

**DIVISION 08 OPENINGS**

**Section 08 00 00 Openings - General**

- 1 Refer to DC350, Part 1, Section 2, Division 08, 08 00 00 General unless otherwise specified herein.
- 2 Provide all administration offices and meeting rooms relating to the administration zone with a 600mm wide full height sidelight and solid door.
- 3 Provide all other office/classroom/support areas relating to the administration zone with a door light (minimum 8" x 30").
- 4 Provide all offices in the student support services area, with a 600mm (2 ft. wide) full height sidelight and a solid door.
- 5 Exterior operating windows shall be provided in all areas to be occupied by students and staff, with the exception of the gymnasium and cafeteria kitchen.
- 6 Ensure windows in any room provide a minimum of 10% of the floor area in glazing. Within this 10% glass area, provide operating windows so that, when open, an amount not less than 3% of the floor area of the room (or 1/3 of the glazed area) allows fresh (outside) air into the room.
- 7 All teaching spaces (including the library, cafeteria, administration) to be located on an exterior wall to provide natural light, or have clerestory window areas to provide natural light to the above standards.
- 8 In all internalized teaching spaces, where clerestory windows are incorporated into the design, they shall provide the same amount of glazed area as a classroom on exterior wall (10%) glass area.
- 9 Insect screens on windows are a requirement.
- 10 Ensure Administration and reception areas have natural light.
- 11 Ensure General Library is provided with natural light, either by exterior windows, or if located in the middle of the building, clerestory glazing.
  - 11.1 Glazing area is a minimum of 10% of the floor area.

**Section 08 11 00 Metal Doors and Frames**

- 1 See DC350 Part 1, Section 2, Division 08, Item 08 11 00 Metal Doors & Frames

**Section 08 11 16 Aluminum Doors and Frames**

- 1 See DC350 Part 1, Section 2, Division 08, Item 08 11 16 Aluminum Doors & Frames

**Section 08 14 00 Wood Doors**

- 1 See DC350 Part 1, Section 2, Division 08, Item 08 14 00 Wood Doors, except as follows.
- 2 All wood flush doors to be seven-ply solid with hardwood face and clear finish.

**Section 08 50 00 Windows**

- 1 See DC350 Part 1, Section 2, Division 08, Item 08 50 00 Windows, except as follows.
- 2 Window types to be double hanging and double sliding.
- 3 All classroom and office windows to be of a standard size and type.
- 4 Fenestration systems in Educational facilities shall not be designed with low-e or tinted glazing, with the following exception:
  - 4.1 Soft coat Low -E glazing (Solarban 60) is an acceptable glazing product for use in schools.
- 5 Non-Vision / Translucent Glazing Units (TGU) may be used where appropriate.
  - 5.1 See DC350 Part 1, Section 2, Division 08, 08 80 00 Glazing.
  - 5.2 Use tempered or safety glass in outer pane of TGUs when TGUs are incorporated into ground floor window design.

**Section 08 60 00 Roof Windows and Skylights**

- 1 Skylights shall not be used in Educational Facilities without written approval from the Minister's Representative.
- 2 For design requirements of clerestory windows, refer to PART 1, Section 2, Division 08, 08 00 00 Openings - General, 08 60 00 Roof Windows and Skylights, and 08800 Glazing.

**Section 08 71 00 Door Hardware**

1 Design Criteria

1.1 Coordination

1.1.1 Hold a door hardware coordination meeting following preliminary design development, but prior to detailed design and specification development to confirm requirements of client group. A second meeting should be held prior to specification finalization.

1.1.2 Meeting shall include representatives from the following:

1.1.2.1 Department of Transportation and Infrastructure Renewal

1.1.2.2 Department of Education

1.1.2.3 SST

1.1.2.4 School Board

1.1.2.5 School Faculty

1.1.2.6 School Maintenance personnel

1.1.2.7 Consultant

1.1.2.8 The Consultant may include other sub-consultants as required; such as an Architectural Hardware Consultant and Electrical Sub-Consultant.

1.1.3 Topics of discussion should include: master and grand master keying requirements with respect to current School Board standards; zoning and function of building; theory of use and access; relationship of hardware to electrical and security systems; and primary consideration shall be given to compatibility and maintenance requirements with respect to existing systems.

1.2 Reference Standards

1.2.1 Standard hardware location dimensions in accordance with Canadian Metric Guide for Steel Doors and Frames (Modular Construction) prepared by Canadian Steel Door and Frame Manufacturer's Association.

