

PART 1 – GENERAL

1.1

Range of works

List of non-limitative works for this section :

1. Supplying and installation of steel doors and frames.

1.2

Related works

1. Hardware..... Section 08 71 10E
2. Glazing Section 08 80 50E
3. Gypsum panels Section 09 21 16E
4. Metallic wall framing system Section 09 22 16E
5. Paint Section 09 91 26E

1.3

Reference standards

1. ASTM A366-85, Specification for Steel, Carbon, Cold-Rolled Sheet, Commercial Quality.
2. ASTM A525-86, Specification for General Requirements for Steel Sheet inc-Coated (Galvanized) by the Hot-Dip Process.
3. Canadian Steel Door and Frame Manufacturers' Association (SDFMA), "Canadian Manufacturing Specifications for Steel Door and Frames", 1982.
4. NFPA 80-1986 Fire Doors and Windows.

1.4

Shop drawings

1. Shop drawings must indicate every type of door, material used, core thickness, mortise assembly, reinforcement pieces, location of apparent fixings, openings, glazing, louvers, position of hardware pieces and fire resistance index.
2. Shop drawings must indicate each type of frame, material used, core thickness, reinforcement pieces, glazing beads, location of apparent anchoring and fixings and types of coating finish.
3. Include table where each door and frame are identified, indicators and door numbers corresponding to numbers indicated on drawings and on door table.

1.5

Material origin

1. Steel frames must be made in Quebec and answer to requirements of Permanent Committee and interdepartmental purchases.

1.6

Requirements from regulation

1. Steel fire stopping doors and frames: bearing authorization label from accredited organism by the Canadian council of standards and who's prescribed or indicated fire resistance index is as per CAN4-S104M-80 (revised in 1985) and CAN4 S105M-1985 standards.

1.7

Scheduling

1. Work carried out in two phases, see drawings limits.
2. Scheduling, see section 01 32 18E and directive Ministerial representative.
3. The place of work is within an occupied building.

**1.8
Guarantee**

1. Provide a certificate of guarantee, signed and issued on behalf of the Ministerial representative, stating that all the works in this section are warranted against defects for a period of five (5) years from the date of signature of the certificate of provisional acceptance work. Comply with section 01 78 00E.

PART 2 – PRODUCTS

**2.1
Materials**

1. Galvanized steel sheet: Commercial quality steel sheet, as per ASTM A526 standards with W025zinc applied by wiping.
2. Steel plates to be folded, as per CAN3-G40.21-M81 standard, nuance 300W.
3. Fire stopping doors and frames: built fire stopping doors and frames as per requirements of regulation organisms and affix authorized seals. Unless stated otherwise, minimal thickness of galvanized steel base used for doors must be 1,2 mm (cal 18) and for frames, 1,6 mm (cal 16).
4. Doors:
 - 4.1 Interior doors "no fire resistance required": 44,5mm (1-3/4") thickness, see door schedule for height and width, gauges 16 panels.
 - Reinforcements for perimeter: gauge 16;
 - Reinforcement for top and bottom, reversed "U" gauge 16 for taper finish;
 - Reinforcement for surface mounted hardware gauges 10;
 - Reinforcements for hinges, gauge 10;
 - Reinforcements for door closer, gauge 16;
 - Core of doors "without fire resistance required":
Interior doors: solidify with vertical stays and steel frame, all empty doors filled of deployed cells retained on the surface of panels by ULC approved adhesive.
 - 4.2 Interior doors "fire resistant", 1hr 1/2, and acoustic STC-42 according to ASTM E90-85 standards, 44,5mm (1-3/4") thickness. See door schedule height and width.
 - Structure and reinforcements of door fire: 1hr 1/2 fire resistant and STC-42 acoustical performance;
 - Reinforcements for hinges, gauge 10;
 - Reinforcement for surface mounted hardware gauges 10;
 - Core of doors "fire resistant":
Vertical stays and of steel frame. Interior filled with acoustical materials, ULC approved.
5. Frame, thickness of construction steel:
 - 5.1 Door frame for acoustical and fire resistant doors: gauge 14.

