

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 of cylinder required. Queen's Facilities will consult the potential occupying faculties or departments 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:
 - a. Maglock installations.
 - b. 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:
 - a. Corbin / Russwin
 - b. 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:
 - a. One key cabinet with the required capacity plus 10%, such as made by Lund.
 - b. Number of keys per lock: 3.
 - c. Number of master keys per system: 10.
 - d. Construction keys as required.
 - e. 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:
 - a. It closes form any position in its swing including from a position resting on the latch.
 - b. That all door pins fit securely in receptacles.
 - c. No excessive play of latch in strike.
 - d. No preload exerted on electrified hardware.
 - e. Door does not rub on floor or any part of frame.
 - f. Door closer is adjusted properly, (not over tightened to make up for other door deficiencies.)
 - g. 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, 18 ga 2 conductor wires, stranded; 22 ga foil shielded 4 conductor wires, stranded; and 22 ga foil shielded 6 conductor wires, stranded.

UofO Standard Products: For Protection Wiring:

1. White & Green Conductors are reserved for:
 - a. Latch Bolt Monitor (Electric Strike).
 - b. Exit to Request (Electrified Mortise).
 - c. Door Contact
2. Red & Black Conductors, 22 ga, are reserved to provide power to:
 - a. Electric Strike
 - b. Electrified Mortise
3. Pneumatic tubing: To be rated plenum.

4. Automatic Door Closer Delay Timing: Delay: Unless otherwise requested, operation required delays to be:
 - a. 5 seconds after actuator is pushed before the door closer is activated.
 - b. 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, 22 ga.
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 a Fire-rated door, electrified mortises or similar electrified hardware should be installed and not electrical strikes, to always maintain a positive latch.
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:
 - a. Coordination with Facilities personnel is mandatory.
 - b. 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.					
Actuator Switch	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	
	6" Round Wireless Transmitter	Camden Door Controls	CM-60/4	SS	Wired Wheelchair symbol, blue 6" for replacements only UofO Standard
		Camden Door Controls	CM-TX-9	n/a	Wireless Transmitter (To be used with discretion)
	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	
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	
	Camden Door Controls	CM-35/4	SS	Wired Wheelchair symbol, blue (To be used with discretion)	

Surface Box	4-1/2" Square	Camden Door Controls	CM-45/4	SS	Wired Wheelchair symbol, blue 6" for replacements only UofO Standard
	6" Round	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)
		Camden Door Controls	CM-59S	SS	Tapered edge CM-49A is Semi-recessed into wall
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		Push Side
			PREFERRED		
	Electromechanical	LCN Senior Swing	9530 LCN		Pull Side
			PREFERRED		
	Electromechanical	LCN Senior Swing	2800 LCN		Double Operating Door Applications
			PREFERRED		
		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 PREFERRED		Acceptable for all doors
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 Strikes With Fire Rating (Fixed panel mounted)	Frame Mortise Mounted	HES	1600/1500 Series Preferred	630	
		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 98EO or 99EO	626	

Electrified Breakaway Lever Trim		Von Duprin	E996L with 98EO or 99EO	626	
Hinges:					
Hinges	Butt*	Hager	BB1168	26D	
		McKinney	TA2714, T4A3786	26D	
		Stanley	FBB179, FBB168	26D	
	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:					
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			6" x 10" LH Center Lock	SS	(Ref. to Mortise & Levers for types)
Patch Fittings for Electric Strike on Glass Door		CRL	LH/RHR Center Lock Glass Keeper	SS	(Ref. to Electric Strikes for types)

Pull / Pushes / Stops:					
Flatware – Pulls- Bolts, and similar	Kick plate Push plate Flush bolts	Gallery Specialty	GSH80A (Screwed) GSH81AA (Screwed) GSH401	32D	
		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-20N W20P	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			

08 70 00 Finish Hardware
 Queen's University Building Design Standards

			#870 (Head & Jamb) #365 (Aut. Door bottom) #566A (Threshold)	AL	Based on 49 STC Sealing system
	Weather Stripping	Pemko	Series 306		