Part 1 General

1.1 Summary

.1 Unless otherwise indicated, follow the standards below when specifying hardware work. These standards are not intended to restrict or replace professional judgment.

.2 Unless otherwise indicated, all standard hardware sets were established to suit single door leaf of 36” (915mm) x 84” (2135mm) x 1 ¾” (45mm).

.3 This document is completed by section 08 71 10 “Hardware Groups”.

1.2 Design Requirements

.1 All existing locksets that are removed shall be taken back by McGill. Coordinate with the Project Manager.

.2 Keying needs have to be elaborated by McGill University. Contact the Project Manager for questions concerning keying and key sections. McGill has its own master keyway.

.3 For projects involving more than 20 doors, the Project Manager shall supply the Contractor with an authorization letter, from McGill’s Security Services, authorizing the Contractor to order the Medeco keys and cylinders. After receiving this official authorization letter from McGill’s Security Services, Medeco shall supply the required number of cylinders directly to the contractor and shall send the required number of keys directly to McGill’s Security Services for sign out. Contractors must wait for confirmation, from McGill’s Security Services, that the keys have been distributed before changing any locks. Provide a minimum of 5 keys per lock / cylinders (quantity to be confirmed by McGill Project Manager).

.4 For less than 20 doors, Medeco keys and cylinders shall be supplied by McGill and installed by McGill.

.5 For each project, the Project Manager and a representative from McGill’s Security Services will meet with the client to determine the required master keying system. Once this is done, McGill’s Security Services will supply Medeco with the required codes, for a project of more than 20 doors. Medeco will provide the cylinders to the sub-contractor. For a project with less than 20 doors, the codes will be given to McGill locksmith for fabrication.

.6 Temporary construction master keys and cylinders to be included for every project and used during construction period, five (5) copies of the construction master key to be given to the McGill Project Manager at the beginning of the project. For a project with less than 20 doors, the temporary keys and cylinders will remain McGill University property and for a project of more than 20 doors, temporary cylinders and keys will remain the general contractor’s property (less the 5 keys returned to McGill) once removed following the installation of the permanent Medeco cylinders.

.7 All hardware for doors in fire separations and exit doors shall be certified by the Canadian Certification Organization accredited by Standards Council of Canada. (ex.: ULC and CSA).

.8 Interior electromagnetic locks are restricted in use. It is accepted in limited circumstances through consultation with Security Services.
.9 When renovating a selected area and changing locks, migrate to Medeco keyway. If the change is to a lock with a numeric keypad or a card reader, the override lock must be on the Medeco keyway. Exceptions must be approved by Building Operations and Security Services.

.10 The installation of new locks not supported or approved by McGill Building Operations or Security Services is forbidden. Users of Lister Locks may continue to use their services to cut new keys for existing locks only. Users who violate this policy will be obliged to conform to it at their own or their department’s expense.

.11 Where a door, or series of doors, restricts movement along a principal circulation artery, electromagnetic hold-open devices shall be used to maintain the continuity of the path of travel, where permitted by the Quebec Construction Code.

.12 In addition to providing power door operators for entrance doors as prescribed by the Quebec Building Code, power door operators are also required:

.1 If an existing door is not readily operable, i.e. more than 38N is required to open an exterior door and more than 22N is required to open an interior door
.2 When the minimum door width cannot be provided
.3 When the minimum clear space required beyond the latch side of the door cannot be provided
.4 When the minimum clear floor area required on the push and pull sides of the door cannot be provided

.13 Finishes:

.1 McGill must approve finishes and models.
.2 In the case of hardware replacement, refer to the existing hardware and finishes as much as possible.
.3 For new installations, 630 stainless steel finish is the standard finish for locksets and exit devices and hinges on exterior doors, other components to be plated to match if not made of stainless steel.

.14 The installation of electric strikes in fire rated doors is not permitted, unless required for automatic door operator compatibility.

.15 Where card readers are required on fire rated doors, electrified mortise locks or electrified exit device shall be used.

