

PART 1 – GENERAL

1.1 RELATED WORK

- .1 Section 07 92 10 – Joint sealants
- .2 Section 08 71 00 – Detention hardware
- .3 Section 09 91 13 – Paint

1.2 WORKSHOP DRAWINGS

- .1 Submit workshop drawings.
- .2 The workshop drawings should clearly indicate each type of door and frame; materials used; thickness of the core; mortise assembly; details of the reinforcements for the glazing; location of the hardware; fastening points and openings; fastenings; fire resistance rating; finish coating; and the assembly for the door type or adjacent partitions.
- .3 Include a chart identifying each door and frame; the markings and door numbers corresponding to the numbers shown in the drawings; and the drawing sheets for the doors and frames.
- .4 The architect will only review the workshop drawings solely to ensure that they conform to the general design concept. This review does not imply that the architect approves the detailed design attached to workshop drawings, which remains the sole responsibility of the contractor who submitted said drawings. Likewise, this review does not relieve the contractor of his or her responsibility in regards to all errors or omissions related to the workshop drawings or his or her responsibility to abide by the construction requirements and contractual documents.
- .5 Do not undertake any manufacturing work before the workshop drawings and samples have been submitted to and approved by the architect.
- .6 Do not undertake any manufacturing work prior to validating on site the flatness of the slabs in collaboration with the construction site manager.

1.3 SAMPLES

- .1 Upon request by the architect, submit a sample of each type of door corner, frame and reinforcements in accordance with the requirements specified in the general and supplementary conditions stipulated.

1.4 WASTE MANAGEMENT AND DISPOSAL

- .1 Place substances that fit the definition of toxic or hazardous waste in the appropriately designated containers.
- .2 Gather and sort plastic waste, paper packaging and corrugated cardboard.
- .3 Fold the metal strips from packaging material, flatten them and place them in the designated recycling area.
- .4 Firmly close and seal containers of partially used adhesives or sealants and store them at moderate temperature in a well ventilated and fireproof space.
- .5 Place tubes and other used sealant containers in an area designated for hazardous materials.

1.5 WARRANTY

- .1 Provide a one (1) year warranty in accordance with the terms and conditions stipulated in the general conditions.

PART 2 – PRODUCTS

2.1 MATERIALS

- .1 Steel: Commercial grade, cold rolled in accordance with ASTM A 366-85 Class 1 standards, hot-dip galvanized finish in accordance with ASTM A 526 G90 standards.
- .2 Doors:
 - .1 Security class doors (DD):
 - .a Base steel thickness, exterior door walls: 2.8 mm, 12 gauge.
 - .2 Base steel thickness of all reinforcement hardware: 3.4 mm, 10 gauge.
- .3 Core of the doors:
 - .1 The core connected to the exterior doors: Insulating urethane or isocyanurate panel, conforming to the CGSB 51-GP-21M-78 norms with thickness indicated on the drawings.

- .4 Welded frames:
 - .1 Thickness of the base steel frames: 2.8 mm, 12 gauge.
- .5 Floor anchors and frame stiffeners: made of steel of at least 1.3 mm thickness.
- .6 T corrugated steel anchor for frames.
- .7 Primer: as per CGSB Standard 1-GP-18M-77 and as amended on March 1978.
- .8 Metal joint filler: according to the manufacturer's specifications.

2.2 MANUFACTURERS

- .1 Unless otherwise indicated in the plans, steel doors and frames should be manufactured in accordance with the specifications provided in the "Canadian Manufacturing Specifications for Metal Doors and Frames," 1982, published by the Canadian Steel Door and Frame Manufacturers' Association (CSDFMA). Doors and frames must be reinforced to meet the requirements for hardware items specified in Section 08 71 00 – Detention Hardware.
- .2 Manufacture doors and frames by welding them continuously and without visible seams on the vertical faces and edges.
- .3 Reinforcement parts for the hinges will be welded continuously to the surfaces of the hinge covers.
- .4 Cut, mortise, reinforce, drill and tap doors, frames and reinforcement parts where required to accommodate hardware, using the drilling templates supplied by the finishing hardware manufacturer. Reinforce doors and frames to accommodate hardware to be mounted.
- .5 Conceal fasteners and leave them visible where indicated.
- .6 Retouch surfaces where the galvanized finish has been damaged during manufacturing.

2.3 DOORS

- .1 Longitudinal edges should be made without visible joints, welded, filled with filling material and then sanded till smooth.
- .2 The top profiles of the exterior doors should be flush to prevent any water infiltration. Refer to the description of the doors in the drawing sheet for the doors and frames.