1.2.2 CAN/CGSB-69.18 /ANSI/BHMA A156.1, Butts and Hinges.

1.2.3 CAN/CGSB-69.19 /ANSI/BHMA A156.3, Exit Devices.

1.2.4 CAN/CGSB-69.20 /ANSI/BHMA A156.4, Door Controls (closers).

1.2.5 CAN/CGSB-69.21 /ANSI/BHMA A156.5, Auxiliary Locks & Products.

1.2.6 CAN/CGSB-69.22 /ANSI/BHMA A156.6, Architectural Door Trim.

1.2.7 CAN/CGSB-69.24 /ANSI/BHMA A156.8, Door Controls - Overhead Holders.

1.2.8 CAN/CGSB-69.29 /ANSI/BHMA A156.13, Mortise Locks and Latches.

1.2.9 CAN/CGSB-69.34 /ANSI/BHMA A156.18, Materials and Finishes.

1.2.10 CAN/CGSB-69.35 /ANSI/BHMA A156.19, Power Assist and Low Energy Power Operated Doors.

1.3 Requirements Regulatory Agencies

1.3.1 Use ULC/ULI listed and labeled hardware for doors in fire separations and exit doors.

1.4 Install hardware to standard hardware location dimensions in accordance with

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Canadian Metric Guide for Steel Doors and Frames (Modular Construction) prepared by Canadian Steel Door and Frame Manufacturers' Association.

- 1.5 After installation, ensure a regular member of the Architectural Hardware Consultants inspect and certify, in writing, that all items and their installation are in accordance with specified requirements, are functioning properly and are in compliance with the Contract Documents.

## 2 Materials

### 2.1 Series 100 - Door Butts and Hinges

#### 2.1.1 Hinges:

- 2.1.1.1 Provide one hinge for each 750 mm or fraction thereof of door height.
- 2.1.1.2 Use ball bearing on all doors unless noted otherwise.
- 2.1.1.3 Size and apply hinges to manufacturer's hinge specification guide. Minimum size for 45 mm door is 112 mm x 100 mm.
- 2.1.1.4 Exterior doors and doors in wet areas are to have non-ferrous hinges of bronze or stainless steel.
- 2.1.1.5 Exterior and out-swinging doors are to have non-removable pins NRP.

### 2.2 Series 200 - Lockset & Latchsets

#### 2.2.1 Lock Sets:

- 2.2.1.1 All locks and latch sets are to be mortised.
- 2.2.1.2 Lever sets are to be ANSI 156.13 Grade 1.
- 2.2.1.3 All mortise locks are to incorporate the following features: backset 70 mm backset, 2 piece mechanical anti-friction latch bolt of 19 mm throw deadbolt throw 25 mm, curved lip strike ANSI 115.1 Listing ULC 120 1D16.2.19. Cylinders are to be 6 pin interchangeable construction core.
- 2.2.1.4 All hardware shall be lever style.

### 2.3 Series 300 - Operating Trim

#### 2.3.1 Overhead Stops and Holders:

- 2.3.1.1 Steel arms on interior doors, bronze arms for exterior doors, standard or heavy duty as indicated.

### 2.4 Series 400 - Exit Device Accessories

#### 2.4.1 Exit Devices:

- 2.4.1.1 All exit devices are to be ANSI 156.3 Grade 1. to be listed under "Panic Hardware" in ULC Accident Hazard Section. All exit devices regardless of type shall be of matching design. Use labeled fire exit devices on fire doors. All trim for exit devices shall be thru bolted to the lock style case. Where required, exit devices shall have touch bar locked down by inside cylinder feature. Finishes shall be in accordance with the finish section of this specification. All exit devices must be of plated finish, painted

finishes are not acceptable.

**2.5 Series 500 - Overhead Closing Devices**

**2.5.1 Door Closers:**

**2.5.1.1** Door closers are to be of modern design with full cover, rack and pinion. Shall meet ANSI A156.4 Grade 1 operational tests and have a minimum 10 year warranty. Closer body shall be warranted for the life of the building. Piston shall be 37 mm minimum diameter. The pinion shaft shall be 16 mm diameter. Back check feature shall be controlled two valves strength and position. non handed. To have heavy duty shock absorber on all exterior doors, i.e. Unitrol parallel arm mounted closer with heavy duty shock absorbing positive stop.