.16 Whenever an existing door, with any type of security equipment (i.e.: card reader, contacts, siren, etc.), has to be modified or removed, McGill’s Security Services must be advised. The Contractor shall not remove or modify this type of equipment. This is the responsibility of McGill’s NCS Department.

.17 Panic bars shall be installed on doors in

.1 Fire exits in buildings or rooms with an occupant load greater than 100 people.
.2 Rooms with two (2) points of access that may be used for occupancies other than what the normal design is for, such as Special Events (lounges, conference rooms, recording studios, etc.) used occasionally for large gatherings.
1.3 Guarantee

.1 Guarantee is required for all work under this section for a period of one (1) year from the date of Substantial completion of the work, exception for the door closers that is guaranteed for 10 years, mortise locks and exit devices for a period of three (3) years.

Part 2 Products

2.1 Preferred Products

.1 For products with Environmental Product Declarations (EPDs), which may contribute to LEED® v4 MR Credit Building and Disclosure Optimization – Environment Product Declarations, refer to:


.2 For products with a manufacturer inventory and/or with Health Product Declarations (HPDs), for LEED® v4 MR Credit Building Product Disclosure and Optimization – Material Ingredients, refer to:

.1 Declare Product Database [www.living-future.org/declare-products](http://www.living-future.org/declare-products)

.2 HPD Library [http://hpd.smithgroupjjr.org/](http://hpd.smithgroupjjr.org/)

.3 Materials that are locally sourced (extracted, manufactured, and purchased) within 160 km (100 miles) are preferred and will increase cost values for credit calculations in the Materials and Resources Building Product Disclosure and Optimization credits.

2.2 Door Hardware

.1 Locksets:

.1 Specify mortise type, lever handle locksets equipped with Medeco type lock cylinders, in a master key system to be designed by McGill. With each lockset, furnish companion strike as indicated, for installation on doorjambs.

.2 Manufacturer/Model of Lock/Latch Sets: Specify the following units, or equivalent products of Corbin ML2000 series for renovations in existing buildings.

.1 Office Lockset: ML2051-NSA

.2 Classroom Lockset: ML2055-NSA

.3 Free Passage Lockset: ML2010-NSA

.4 Service/Storage Room Lockset: ML2057-NSA

.5 Privacy lockset: ML2020-NSA

.6 Universal Toilet Room: ML2030-NSA with M34 ergonomic thumbturn inside and emergency release tool outside.

.7 Mechanical Room/ Telecom Room/ Elev.+Service Room: ML2057-NSA

.8 Stairways, corridors and high traffic spaces: Mortise ML 2010-NSA

.9 Fail secure electrified mortise lock for access control (card reader) and fire-rated doors applications: ML20906 NSA x 12VDC x M92

(For some application, the build-in latch bolt monitoring suffix M91 or build in latch bolt monitoring M91 plus security monitor M105 may be required. To be coordinated with McGill Project Manager and NCS).
.3 Where existing cylindrical lockset existed, added locks during minor renovations should be cylindrical, CL3300 NZD x 626 series from Corbin/Russwin to be used. Buildings that have cylindrical locksets are:

- # 101 - 1033 des Pins
- # 112 – James Administration
- # 122 – New Chancellor Day Hall
- # 245 – New Music Elizabeth Wirth
- # 189 – Rutherford Physics
- # 236 – Brown Students Services
- # 229 – Wong
- # 233 – 688 Sherbrooke
- # 249 – Durocher

.2 Strike Plates:

.1 Specify handed-type strike plates with curved lip; flat (non-handed) strikes are not permitted.

.1 Specify strike plates with extended lips where required to protect doorframe and trim from being marred by latch bolt. Specify strike plates that project not more than 1/8 inch beyond doorframe trim at single doors; and flush with face of doors at double (pair) door applications.

.2 Specify custom-fabricated strike plates at existing doorframes if required for compatibility with new lockset or latch set units. Fabricate units of base metal and finish specified. Specify units manufactured by Rockwood or equivalent.

