

## PART 1 - GENERAL

### 1.1 References

- .1 American Society for Testing and Materials (ASTM).
  - .1 ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .2 Canadian General Standards Board (CGSB).
  - .1 CAN/CGSB-1.181 - Ready-Mixed Organic Zinc-Rich Coating.
  - .2 CGSB 41-GP-19 - Rigid Vinyl Extrusions for Windows and Doors.
- .3 Canadian Standards Association (CSA).
  - .1 CSA W59 - Welded Steel Construction (Metal Arc Welding).
- .4 Canadian Steel Door and Frame Manufacturers' Association (CSDFMA):
  - .1 CSDFMA Specifications for Commercial Steel Doors and Frames.
  - .2 CSDFMA Recommended Selection and Usage Guide for Commercial Steel Doors.

### 1.2 Shop Drawings

- .1 Submit shop drawings to Contract Administrator. Indicate each type of door and frame, materials, core thickness, mortises, reinforcements, arrangement of hardware, location and methods of anchors, exposed fastenings and reinforcing, and finishes. Indicate details of jamb and head, frame types.

### 1.3 Delivery, Storage and Handling

- .1 Store in a dry location, above ground to prevent corrosion. Protect by suitable means until installed. Brace and stack to prevent warping, bending, twisting or other damage. Replace or make good materials that become damaged or defective as directed by Contract Administrator.

## PART 2 - PRODUCTS

### 2.1 Materials

- .1 Hot dipped galvanized steel sheet: to ASTM A 653 coating designation Z275 (G90).
- .2 Minimum base steel thicknesses for components per CSDFMA Table 1, except:
  - .1 Doors: 1.2 mm (18 gauge).
  - .2 Frames: 1.6 mm (16 gauge).
- .3 Door core materials: polyurethane core bonded to face sheets with heat resistant, epoxy resin based, low viscosity, contact cement.
- .4 Primer: to CAN/CGSB -1.181.
- .5 Door silencers: single stud rubber/neoprene type.
- .6 Top and bottom caps: rigid polyvinylchloride extrusion conforming to CGSB 41-GP-19M
- .7 Sealant (caulking): as specified in Section 07900 – Joint Sealants.
- .8 Foam sealant: spray-applied polyurethane foam sealant, CFC and urea formaldehyde free, non-shrinking after cure. Ener-Foam, Insta-Seal or approved equal in accordance with B6.
- .9 Metallic paste filler: to manufacturer's standard.

### 2.2 Door Hardware

- .1 Hardware Items

.1 Hinges	CB1960 114 x 102 NRP	630	Stanley
.2 Rim Exit Device	2100 x 217F	626	Yale
.3 Weatherstrip	W50		Crowder
.4 Sweep seals	W13S		Crowder
.5 Threshold	CT10		Crowder
.6 Door stop/holder	100H Series	630	Glynn Johnson
- .2 Provide exit device with Medeco cylinder keyed to City of Winnipeg requirements. The City will provide lock number before keying.

### **2.3 Frames Fabrication**

- .1 Fabricate frames in accordance with CSDFMA specifications, welded, thermally broken type construction.
- .2 Blank, mortise, reinforce, drill and tap frames and reinforcements to receive hardware using templates provided by door hardware supplier. Reinforce internally for surface mounted hardware.
- .3 Weld in top hinge reinforcement with 20 mm leg to hinge reinforcement, 25 mm leg to frame. Reinforce head of frames wider than 1200 mm.
- .4 Protect mortised cutouts with steel guard boxes for frames installed in masonry and concrete walls.
- .5 Prepare frame for door silencers.
- .6 Welding in accordance with CSA W59. Accurately mitre or mechanically joint frame product and securely weld on inside of profile. Spot welding not acceptable.
- .7 Grind welded joints and corners to a flat plane, fill with metallic paste and sand to uniform smooth finish.
- .8 Securely attach floor anchors to inside of each jamb profile.
- .9 Weld in two temporary jamb spreaders per frame to maintain proper alignment during shipment.

### **2.4 Frame Anchorage**

- .1 Provide appropriate anchorage to floor and wall construction.
- .2 Locate each wall anchor immediately above or below each hinge reinforcement on hinge jamb and directly opposite on strike jamb.
- .3 Provide two anchors for rebate opening heights up to 1520 mm and one additional anchor for each additional 760 mm of height or fraction thereof.

### **2.5 Door Fabrication**

- .1 Doors: swing type, flush, steel stiffened, insulated core construction.
- .2 Fabricate doors with longitudinal edges welded. Seams: grind welded joints to a flat plane, fill with metallic paste filler and sand to a uniform smooth finish.
- .3 Blank, reinforce, drill doors and tap for mortised, templated hardware. Reinforce doors for surface mounted hardware.
- .4 Reinforce doors with vertical stiffeners, securely laminated to each face sheet at 150 mm on centre maximum. Fill voids between stiffeners with polyurethane core.

### **2.6 Shop Priming**

- .1 Provide touch-up primer at areas where zinc coating has been removed during fabrication or installation.
- .2 Apply in factory one coat of zinc-rich primer CAN/CGSB-1.181 to all exposed surfaces. Properly pre-treat and prepare surfaces before application of primer to ensure good primer adhesion.