2.4 FRAMES

- .1 Cleanly trim the mitres and joints, and weld seams continuously inside the section.
- .2 Smooth welded joints and corners, fill with metal filler paste and sand them to a smooth even finish.
- .3 Install mounting brackets to anchor the frames to the floor. These will be welded continuously to the surfaces of the frames.
- .4 Weld two (2) stiffening profiles onto each frame to keep it straight and well aligned.
- .5 Reinforce the top crossbar of frames larger than 1,200 mm.
- .6 For each single door, install three black neoprene bumpers (pads) on strike plate jamb.
- .7 Retouch the frames with primer where the galvanized finish has been damaged during assembly.

PART 3 – EXECUTION

3.1 INSTALLATION – GENERAL

- .1 In case there are irregularities in the flatness of the concrete slab, apply caulking to the bottom of the frames and add additional door bottom to the bottom of the doors when the gap under the door exceeds 12 mm.

3.2 DOOR INSTALLATION

- .1 Install doors and hardware using templates and in accordance with the manufacturer's instructions and in compliance with Section 08 71 00 – Detention hardware.
- .2 Ensure a uniform spacing between doors and mounts and between doors and the floor as follows:
 - .1 Hinge side: 1.0 mm.
 - .2 Lock and lintel sides: 1.5 mm.
 - .3 Top of the finishing under the door to the floor: 13 mm.
- .3 Adjust the moving parts so that the doors function smoothly.

3.3 FRAME INSTALLATION

- .1 Install the frames plumb, square, level and at the correct elevation.
- .2 Affix anchoring elements and connecting elements to the continuous structural framework.
- .3 Hold frames in the closed position using bracing during installation. Install temporary wooden bracing horizontally a third of the way in the opening to keep the width of the frame uniform. When the width of the doorway exceeds 1,200 mm, install a vertical support to hold the lintel in the centre. Remove temporary bracing once the installation of the frames is completed.
- .4 Leave the necessary clearance to allow for deflection and to ensure that structural loads are not transferred to the frames.

3.4 RETOUCHING

- .1 Using primer, retouch the galvanized coating damaged during installation.
- .2 Cover the exposed surfaces of the frame anchors as well as the any surfaces with visible imperfections using metal filler paste then sand until a smooth and uniform finish is obtained.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED WORKS

- .1 Section 08 11 00 – Detention Doors and Frames.

1.2 REFERENCE STANDARDS

- .1 The standardized position of hardware items must meet the Canadian Metric Guide for Steel Doors and Frames (Modular Construction) requirements issued by the Canadian Steel Door and Frame Manufacturers Association.
- .2 The hardware must comply with ANSI/BHMA standards.
- .3 ULC-S533-02 – Devices for maintaining exit doors in the closed position and releasing them.

1.3 SAMPLES

- .1 Submit samples and technical sheets.
- .2 Submit examples of each hardware item to the architect for approval that he/she deems necessary.
- .3 Identify each sample with a label that indicates the applicable specification, trademark, finish and manufacturer's catalogue number.

1.4 HARDWARE LIST

- .1 Submit the hardware list for each door, making sure to include the group number as well as a full description of the hardware used that meets the requirements of the supplementary general conditions.
- .2 Submit catalogue photos and technical data sheets for all products used.

1.5 MAINTENANCE SHEETS

- .1 Provide maintenance sheets for each type of door closer, lock and stop arm that complies with the requirements in the supplementary general conditions.
- .2 Provide instructions to maintenance personnel regarding proper maintenance of hardware, such as lock lubricants, door closer adjustments, cleaning and general maintenance.

1.6 SUPPLEMENTARY MATERIAL

- .1 Provide maintenance equipment in accordance with the supplementary general conditions.
- .2 Provide two sets of keys necessary for the maintenance of door closers, locks and accessories for exits and access to exits.

1.7 DELIVERY AND STORAGE

- .1 Store hardware in a clean, dry and locked area.
- .2 Package each hardware item separately or in groups and attach a label to each package that describes the item, in keeping with the description on the packing slip.

1.8 QUALITY CONTROL

- .1 Upon completion of the work, the Departmental representative will task a specialized and certified firm to perform an inspection of the hardware to ensure that it meets the ANSI standards and conforms to the installation standards of the Canadian Metric Guide for Steel Doors and Frame issued by the Canadian Association of Steel Doors and Frames.