5.2 Door frame "without fire resistance required": gauge 16.

6. Stops: Simple black neoprene posts, pressure inserted in all pre-drilled holes.
7. Provide other components for doors and frames as per requirements of CSDFMA or needs.

2.2 Production

1. Unless stated otherwise, steel doors and frames must be made as per provided details and as per requirements of "Canadian Manufacturing Specifications for Metal Doors and Frames", 1982, document published by the "Canadian Steel Door and Frame Manufacturers' Association" (SDFMA). Doors and frames must be reinforced in a way to satisfy requirements indicated for hardware pieces stated in section 08 71 10E – Hardware.
2. Cut, reinforce, pierce and screw doors and frames where necessary to be able to receive hardware parts to mortised doors provided by Ministerial representative: adjust to their existing dimensions. Reinforce perimeter of these openings and for door itself. Reinforce frames to be able to receive hardware parts to be mounted on the surface.
3. Prime, in shop, cold laminated steel sheets.
4. Apply, in shop, a primer for touch-ups where zinc was damaged.

2.3 Regular doors

1. Provide and install glazing as per indications.
2. Longitudinal edges must be done without apparent joint, welded, trimmed with filling material, then smooth by sanding. This also applies to fire stopping doors.

2.4 Insulated doors – ULC

1. Insulated steel door and frame, 1H 1/2 fire resistant sound control, according to ASTM E90-85 standards. The door will be made of gauge 14 steel, 45 mm thickness, with all the necessary reinforcements for hardware. The core has to be filled with acoustical material, ULC approved.
2. Caliber 14, thickness 45 mm with reinforcement n° 10 to receive hardware. Vertical stays and steel frames. Interior to be made of approved ULC materials. Finish done in shop with rustproof zinc chromate base paint.

2.5 Doors, frames and galzed partition

1. Door panels build with gauge 16 steel, 45 mm thickness, with all necessary reinforcement to receive hardware, vertical stays. In factory, apply a coat of rust preventive paint containing zinc chromate.
2. Frame will be of gauge 16 steel with all necessary reinforcement to receive hardware, vertical stays and steel frames for anchorage. In factory, apply a coat of rust preventive paint containing zinc chromate. See drawings for positioning.

2.6 Frames

1. Cut miters and joints well and weld making a continuous cord inside section.
2. Grind joints and welded angles, trim them with metal filling paste then rub down until

finish is smooth and uniform.

3. On frames, install mounting feet allowing anchorage of frames to the ground. Install masonry anchoring, protection boxes for striking plates etc, as needed.
4. For each simple door, install three (3) stoppers on the frame to receive striking plate; in cases of double doors, install two (2) of them on lintel.
5. For doors separating a heated space from another unheated one, make frames with thermal bridge breaker for external doors. Use insulating polyvinyl chloride insulation to separate exterior components from interior ones.
6. Build opening for glazing and install glazing bead needed as indicated. Faces of screws must be flushed with metal of glazing bead.

PART 3 – WORK

3.1 General installation

1. Install fire stopping doors and frames as per requirements of volume 4 of the National fire prevention code produced by the National Fire Protection Association (NFPA) 80.

3.2 Door installations

1. Doors, frames and hardware pieces are covered under Section 08 71 10E.
2. Leave a uniform space between doors, frames and framing posts and between doors and floor, as follows :
 - 2.1 Hinge side: 1 mm.
 - 2.2 Bolt and lintel side: 1,6 mm.
 - 2.3 Floor side: 6 mm.

3.3 Frame installations

1. Install frames plumb, square and on level, to appropriate height.
2. Fix anchoring devices and connections to continuous component of structure.
3. Maintain frames with braces during installation work. Temporarily install wooden braces placed horizontally to the third of opening, to maintain constant width of frames. When opening width is over 4'-0", support cross-beam in centre with vertical stay. Remove braces and supports once frames are completely installed.
4. Leave enough space for flexion to ensure that pressure made on structure is not transferred to the frames.
5. For ULC assemblies, coordinate installation steel frames with the 09 21 16E division to ensure continuity and the integrity of fire-resistant separation.
6. To be coordinate with drawings

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