## **PART 3 - EXECUTION**

### **3.1 Installation**

- .1 Install doors and frames to CSDFMA Installation Guide.
- .2 Set frames plumb, square, level and at correct elevation. Secure anchorages and connections to adjacent construction.
- .3 Brace frames rigidly in position while building-in. Install temporary horizontal wood spreader at third points of door opening to maintain frame width. Provide vertical support at centre of head for openings over 1200 mm wide. Remove temporary spreaders after frames are built-in.
- .4 Make allowances for deflection of structure to ensure structural loads are not transmitted to frames.
- .5 Install doors and hardware in accordance with hardware templates and manufacturer's instructions. Adjust operable parts for correct function.

- .6 Touch up with primer finishes damaged during installation.

**3.2 Caulking and Sealing**

- .1 Fill head and jamb frame sections with spray foam sealant. Fill shim space around perimeter of frames with spray foam sealant.
- .2 Seal joint between frames and adjacent construction with sealant (caulking). Apply sealant around full perimeter of frames, on both sides of opening. Provide foam backer rod or bond breaker tape behind sealant. Apply sealants in accordance with Section 07900 – Joint Sealants.

**PART 4 - MEASUREMENT AND PAYMENT**

**4.1 Method of Measurement and Payment**

- .1 Steel Door and Frames
  - .1 The supply and installation of steel doors and frame will be measured and paid for at the Contract Lump Sum Price for “Openings”, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification.

~End~

## **PART 1 - GENERAL**

### **1.1 Related Work**

- .1 Steel doors and frames: Section 08100.

### **1.2 References**

- .1 Canadian Steel Door and Frame Manufacturers' Association (CSDFMA)
  - .1 Canadian Manufacturing Specification for Steel Doors and Frames.

### **1.3 Requirements of Industry**

- .1 Hardware for doors in fire separations and exit doors shall be certified by a Canadian Certification Organization accredited by Standards Council of Canada.
- .2 Use UL or ULC approved and labeled hardware for exit doors and doors in fire separations.

### **1.4 Hardware List**

- .1 Submit vertical form hardware schedule. Indicate hardware proposed including make, model, material, function, finish and other pertinent information.

### **1.5 Shop Drawings**

- .1 Submit shop drawings at time of submittal of hardware list.
- .2 Submit shop drawings for electric and electronic door hardware. List each item separately. Indicate schematic wiring diagrams, electrical service requirements, interconnection diagrams, parts lists and part numbers for each item.

### **1.6 Maintenance Materials**

- .1 Supply two sets of wrenches for door closers, locksets, and fire exit hardware.

### **1.7 Delivery, Storage and Handling**

- .1 Store finishing hardware in locked, clean, and dry area.
- .2 Package each item of hardware including fastenings, separately or in like groups of hardware. Label each package as to item. Maintain inventory list with hardware schedule.

## **PART 2 - PRODUCTS**

### **2.1 Hardware Items**

- .1 As specified in the Wall Openings Schedule, Drawing 3 / A2.0. Use one manufacturer's products only for all similar items.

### **2.2 Template and Reinforcing Units**

- .2 Supply all necessary templates, blueprints and reinforcing units to Subcontractors requiring such items for completion of their portion of the Work.

### 2.3 Locksets

- .1 Bring in locksets from factory properly itemized as to keying and location.
- .2 All locks to have 5" backset unless design of door makes this impossible. In that case, backset shall be 2-3/4" or as specified in the Hardware Schedule.

### 2.4 Butts

- .1 Provide doors up to and including 7'-0" in height and 3'-0" in width with 1.5 pair butts. Provide doors over these sizes with two pair butts, or as specified in the Hardware Schedule.

### 2.5 Fastening

- .1 Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.
- .2 Use fasteners supplied by manufacturers with each specific hardware item only. No substitutions will be permitted.
- .3 Exposed fastening devices to match material and finish of hardware.
- .4 Where pull is required 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 plates to cover fasteners.
- .5 Include provisions for drilling push/pull plates to accept lock cylinder where both items occur on the same door.
- .6 Use fasteners compatible with material through which they pass.

### 2.6 Keying

- .1 Key all door locks under existing master key system as directed.
- .2 Submit keying schedule for approval.
- .3 Stamp keying code numbers cylinders.

## PART 3 - INSTALLATION

### 3.1 Installation Instructions

- .1 Furnish door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.
- .2 Furnish manufacturers' instructions for proper installation of each hardware component.
- .3 Install hardware to standard hardware location dimensions in accordance with CSDFMA Canadian Manufacturing Specification for Steel Doors and Frames.

### 3.2 Mounting Heights

- .1 The following dimensions are only to be used as a general guide in the placement of hardware. Where special items are concerned, or uncertainty exists, check with the Contract Administrator before fitting.
- .2 Dimensions indicated are from finish floor to centre line of item, except as noted
  - .1 Knob Locksets:..... 40-5/16"
  - .2 Push/Pull Plates:..... 42"
  - .3 Guard Bars:..... 43"
  - .4 Exit Device (to cross bar):..... 40-5/16"

- .3 Push and pull plates: install 5" from edge of door to centre of plate, unless indicated otherwise. Where pulls are mounted back to back use #5 mounting.

### **3.3 Final Inspection and Certification**

- .4 The hardware supplier shall, upon completion of the Work, visit the job Site, check the installation of all hardware, and certify in writing to the Contract Administrator that the hardware, as specified, has been correctly installed and is in proper working order.

## **PART 4 - MEASUREMENT AND PAYMENT**

### **4.1 Method of Measurement and Payment**

- .1 Hardware
  - .1 The supply and installation of hardware shall be considered incidental to the Contract Lump Sum Price for "Openings"

~End~