

PART 1 - GENERAL

1.1 RELATED  
SECTIONS

- .1 Section 01 61 00 - Common Product.
- .2 Section 01 33 00 - Submittal Procedures.
- .3 Section 08 71 00 - Door Hardware.
- .4 Section 09 97 19 - Painting Exterior Metal Surface.

1.2 REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
  - .1 ASTM A 653/A 653M-06a, Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - .2 ASTM B 29-03, Standard Specification for Refined Lead.
  - .3 ASTM B 749-03, Standard Specification for Lead and Lead Alloy Strip, Sheet and Plate Products.
- .2 Canadian Standards Association (CSA International)
  - .1 CSA-G40.20-04/G40.21-04, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
  - .2 CSA W59-03, Welded Steel Construction (Metal Arc Welding).
- .3 Canadian Steel Door Manufacturers' Association (CSDMA)
  - .1 CSDMA, Recommended Specifications for Commercial Steel Doors and Frames, 2000.
  - .2 CSDMA, Selection and Usage Guide for Commercial Steel Doors, 1990.

1.3 SYSTEM  
DESCRIPTION

- .1 Design Requirements:
  - .1 Design exterior frame assembly to accommodate to expansion and contraction when subjected to minimum and maximum surface temperature of -35 degrees C to 35 degrees C.
  - .2 Maximum deflection for exterior steel entrance screens under wind load of 1.2 kPa not to exceed 1/175th of span.

1.4 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.4 SUBMITTALS  
(Cont'd)

- .2 Provide product data: in accordance with Section 01 33 00 - Submittal Procedures.
- .3 Provide shop drawings: in accordance with Section 01 33 00 - Submittal Procedures.
  - .1 Indicate each type of door, material, steel core thicknesses, mortises, reinforcements, location of exposed fasteners, openings, glazed louvred, arrangement of hardware and fire rating and finishes.
  - .2 Indicate each type frame material, core thickness, reinforcements, glazing stops, location of anchors and exposed fastenings and reinforcing fire rating finishes.

1.5 DELIVERY,  
STORAGE AND  
HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Waste Management and Disposal:
  - .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Sheet steel: 1.2 mm and 1.6 mm base thickness, commercial grade steel to ASTM A525M-80 with Z or ZF 001 wiped zinc finish.
- .2 Door Core: Hollow steel: vertically stiffened with 1.2 mm thick steel ribs. Voids filled with semi-rigid fibrous insulation minimum density 24 kg/m<sup>3</sup>.
- .3 Primer: for touch up to CGSB 1-GP-181M+Amdt-Mar78.

2.2 DOOR CORE  
MATERIALS

- .1 Steel doors as detailed, in accordance with Canadian Steel Door and Frame Manufacturers' Association, "Canadian Manufacturing Specifications for Steel Doors and Frames", 1982 for hollow steel construction except where specified otherwise.
- .2 Use 1.6 mm base thickness steel sheet for Doors; remainder to be 1.2 mm base thickness steel sheet.