.3 Hinges:

Interior Hinges:

.1 For all light and medium traffic doors such as classrooms, offices, storage rooms, utility rooms, doors that require door closers such as fire rated classrooms and office doors, reasonable traffic washrooms and stairway doors, etc., shall be Medium-Duty (2 ball bearings per hinge) type TA2714, N.R.P. (non removable pin) by "McKinney" or BB1279 (Minimum 4 1/2" x 4") 646, N.R.P. (non removable pin) by Hager. All hinges on washroom doors or custodial areas opening toward inside the room to have stainless steel base hinges such as TA2314, N.R.P. (non removable pin) by "McKinney" or BB1191 (Minimum 4 1/2" x 4") x 630, N.R.P. (non removable pin) by Hager.

.2 For all heavy traffic doors that require door closers, such as exterior doors, student washrooms, high traffic stairways (those in buildings with no elevators), etc., shall be Heavy-Duty (4 ball bearings per hinge) type T4A3786, N.R.P. (non removable pin) by "McKinney" or BB1168 (Minimum 4 1/2" x 4") C15, N.R.P. (non removable pin) by Hager. All hinges on washroom doors or custodial areas opening toward inside the room to have stainless steel base hinges such as T4A3786, N.R.P. (non removable pin) by "McKinney" or BB1199 (Minimum 4 1/2" x 4") x 630, N.R.P. (non removable pin) by Hager.
.2 Exterior Hinges:
  .1 Hinges: shall be type T4A3386 by "McKinney", N.R.P. (non removable pin).
  .2 Specify 5-knuckle, 4 ball-bearing hinges; swaged; inner leaf bevelled; with square corners; non removable pin, complete with set screw (knurled pin not acceptable); and as follows:

.3 Size and Weight: Specify hinges sized and quantity as follows:
  .1 Doors not wider than 3 feet nor taller than 7 feet 6 inches:
    .1 3 hinges Size: 4-1/2 inches by 4 inches.
  .2 Doors not wider than 3 feet nor taller than 7 feet 6 inches for heavy traffic
    .1 4 hinges Size: 4-1/2 inches by 4 inches.
  .3 Doors wider than 3 feet or taller than 7 feet 6 inches:
    .1 4 hinges Size: 5 inches by 4 inches.
  .4 Doors wider than 3 feet or taller than 7 feet 6 inches for heavy traffic
    .1 4 hinges Size: 5 inches by 4 inches.
  .5 Doors 1-3/8 inches thick and not wider than 3 feet nor taller than 7 feet:
    .1 4-1/2 inches by 4 inches.
  .4 McGill will not accept alternative manufacturers of hinges.
  .5 Doors with exit device to have a quantity of minimum 4 hinges regardless the height.
  .6 Continuous hinge: For special application and design such as door with cage or cart passage or aluminum door, continuous hinges may be used. Use only extra heavy-duty type continuous hinge such as the 300 series from Markar for all wood and hollow metal doors and series _FM__SLF-1000 from Pemko for aluminum doors and frames.

.4 Exit Devices (Panic Bars):
  .1 Non-Fire-Rated concealed Mounted Vertical Rod Type Exit Device:
    .1 For use on pairs of doors Concealed mounted, vertical rod type units activated by a partial-width touch-bar, complete with accessories including strike. Equip units with Cylinder key operated dogging device mounted on mechanism housing to hold the touch-bar depressed and the latch bolt in the retracted position.
  .2 Exit Devices with Night latch: Von Duprin model CD9847NL, 996NL-V trim.
  .3 Exit Devices with Dummy trim: Von Duprin model CD9847DT, 996DT trim.
  .4 Exit Devices with Exit only: Von Duprin model 9847EO.
  .5 Exit Devices with lever: Von Duprin model CD9847L-06, 996L-R/V trim.
  .6 LBR, less bottom rod Exit device option to be considered on openings with non-security applications; Example: Corridor egress doors. LBR exit devices shall not be used on exterior door.