**2.6 Series 600 - Door Controls**

**2.6.1 Automatic Door Openers:**

**2.6.1.1** Switch actuated power operator shall meet the requirements of ANSI 156.19 Rack and Pinion design. Cast aluminum housing. Closing force shall be adjustable to ensure adequate closing control. The unit shall have three position switch ON, OFF, HOLD OPEN. When the motor is energized the door shall be power opened at both a speed and force which are adjustable. Upon reaching the full open position, it shall be adjustable 0-30 seconds. The door shall close under full spring power when the operator motor is shut off at the unit using the OFF switch. Signs shall be provided indicating an automatic barrier free entrance. Provide push button switches as determined by the specific project. Switches are to be located with easy visibility of door but clear of door travel.

**2.7 Series 700 - Protective Plates and Trim**

**2.7.1 Kick plates:**

**2.7.1.1** Kick plates are to be applied to the push side of doors. Polishing lines or dominant direction of any surface pattern to run across the door. Kick plates are to be applied to all washroom service, secondary exit, stairway, locker, kitchen, cafeteria and storage room doors with the exception of classroom doors.

**2.7.1.2** Material: 16 ga. thick 304 stainless steel.

**2.7.1.3** Size: Height as listed, Width - door width less 37 mm doors, 25 mm less for pairs of doors.

**2.7.1.4** Fasteners: No. 6 screws spaced equal distance along a center line, 12.5 mm from edge all around plate and counter sunk.

**2.8 Series 800 - Door Stops, Holders, and Bumpers**

**2.8.1** Specify wherever an open doors or any item of hardware thereon strikes a wall,

column, or other part of the building.

2.9 Series 900 - Special Door Accessories

2.9.1 Door bottom seal: heavy duty, door seal of extruded aluminum frame and solid closed cell neoprene seal, surface mounted closed ends, adjustable automatic retract mechanism when door is open, clear anodized finish.

2.9.2 Thresholds: width as listed for full width of opening, depth to match frame depth.

2.9.3 Weatherstripping

2.9.3.1 To be applied continuously around perimeter of head, jambs and mullions of all exterior doors. Extruded aluminum with neoprene gasket.

2.9.4 Indexed key control system

2.9.4.1 To CAN/CGSB069.21, wall mounted portable system, type, colour enamel paint finish.

2.9.4.2 To accommodate 1.75 times the number of key changes, dual tag system with permanent loan register.

3 Fastenings

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

3.2 Exposed fastenings devices to match finish of hardware.

3.3 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.

3.4 Use fasteners compatible with material through which they pass.

4 Keying

4.1 Doors to be keyed differently, keyed alike, keyed alike in groups and sub and Grand master keyed as directed. Prepare detailed keying schedule for approval after consultation with Contractor's Consultant and user groups.

4.2 Provide keys in duplicate for every lock in this Contract.

4.3 Provide three masterkeys for each MK group.

4.4 Stamp keying code numbers on keys and cylinders.

4.5 All locks and cylinders are to be provided with interchangeable construction cores.

5 Key Storage Cabinet

5.1 Provide wall mounted, lockable, metal, indexed, key control cabinet, enamel paint finish.

5.2 Ensure key controls system is set up with file key tags, duplicate key tags, numerical index, alphabetical index and key change index, label shields, control book and key receipt cards.

**Section 08 74 00      Electro-Mechanical Hardware**

- 1 See DC350 Part 1, Section 2, Division 08, Item 08 74 00 Electro-Mechanical Hardware.

**Section 08 80 00      Glazing**

**1 Design Criteria**

- 1.1 See DC350 Part 1, Section 2, Division 08, Item 08 80 00 Glazing.
- 1.2 One way Glass:
  - 1.2.1 6' wide x 3' high one way glass, suitable to tilt one pane or provide triple glazing to ensure reduction in acoustic transmission through glass area and intercom system.
  - 1.2.2 Provide One Way Glass for:
    - 1.2.2.1 Reading Support Service Room
    - 1.2.2.2 Other project specific locations identified in the program.
- 1.3 For Elementary Schools, Junior High Schools, and High Schools.

**2 Materials**

- 2.1 Non-Vision / Translucent Glazing Units (TGU)
  - 2.1.1 Where non-vision / translucent glazing units are incorporated into the design specify 66% translucent and 34% transparent.
  - 2.1.2 Ensure orientation and filter fabric specifications are as recommended by manufacturer.
  - 2.1.3 Acceptable translucent glazing unit manufacturers:
    - 2.1.3.1 Solera by Advanced Glazings Limited, Sydney, N.S. or equivalent.
  - 2.1.4 6mm clear outer glass, 5mm clear inner glass
  - 2.1.5 U-Value: 0.14 BTU/hr FT<sup>2</sup>
  - 2.1.6 light transmittance: 40%
  - 2.1.7 Fabrication and installation to manufacturer's printed specifications.

**END**