guard | Outswing | MAG Security | Mag 8849-AL 11-3/4" | AL | |
| | | | | | |
| Power Transfer | | | | | |
| Electric Power Transfer (Connections for Electric | Electric Power Transfer (EPT) | Von Duprin | EPT10 | Al | Fire Rated |
| Strikes / Electrified Mortise or Other) | | | | | (Preferred option) |
| | Concealed Door Loop (CDL) | Command Access | CDL-AL-FX | SS | Flexible (in renovations) |
| | Power Transfer Loop (PTL) | RCI | 9509 Flex Loops | SS | Surface Mounted Heavy Duty Versions (To limit used) |
| | ETH Hinges | Command Access | Model to swuit | SS | (To limit used) |
| Kick plates: | | | | | |
| Kick Plates | | | | Al | 3mm thick, with rounded edges |
| | | | | | |
| Levers: | | | | | |

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|---|---|-------------------------------------|---|-----|--|
| Electrified Lever & Mortise | Electrified Mortise Functions : Classroom | Command Access Technologies Schlage | ML170 w/ 03B or L909x Series | 626 | Classroom. To be Fail secure in FRR partition application, With "Req. to Exit" option. |
| Electrified Latch Device | | Von Duprin | E996L with 98EO or 99EO | 626 | With "Req. to Exit" option |
| Exit Lever Trim | | Von Duprin | 996L with 98EO or 99EO | 626 | |
| Cylindrical Locks | Mortise Functions : Office Storeroom Classroom | Schlage | ALX Series RHO | 626 | |
| Mortise & Lever | Mortise Functions : Classroom Storeroom Passage with Levers | Schlage | L9000 series 03B | 626 | Unless otherwise advised, Office function (e.g. L9050) is prohibited. |
| Patch Fittings for All Glass Doors/ Walls: | | | | | |
| Patch Fittings for Mortise on Glass Door | | CRL | 6" x 10" LH Center Lock | SS | (Ref. to Mortise & Levers for types) |
| Patch Fittings for Electric Strike on Glass Door | | | LH/RHR Center Lock Glass Keeper | SS | (Ref. to Electric Strikes for types) |
| | | | | | |
| Pull / Pushes / Stops: | | | | | |
| Flatware – Pulls- | Kick plate Push plate | Gallery Specialty | GSH80A (Screwed) GSH81AA (Screwed) GSH401 | 32D | |

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|-------------------------------------|------------------------|----------------------|---|------------------------|---|
| Bolts, and similar | Flush bolts | Hager | Alternate | 32D | |
| | | Standard Metal | Alternate | | |
| | | CBH | Alternate | | |
| Door Stops | Floor mount | Gallery specialities | GSH 218 | SS | |
| Magnetic catch | Triple Magnetic catch | Hardware Hut | AME-BP9798AW | AL | |
| Weather stripping: | | | | | |
| Sound-dampening & Weather-stripping | Weather stripping | K N Crowder | W - 2 0 N W 2 0 P | AL Neoprene Pile | Heavy Duty |
| | Door sweep | | W24S | AL | |
| | Threshold | | CT 11 / 12 / 32 | AL | |
| | Threshold stop | | CT40P | AL | |
| | Automatic Door Bottoms | | CT-52F | AL | Surface mount preferred for simpler maintenance |
| | Sound Trap & stripping | Zero International | #870 (Head & Jamb) #365 (Aut. Door) | AL | Based on 49 STC Sealing system |

| | | | | | |
|--|----------------------|-------|-------------------------------------|--|--|
| | | | bottom) #566A (Threshold) | | |
| | Weather Stripping | Pemko | Series 306 | | |

End of
Section