

**Part 1 General**

**1.1 RELATED SECTIONS**

- .1 Section 01 33 00 – Submittal Procedures
- .2 Section 01 74 19 – Construction/Demolition Waste Management And Disposal
- .3 Section 07 92 10 – Joint Sealing: Caulking of joints between frames and other building components.
- .4 Section 08 71 10 – Door Hardware: Supply of finish hardware, including weather stripping.
- .5 Section 08 80 50 – Glazing
- .6 Section 09 91 23 – Painting: Interior and exterior
- .7 Division 26 - Electrical: wiring for electronic hardware.

**1.2 REFERENCES**

- .1 American Society for Testing and Materials (ASTM):
  - .1 ASTM A653M-01 – Sheet Steel, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- .2 Canadian General Standards Board (CGSB):
  - .1 CAN/CGSB-1.181-99 – Ready-Mixed Organic Zinc-Rich Coating
  - .2 CGSB 41-GP-19Ma-84 – Rigid Vinyl Extrusions for Windows and Doors
- .3 Canadian Steel Door Manufacturers' Association, (CSDMA):
  - .1 CSDMA, Specifications for Commercial Steel Doors and Frames, 1990
  - .2 CSDMA, Recommended Selection and Usage Guide for Commercial Steel Doors, 1990

**1.3 SHOP DRAWINGS**

- .1 Submit shop drawings in accordance with Section 01 33 00.
- .2 Indicate each door and frame type, materials, material thicknesses, mortises, reinforcing, anchors, openings for glass, and arrangements for standard hardware.
- .3 Include schedule identifying each unit, with door marks and numbers relating to numbering on drawings and door schedule.

**1.4 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance with Section 01 74 19.

- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, and other packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Steel: commercial grade Class 1, with ZF075 galvanized coating designation to ASTM A653M-01, commercially known as 'Colourbond', 'Satincoat' or 'Galvanneal'.
- .2 Conduit: quality and type to meet Electrical Code requirements.
- .3 Insulation (exterior doors): rigid, modified polyurethane, closed cell type; minimum 32 kg/m<sup>3</sup> density.
- .4 Top caps for exterior doors: flush steel, or rigid polyvinylchloride extrusion conforming to CGSB 41-GP-19Ma.
- .5 Polyurethane core adhesive: heat resistant, epoxy resin based, low viscosity, contact cement.
- .6 Lock-seam doors: fire resistant, resin reinforced polychloroprene, high viscosity, sealant/adhesive.
- .7 Touch-up prime: to CAN/CGSB-1.181.
- .8 Metallic paste filler: to manufacturer's standard.
- .9 Glazing: specified in Section 08 80 50.

### **2.2 FRAMES FABRICATION GENERAL**

- .1 Fabricate frames in accordance with CSDMA specifications.
- .2 Fabricate frames to profiles and maximum face sizes as indicated.
- .3 Exterior and interior frames: 1.6 mm welded type construction.
- .4 Blank, reinforce, drill and tap frames for mortised, templated hardware, and electronic hardware using templates provided by finish hardware supplier. Reinforce frames for surface mounted hardware.
- .5 Provide boxes for electric strikes and door contacts.
- .6 Protect mortised cut-outs with steel guard boxes.
- .7 Install 20 mm diameter conduit from top of frames to steel guard boxes for electric door strikes.

- .8 Conceal fastenings except where exposed fastenings are indicated.
- .9 Provide factory applied touch up primer at areas where zinc coating has been removed during fabrication.
- .10 Manufacturer's nameplates on frames and screens are not permitted.

### **2.3 FRAME ANCHORAGE**

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

### **2.4 FRAMES – WELDED TYPE**

- .1 Accurately mitre or mechanically joint frame product and securely weld on inside of profile.
- .2 Cope accurately and securely weld butt joints of mullions, transom bars, centre rails and sills.
- .3 Grind welded joints and corners to a flat plane, fill with metallic paste and sand to uniform smooth finish.
- .4 Securely attach floor anchors to inside of each jamb profile.
- .5 Weld in 2 temporary jamb spreaders per frame to maintain proper alignment during shipment.

### **2.5 DOOR FABRICATION GENERAL**

- .1 Doors: swing type, flush, with provision for glass as indicated.
- .2 Manufacturers' proprietary insulated hollow steel construction.
- .3 Fabricate doors with longitudinal edges welded. Grind welded joints to a flat plane, fill with metallic paste filler and sand to a uniform smooth finish.
- .4 Doors: Blank, reinforce, drill doors and tap for mortised, templated hardware.
- .5 Factory prepare holes 12.7 mm diameter and larger except mounting and through-bolt holes, on site, at time of hardware installation.
- .6 Reinforce doors where required, for surface mounted hardware.
- .7 Provide flush PVC steel top caps to exterior doors.

.8 Provide factory-applied touch-up primer at areas where zinc coating has been removed during fabrication.

.9 Manufacturer's nameplates on doors are not permitted.

## **2.6 DOORS – HOLLOW STEEL CONSTRUCTION**

.1 Form each face sheet for doors from 1.6 mm sheet steel.

.2 Reinforce doors with vertical stiffeners, securely laminated to each face sheet at 150 mm on centre maximum.

.3 Fill voids between stiffeners with polyurethane core.

.4 Make provisions for glazing as indicated and provide necessary glazing stops.

.1 Fabricate glazing stops as formed channels, minimum 16 mm height, accurately fitted, butted at corners and fastened to frame sections with counter-sunk oval head sheet metal screws.

.2 Design exterior glazing stops to be tamperproof.

## **Part 3 Execution**

### **3.1 INSTALLATION GENERAL**

.1 Install doors and frames to CSDMA Installation Guide.

### **3.2 FRAME INSTALLATION**

.1 Set frames plumb, square, level and at correct elevation.

.2 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 Caulk perimeter of frames between frame and adjacent material as specified in Section 07 92 10.

.6 Maintain continuity of air barrier.

### **3.3 DOOR INSTALLATION**

.1 Install doors and hardware in accordance with hardware templates and manufacturer's instructions and Section 08 71 10.

- .2 Provide even margins between doors and jambs and doors and finished floor and thresholds as follows.
  - .1 Hinge side: 1.0 mm.
  - .2 Latchside and head: 1.5 mm.
  - .3 Finished floor and thresholds: 13 mm.
- .3 Adjust operable parts for correct function.

### **3.4 FINISH REPAIRS**

- .1 Touch up with primer finishes damaged during installation.
- .2 Fill surfaces that have imperfections with metallic paste filler and sand to a uniform smooth finish.

### **3.5 GLAZING**

- .1 Install glazing for doors in accordance with Section 08 80 50.

**END OF SECTION**