1.9 WARRANTY

- .1 All hardware will be guaranteed for one (1) year under the general terms and conditions.
An extended warranty must be issued for door closers, which will be under warranty for ten (10) years and panic locks, which will be under warranty for three (3) years, depending on the general conditions.
- .2 The merchandise shall be guaranteed and protected against manufacturing defects.
- .3 Items found to be defective in any way will be replaced and any damage caused by these defects will be repaired at no additional cost to Departmental representative.

- .4 The authorized representative of the specialized firm responsible under the article for the electrical or electronically-powered hardware must be jointly bound by the warranty and shall be a co-signatory with the contractor of that section.

PART 2 - PRODUCTS

2.1 HARDWARE

- .1 For similar hardware parts, use only products from a single manufacturer.
- .2 The hardware is as listed in the architectural hardware group at the end of this section.
- .3 All strike plates will be supplied with dust-proof casings.
- .4 The contractor is required to prepare a tender for the materials, accessories and specific equipment as detailed in the specifications and in the drawings.

2.2 FASTENING COMPONENTS

- .1 Provide screws, bolts, expandable pads and any other fasteners necessary for the proper functioning of the hardware parts.
- .2 Visible fasteners must be matched to the finish of the hardware parts.
- .3 Use fasteners made of material that is compatible with the hardware with which it is being used.
- .4 Screws and mounting bolts used must be vandal-resistant.

2.3 KEYING SYSTEM

- .1 The key system and key way should be determined by the subcontractor for this section, in consultation with the Department representative. The supply and installation of the cylinders lies within the scope of the work detailed in this section.
- .2 Locks are subject to a temporary key system during construction. Provide ten (10) copies of the master construction key.
- .3 Provide three (3) keys for each lock and deadbolt. All locks will be subject to a greater master key system. Provide three (3) copies of each master key and great master key. All keys and cylinders should be identified with the key code and the cylinders should bear a stamp on its side.

2.4 DETENTION HARDWARE GROUP

GROUP NO. 1

QTY	DESCRIPTION	PRODUCT NUMBER	FINISH	MFR
4	HINGES	FA # 4-1/2FM-ICS ou SS204FMSS		
1	LOCK	FA # 76 X HM X 70-4B		
1	ESCUTCHEON PLATE	FA # 1	630	
2	CYLINDER-PROTECTOR	FA # 2CS		
2	PULL HANDLE	FA # 2 OU SS 212C		
1	STOP ARM	SERIES 1 (RECESSED)	630	RIXSON
1	DOOR STOP	# CT-32 X WIDTH		KNC

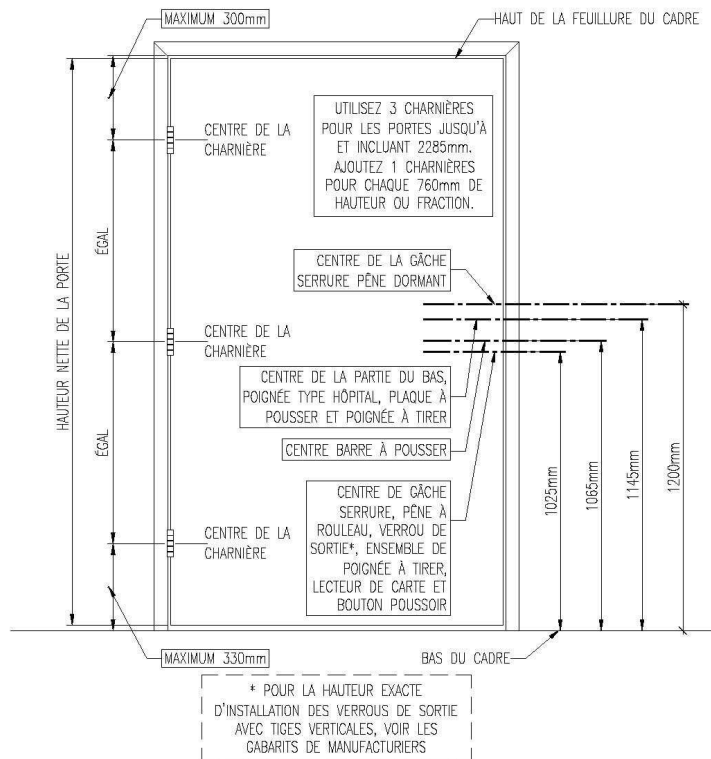
PART 3 – EXECUTION

3.1 RESPONSIBILITY

- .1 The finishing hardware should be suitably adapted to its specified use and should be suitable for its designated location. In the event that any specified or requested hardware does not meet the requirements stipulated or is not modifiable to accommodate or adapt to the designated location, the hardware supplier will seek to resolve the issue or provide suitable modification in a timely manner to avoid delays in the manufacture and delivery of the hardware.
- .2 The work, supplies and services required under this section shall be entrusted to a sole subcontractor, with the exception of the installation of the finishing hardware, which may be entrusted to another subcontractor.