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| <u>2.2 DOOR CORE<br/>MATERIALS<br/>(Cont'd)</u> | <ul style="list-style-type: none"><li>.3 Mortise, reinforce, drill and tap doors and reinforcements to receive hardware using templates provided by finish hardware supplier.</li><li>.4 Touch up doors with primer where galvanized finish damaged during fabrication.</li></ul>   |
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| <u>2.3 PRIMER</u>                               | <ul style="list-style-type: none"><li>.1 Touch-up prime CAN/CGSB-1.181.<ul style="list-style-type: none"><li>.1 Maximum VOC limit 50 g/L to GC-03.</li></ul></li></ul>  |
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| <u>2.4 PAINT</u>                                | <ul style="list-style-type: none"><li>.1 Field paint steel doors and frames in accordance with Sections 09 91 23 - Interior Painting, 09 91 19 - Painting Exterior Metal Surfaces. Protect weatherstrips from paint. Provide final finish free of scratches or other blemishes.<ul style="list-style-type: none"><li>.1 Maximum VOC emission level 50 g/L to GS-11 to SCAQMD Rule 1113.</li></ul></li></ul>   |
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| <u>2.5 ACCESSORIES</u>                          | <ul style="list-style-type: none"><li>.1 Door silencers: single stud rubber/neoprene type.</li><li>.2 Exterior and interior top and bottom caps: rigid polyvinylchloride extrusion conforming to CGSB 41-GP-19Ma steel.</li><li>.3 Door bottom seal:</li></ul>  |
| <br>  |   |
| <u>2.6 FRAMES<br/>FABRICATION GENERAL</u>       | <ul style="list-style-type: none"><li>.1 Fabricate frames in accordance with CSDMA specifications.</li><li>.2 Fabricate frames to profiles and maximum face sizes as indicated.</li><li>.3 Exterior frames: 1.2 mm welded thermally broken type construction.</li><li>.4 Blank, reinforce, drill and tap frames for mortised, templated hardware, using templates provided by finish hardware supplier. Reinforce frames for surface mounted hardware.</li><li>.5 Protect mortised cutouts with steel guard boxes.</li><li>.6 Prepare frame for door silencers, 3 for single.</li></ul> |
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2.6 FRAMES  
FABRICATION GENERAL  
(Cont'd)

- .7 Manufacturer's nameplates on frames and screens are not permitted.
- .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 Insulate exterior frame components with polyurethane insulation.

2.7 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 2 anchors for rebate opening heights up to 1520 mm and 1 additional anchor for each additional 760 mm of height or fraction thereof.
- .4 Locate anchors for frames in existing openings not more than 150 mm from top and bottom of each jambs and intermediate at 660 mm on centre maximum.

2.8 FRAMES: WELDED  
TYPE

- .1 Welding in accordance with CSA W59.
- .2 Accurately mitre or mechanically joint frame product and securely weld on inside of profile.
- .3 Cope accurately and securely weld butt joints of mullions, transom bars, centre rails and sills.
- .4 Grind welded joints and corners to a flat plane, fill with metallic paste and sand to uniform smooth finish.
- .5 Securely attach floor anchors to inside of each jamb profile.
- .6 Weld in 2 temporary jamb spreaders per frame to maintain proper alignment during shipment.
- .7 Fabricate frame products for openings.

2.9 DOOR  
FABRICATION GENERAL

- .1 Doors: swing type, flush, as indicated.
- .2 Exterior doors: insulated sheet steel construction.
- .3 Fabricate doors with longitudinal edges locked seamed, welded. Seams: visible grind welded joints to a flat plane, fill with metallic paste filler and sand to a uniform smooth finish.
- .4 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 Provide factory-applied touch-up primer at areas where zinc coating has been removed during fabrication.
- .7 Manufacturer's nameplates on doors are not permitted.

2.10 DOORS:  
HONEYCOMB CORE  
CONSTRUCTION

- .1 Form face sheets for exterior doors from 1.6 1.2 1.0 mm sheet steel with honeycomb polystyrene polyurethane core laminated under pressure to face sheets.

2.11 INSULATED  
STEEL DOOR  
CONSTRUCTION

- .1 Form face sheets for exterior doors from 1.2 mm sheet steel.
- .2 Reinforce doors with vertical stiffeners, securely welded laminated to face sheets at 150 mm on centre maximum.
- .3 Fill voids between stiffeners of exterior doors with insulated core.

PART 3 - EXECUTION

3.1 MANUFACTURER'S  
INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 INSTALLATION  
GENERAL

- .1 Install doors and frames to CSDMA Installation Guide.

3.3 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.

3.4 DOOR  
INSTALLATION

- .1 Install doors and hardware in accordance with hardware templates and manufacturer's instructions and Section 08 71 00 - Door Hardware.
- .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.

3.5 FINISH REPAIRS

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