.2 Fire-Rated Concealed Mounted Vertical Rod Type Exit Device:
  .1 Fire-rated, ULC listed, concealed mounted, vertical rod type units activated by a partial-width touch-bar, complete with accessories including strike.
  .2 Exit Devices with night latch: Von Duprin model 9847NL-F, 990NL-V trim.
.3 Exit Devices with exit only: Von Duprin model 9847EO-F.
.4 Exit Devices with lever: Von Duprin model 9847L-F-06, 996L-R/V trim.
.5 LBR, less bottom rod Exit device option to be used on openings with non-security applications; Example: double-egress corridor fire-rated doors. LBR exit devices shall not be used on exterior door.

.3 Non-Fire-Rated Mortise Type Exit Device: for high traffic doors.
  .1 Surface mounted, vertical rod type units activated by a partial-width touch-bar, complete with accessories including strike. Equip units with Cylinder key operated dogging device mounted on mechanism housing to hold the touch-bar depressed and the latch bolt in the retracted position.
  .2 Exit Devices: Von Duprin model 9875L, 996L-M-06 trim.

.4 Fire-Rated Mortise Type Exit Device:
  .1 Fire-rated, ULC listed; mortise type units activated by a partial-width touch-bar, complete with accessories including strike.
  .2 Manufacturer/Model of Exit Devices: Von Duprin model 9875L-F, 996L-M-06 trims.

.5 Door Closers:
  .1 Specify closers with field-adjustable, full-range sizing feature capable of complying with manufacturer's size recommendations for application indicated; and complying with applicable portions of the Americans with Disabilities Act (ADA). Fasteners should always be coordinated with door and frame materials.
  .2 Unless otherwise indicated, mount closer bodies on room side (not corridor side) of doors. Refer doubtful conditions to Architect for decision.
  .3 Interior Closers:
    .1 For regular access doors shall be Heavy-Duty type LCN 4040XP 689 finish. Door closers to be installed parallel on LHR and RHR doors, regular or standard mounting on LH or RH doors.
  .4 Exterior Closers: 4040XP-SCUSH 689
    .1 For accessibility doors shall be type LCN P4041 DEL 689 finish.

.6 Door Operators:
  .1 Power assist and low energy power operated doors: to CAN/CGSB-69.35.
  .2 General: Of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for long-term, maintenance-free operation under normal traffic load for type of occupancy indicated.
    .1 Type: Low-energy power operated, complying with ANSI/BHMA A156.19.
    .2 Connections: For power and control wiring.
    .3 Adjustment Features: Fully adjustable without removing entrance doors, including On/Off Feature: On/off/hold-open switch controls electric power to operator.
  .3 Power door operators: Self-contained overhead units, with closing speed controlled by gear train and dynamic braking action of electric motor and with manual operation and spring closing when power is off.
    .1 Closing Mechanism: Power-assisted spring operated.
    .2 Mounting: Surface, otherwise specified.
.3 Manual Operation: Requires less than 9 lbf to set door in motion when power is off, according to ANSI/BHMA A156.10.

.4 Manufacturer/Model No. of Door Operator: Stanley Magic Force, finish 689 or Ditec/Entrematic HA8 Including all necessary accessories Ex: Wall mounted plate actuators, motion sensors and/or presence detectors.

.5 Specify latch monitors for operators used in conjunction with deadbolts.

.6 Motion detectors are recommended for exteriors rather than push plates.

.7 Architectural Door Trim:

.1 Push plates shall be 100 mm x 405 mm (4” x 16”) stainless steel type 70C by Rockwood or approved equivalent. Pulls shall be 111 x 70C by Rockwood.

.2 Push/Pull Set:

.1 Specify pull handles and push plates with concealed mounting fasteners wherever possible, and as follows:

.2 Material: Solid stainless steel.

.3 Finish: Satin.

.4 Manufacturer/Model of Push/Pull Set: Subject to compliance with requirements, specify the following, or equivalent products of Rockwood, Trimco/BBW, Ives, CBH, and Hager in 630 finishes.

Push Plates: Example Rockwood; No. 70C (4 inches by 16 inches).
Pulls: Examples Ives; No. 111 x 70C (10 inches by 1 inch diameter; (4 inches by 16 inches) base plate.