3.2 INSTALLATION INSTRUCTIONS

- .1 Provide the complete installation instructions and necessary installation templates to the metal door and frame manufacturer so they can prepare their products to receive the hardware parts needed.
- .2 Each piece of hardware must be accompanied by the manufacturer's installation instructions.
- .3 Unless otherwise indicated in the plans and specifications, install the hardware parts following the spacing shown in the attached graphic, which details the spacing from the finished floor to the centre line of the room as follows:
 - .1 The weather stripping will be installed on the door on the hinge side and on the frame for the rest of the perimeter.
 - .2 All other hardware items not listed above should be installed according to the dimensions and recommendations specified in the manufacturer's installation instructions.
 - .3 When four (4) hinges are specified per door, the top of the topmost hinge should be 100 mm from the top of the door. The second hinge should be 125 mm from the bottom of the first one. The third hinge should be centered between the second hinge and the bottom most hinge. The last hinge should be 200 mm from the bottom of the door (from the bottom of the hinge).



- .4 Unless otherwise indicated in the plans and specifications, install hardware parts in accordance with the standardized positions required by the norms of the Canadian Metric Guide for Steel Doors and Frames (Modular Construction) issued by the Canadian Steel Door and Frame Manufacturer's Association.
- .5 Installation will be done by qualified and experienced installers who have previously worked with this type of hardware. This includes the adjustments and operational verifications of the different elements implicated during the installation and prior to accepting the work entailed.
- .6 Strike plates or palettes must be installed to allow for the fitting of the hardware.
- .7 Bumpers, weather stripping and acoustic stripping shall be installed after painting. All other hardware besides the hinges will be installed after the second coat of paint, stain or varnish is applied. Door holes, adjustments and mortises must be made before applying the finish to the doors.
- .8 Install hardware plumb using the original screws, bolts and fasteners provided by the manufacturer and as per the manufacturer's instructions. The parts shall be installed flush with the door faces and frames. Adjust the moving parts so that the doors function smoothly. Unless otherwise advised by the architect, no self-tapping and/or self-drilling screws will be accepted, except when provided as a standard fixture by the hardware manufacturer.

- .9 All fasteners, such as screws, etc. will be installed perpendicular to the face of the part. Drill as required. The screws used must be strictly those supplied by the manufacturer and should be installed in accordance with best trade practices. Screws with burrs or that are damaged, misaligned or broken should be replaced.

3.3 INSTALLATION OF STEEL DOORS INCLUDING HARDWARE

- .1 Install and adjust all doors and frames and their designated hardware, including all drillings, mortises, etc., as required by this work (when unplanned). Install all items according to the manufacturer's templates and instructions.
- .2 Receive the complete instructions and installation templates required by the door and frame manufacturers as specified.
- .3 If the door stop must contact the transom, install the stop so that it strikes the bottom of the transom.
- .4 When unplanned, any drilling required for the hardware installation will be performed by the hardware installer on site, as per the templates supplied with each hardware item.
- .5 All hardware parts will be installed using a manual or electric screwdriver (only those with a clutch will be acceptable) – in order to avoid crumbling of the threads and impression of the screw head. Any screws or screw heads with burrs or that are damaged, misaligned or broken should be replaced.
- .6 When installing the hardware, the installer should ensure that the door frames are properly equipped with all the required noise dampeners.
- .7 All hardware must be plumb, firmly anchored and adjusted to best suit its intended function.
- .8 Adjust moving parts so that doors function smoothly.

3.4 ADJUSTMENT AND CLEANING

- .1 Ensure that the installed hardware is properly adjusted to meet project requirements and the manufacturer's recommendations, and that doors function properly as intended.
- .2 Once the project is completed, all hardware should be left clean and intact. The contractor will repair or replace any defective hardware.

3.5 PROTECTION

- .1 Protect all hardware items until the building is delivered back to the care of the Departmental representative.

END OF SECTION