

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 07 92 00 – Joints Sealant
- .2 Section 09 91 00 - Painting

1.2 REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM A653/A653M-19a, Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .1 American National Standards Institute (ANSI)
 - .1 ANSI/SDI A250.8-2017, Specification for Standard Steel Doors and Frames (SDI-100)
- .2 Canadian Standards Association (CSA International)
 - .1 CSA-G40.20-13/G40.21-13 (R2018), General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .2 CSA W59-18, Welded Steel Construction (Metal Arc Welding).
- .3 Canadian Steel Door Manufacturers' Association (CSDMA)
 - .1 CSDMA, Recommended Specifications for Commercial Steel Doors and Frames, 2006.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Provide product data: Indicate door and frame configurations and finishes, location of cut-outs for hardware reinforcement.
- .3 Shop Drawings:
 - .1 Indicate frame elevations, frame section, reinforcement, anchor types and spacing, location of cut-outs for hardware, and finish.
 - .2 Indicate door elevations, internal reinforcement, closure method, and cut-outs for glazing, and finishes.
 - .3 Include schedule identifying each unit, with door marks and numbers relating to numbering on drawings and door schedule.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

Part 2 Products

2.1 MATERIALS

- .1 Hot dipped galvanized steel sheet: to ASTM A653M, Z275.
- .2 Reinforcement channel: to CSA G40.20/G40.21, Type 44W, coating designation to ASTM A653M, Z275

2.2 DOOR CORE MATERIALS

- .1 Expanded Polystyrene Core: Rigid extruded fire retardant, closed cell board, density 16 to 32 kg/m³, thermal values RSI 1.0 minimum, Type 1, in accordance with CAN/ULC-S701.
- .2 Stiffened: face sheets welded, insulated core.
- .3 Adhesive for cores and steel components: Manufacturer's standard heat resistant.

2.3 ACCESSORIES

- .1 Door silencers: single stud rubber/neoprene type.
- .2 Top and bottom caps: Inverted, (legs facing inward) continuously welded, weathertight steel channel.
- .3 Joint Sealers: to Section 07 92 00, colour to match adjacent wall finish.

2.4 DOOR FABRICATION

- .1 Fabricate frames in accordance with CSDMA specifications and as follows:
 - .1 Exterior Doors: Stiffened construction.
 - .2 Face sheet thickness: 1.7 mm
 - .3 Reinforce doors with vertical stiffeners, securely welded to face sheets at 150 mm on centre maximum.
 - .4 Fill voids between stiffeners of doors with polystyrene core.
 - .5 Longitudinal Edges: Mechanically interlocked, continuously welded.
 - .6 Mortised, blanked, reinforced, drilled and tapped for templated hardware, in accordance with templates provided by hardware supplier.
 - .7 Reinforce for surface mounted hardware, anchor hinges, thrust pivots, pivot reinforced hinges, or non-templated hardware.

- .8 Top and Bottom Channels:
 - .1 Recessed, welded steel channels. (legs facing inward); Continuously welded.
- .9 Provide factory-applied touch-up primer at areas where zinc coating has been removed during fabrication.
- .2 Manufacturer's nameplates on doors are not permitted.
- .3 Attach fire rated label to each fire rated door

2.5 FRAMES FABRICATION

- .1 Interior Frames: Face sheet thickness: 1.7 mm
 - .1 Welded type construction.
 - .2 Welding in accordance with CSA W59.
 - .3 Accurately mitre or mechanically joint frame product and securely weld on inside of profile.
 - .4 Weld in 2 temporary jamb spreaders per frame to maintain proper alignment during shipment.
- .2 Mortised, blanked, reinforced, drilled and tapped for templated hardware, in accordance with templates provided by hardware supplier.
- .3 Reinforce frames wider than 1200 mm with roll formed steel channels fitted tightly into frame head, flush with top.
- .4 Prepare frames for three (3) silencers.
- .5 Provide appropriate anchorage to floor and wall construction.
 - .1 Locate each wall anchor immediately above or below each hinge reinforcement on hinge jamb and directly opposite on strike jamb.
 - .2 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.
 - .3 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.
- .6 Attach fire rated label to each fire rated frame

2.6 FINISH

- .1 Finish: Field painted in accordance with Section 09 91 00

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 EXAMINATION

- .1 Verify that opening sizes and tolerances are acceptable; check floor area within path of door swing for flatness.
- .2 Verify doors and frames are correct size, swing, rating and opening number.
- .3 Remove temporary shipping spreaders.

3.3 INSTALLATION GENERAL

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

3.4 INSTALLATION

- .1 Install doors and frames to CSDMA.
- .2 Frames:
 - .1 Coordinate with wall construction for anchor placement.
 - .2 Set frames plumb, square, level and at correct elevation.
 - .3 Secure anchorages and connections to adjacent construction.
 - .4 Brace frames rigidly in position while building-in.
 - .5 Install wood spreaders at third points of frame rebate height to maintain frame width.
 - .6 Provide vertical support at centre of head for openings exceeding 1200 mm in width.
 - .7 Remove wood spreaders after frames have been built-in.
 - .8 Make allowance for deflection to ensure structural loads are not transmitted to frame product.
 - .9 Foam fill shim space at perimeter of frame and open back sections
 - .10 Caulk perimeter of door frame to Section 07 92 00.
- .3 Doors:
 - .1 Install doors, and hardware specified in Section 08 71 00 in accordance with hardware templates and manufacturer's instructions.
 - .1 Adjust operable parts for correct clearances and function.
 - .2 Install door silencers and coordinate installation of glazing.

END OF SECTION