.3 For design or functional purposes (example: aluminum main entrance door, push and pull with a deadbolt, etc.), door pulls and push plates may vary from the standards but must be made of stainless steel, provided in 630 finish and with heavy-duty mountings. To be approved and reviewed by McGill Project Manager.

.8 Pick proof plate:

All exterior reverse swing doors and interior reverse swing doors that lead to a suite or sector shall have a security latch astragal.

.1 Rockwood 325 626 on fire rated door

.2 Royal Arch AST83SS 630 on non fire-rated door

.9 Coded Locks (to be avoided):

.1 Interior Coded Locks:

.1 L1021M Kaba-Ilco with Medeco key plug (supplied and installed by the Contractor & keyed by McGill).

.2 Exterior Coded Locks: Non Acceptable.

.10 Card Readers:

.1 All hardware to be supplied and installed by the general contractor (including electric handle or strike, contact and all 12 V DC wiring).

.2 12 V DC power to be supplied by McGill to secure junction box above door. 2X12 port terminal blocks to be supplied and installed by the general contractor in the junction box to accommodate wiring.

.3 General contractor to wire up all the devices at the door; terminate them on the South side of the terminal blocks.

.4 General contractor to run the wiring from junction box back to the NCS closet; wiring to be connected on the North side. The general contractor’s responsibility for
running this wiring will be determined in the design phase on a per project basis – if the general contractor is deemed not responsible for it, NCS will arrange for this wiring between our NCS closet and the terminal blocks.

.5 Cabling:

.1 All wires shall be white
.2 Reader cable: 1 x 6-18 (Belden 5342FE)
.3 Electric door locking (strike, door handle, crash bar): 1 x 2-18 (Belden 5300FE)
.4 Contact cable: 1 x 4-22(JKT) (Belden 5522UE)
.5 Request To Exit (REX): 1 x BDN Cat5E (Belden 1200)
.6 Handicap motor cable interface (Optional) : 1 x 6-18 (Belden 5342FE)
.7 Tamper switch for reader (Optional) 1 x 4-22(JKT) (Belden 5522UE)
.8 Buzzer (Optional) : 1 x 4-22(JKT) (Belden 5522UE)

.6 Hardware list:

.1 Contacts : (Flush : Interlogix 1078C-N ) (Surface : Interlogix 1085T-N)
.2 Reader : HID (Model to be determined as needed), Regular reader: 920PTNTEK00000, Keypad reader: 921PTNTEK00000
.3 Terminal blocks: Weco 323(-HDS) 12 Poles
.4 Buzzer: Piezo-A-Lert PAL-328 (Optional)

.7 Installation:

.1 For all installations: metal wire mold or conduit shall be used if wires cannot be fished or concealed in the walls/floors/ceiling. Plastic PVC wire mold shall not be accepted. All installations should have metal conduit, plastic is not allowed.
.2 At closet end, all wires are to be tagged (room number / device, etc.) and brought to appropriate panels. At least 10 feet of slack is expected on all cabling. NCS, will have to be present to provide the contractor with access to the NCS closet.
.3 Detailed wiring information will be provided when general contractor/subtrade is prepared to complete the installations.

.1 Card reader: shall be installed 36 inches (Center) to the ground and 6-pair wire to be terminated upon onsite instructions provided by NCS/TIS.
.2 Card reader with door operator: 6-18 cable to be brought inside the motor above door.
.3 Junction box above door- on SECURED Side: wires from various components to be connected in box, on the south side of the terminal poles (information to be supplied to contractor onsite when required).
.4 BDN, contacts and JKT: work wiring information to be supplied to contractor onsite when required.
.5 Buzzer (optional): to be installed on secure side of door, on single gang faceplate : (information to be supplied to contractor onsite when required).

.11 Electric Strikes (to be avoided):

.1 Shall be supplied and installed by the contractor. The 12 V power shall be supplied by McGill.
.2 For metal non fire rated frames; shall be series 1500 x 2005M3 by HES or approved equivalent, voltage 12V.

.3 For wood frames; shall be series 1500 x 2005M3 by HES or approved equivalent, voltage 12V.

.12 Automatic Door Bottom/ Door Bottom Seal:

.1 Specify manufacturer’s standard units of type, size and profile indicated, continuous at bottom of indicated door opening. Specify non-corrosive fasteners.

.2 Manufacturer/Model Automatic Door Bottoms:

.1 For existing and new doors, shall be surface mounted type Pemko 412CPKL or Legacy 7123CA.

.2 For new doors where aesthetic consideration is required, shall be mortise type, Pemko 434APKL (wood door) / 420ASL (hollow metal door) or Legacy 7463CA (wood door) / 7553MA (hollow metal door). For maintenance purposes, mortise door bottom shall only be used when the opening aesthetic is important, otherwise use surface door bottom as listed in 12.2.1.

.13 Electromagnetic Hold-Open Device:

.1 Specify units consisting of a silently operating wall-mounted electromagnet in electrical box with cover plate and door-mounted contact plate. Specify contact plate with swivel adjustment that adjusts to door contact angle indicated on drawings. Specify units that ULC listed.

.2 Minimum holding force: 25 lbs.

.3 Operating Voltage: 12VDC or 120VAC.

.4 If the above is required to be activated/deactivated by LENEL, the Voltage needs to be confirmed. LENEL usually takes 12V.

.5 Finish: Brushed zinc on all visible components.

.6 Manufacturer/Model: LCN model 7830 or Rixson equivalent (surface-mounted).

.7 Manufacturer/Model: LCN model 7840 or Rixson equivalent (recessed).

.14 Door Silencers (bumper): supplied and installed by door manufacturer.

.15 Door Stop and overhead stop: Reinforce the substrate as recommended.

.1 Colour of resilient parts: Grey

.2 Manufacturer / model of stops: Rockwood model indicated or equivalent products of Trimco/BBW.

Model no: 441H (universal floor mount)
Model no: 480H/481H (floor mounted, for mortise door bottom application)
Model no: 415 (universal high impact wall mounted)
Model no: 416 (wall mounted for cylindrical lockset application with push button on the lever > Privacy and office functions)
Model no: 459 Plunger type door holder
Model no: 461L Kick down holder

When required, specify heavy-duty overhead concealed door stop. If low ceiling condition, use heavy-duty surface door stop.
Manufacturer/Model of Overhead Door Stops/ Holders: Rixson #1 series for concealed application and Rixson #9 series for surface application.

.16 Manual/Automatic Flush Bolts:

.1 Manual Flush Bolts: Mortise units, ULC listed and rated for indicated application, with spring loaded snap action levers for manual operation.
Manufacturer/Model of Manual Flush Bolts: Specify Ives or Rockwood equivalent products as follows:

- Metal Doors: FB458 (Ives) / 555 (Rockwood), both top and bottom bolts.
- Wood Doors: FB358 (Ives) / 557 (Rockwood), both top and bottom bolts.

.2 Constant Latching Flush Bolts: Mortise units, ULC listed and rated for indicated application, with automatically retracting bottom bolt, and manually released top bolt when active leaf is opened.

- Metal Doors: FB51P (Ives) / 2845 (Rockwood)
- Wood Doors: FB61P (Ives) / 2945 (Rockwood)

.3 Automatic Flush Bolts: Mortise units, ULC listed and rated for indicated application, automatically retracting when active leaf is opened.

- Metal Doors: FB31P (Ives) / 2842 (Rockwood)
- Wood Doors: FB41P (Ives) / 2942 (Rockwood)

.17 Coordinator:

- A coordinator is a device coordinating pairs of doors with astragals ensuring proper closing sequence. Specify coordinators complete with carry-bar and UL listed and rated for indicated application.

- Model: Series 3094 complete with filler bar and mounting brackets 3095 or 3096 if required and suited for the door size as manufactured by Trimco/BBW.

.18 Thresholds:

- Specify manufacturer’s standard, extruded, anodized aluminium units of type, size, and profile indicated. Specify units continuous across bottom of door openings. Select profile and dimension to suit the application.

- Specify noncorrosive fasteners.

- Manufacturer/Model: Pemko or equivalent products of Hager, Legacy or Zero.

- With thermal break and stop for exterior doors.

- All threshold to meet barrier free handicap code.

.19 Weather-Stripping:

- Weather stripping: Shall be installed continuously at both jambs and at the head with heavy-duty strips consisting of cellular neoprene bars set into extruded aluminium bumpers, surface-mounted to frames.

- Head and jamb seal:
1. Specify manufacturer's standard weather-stripping of type, size and profile indicated, continuous at head and jamb edges of each indicated door opening. Specify non-corrosive fasteners.

2. "CR" suffix below is for clear anodized aluminium finish. Change to "DR" suffix for dark bronze anodized aluminium finish.

3. Manufacturer/Model Jamb Seals: Example Legacy 7123CA, or equivalent products of Zero.

4. Specify manufacturer's standard sound attenuating jamb and head seals of type, size, and profile indicated, continuous at head and jamb edges of scheduled door openings. Specify units with noncorrosive fasteners.

5. Manufacturer/Model: Pemko No. 350 CSR, or equivalent products of Legacy or Zero.

6. Self-adhesive seals at door perimeter are prohibited. Where door seals are required for smoke and sound purposes, use seals as recommended in section 19.2.3.

3 Door bottom seal (sweep):

1. Specify manufacturer's standard weather-stripping of type, size and profile indicated, continuous at bottom edges of each indicated door. Specify non-corrosive fasteners.

2. Suffix below is for clear anodized aluminum finish. Change suffix to "d" for dark bronze anodized aluminum.

3. Manufacturer/Model door bottom seals: Example Pemko; No. 18062C, or equivalent products of Hager, Legacy or Zero.

20 Astragal (full door height)

1. Manufacturer/Model of Astragals: Example Legacy 7383CA with suffix SLC (Strike lip cavity) where required. On exterior door, use security fasteners.

21 Fastenings: Use only the fasteners supplied by the hardware manufacturer. **No self-tapping screw.**

1. Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.

2. Exposed fastening devices to match finish of hardware.

3. Use fasteners compatible with material through which they pass.

22 Kick Plates (protective plate)

1. Specify solid metal units as follows:

   2. Finish: Satin.
   3. Size: 1 1/2 inches less than door width on push side, 1" inch less than door width on pull side, by 0.050-inch thick or otherwise. Kick plates to be size considering other hardware components such has astragals, perimeter seals, surface door bottom, etc.

   4. Manufacturer/Model of Kick plates: Example Rockwood K1050 B4E SA.
   5. Unless otherwise specified, all kick plates should be self-adhesive (SA) and with bevel on all 4 edges (B4E).
   6. Kick plate to be on both side of every wood and hollow metal doors.
Part 3  Execution

3.1  Installation-General

.1 General: Install each hardware item to comply with manufacturer’s printed installation instructions and recommendations for application indicated, unless otherwise indicated by referenced standard or by provisions of this Section.

.2 All deadlocks shall be installed at 1220 mm from floor. Where a deadlock and push and pull set are used on the same door, the push and pull set to be coordinated so the deadlock remains at 1220 mm C/L from the floor.

.3 All locksets shall be installed at 1023 mm C/L from floor.

.4 The adjustment of door closers shall be installed according to their related requirements.

.5 Consultants shall verify all installations of doors and hardware to assure proper levelling and fitting.

3.2  Hardware Final Wiring

.1 The final wiring done by the Network and Communication Services (NCS) (commissioning) should ideally be done with the GC’s cooperation – possibly with them present.

.2 The contractor will connect their wiring to the bus bars as per the following.

.3 Additional coordination with security may be required to finalize the order – NCS will follow-up.

.4 NCS will connect its wires to the other connector plates on the bus bars.
JUNCTION BOX ABOVE DOOR ON SECURE SIDE (ORANGE RECTANGLES OPTIONAL)

END OF SECTION