

DIVISION 08

OPENINGS

Part 1 General

1.1 DESCRIPTION

- .1 This section specifies requirements for the supply and installation of hollow steel doors and frames as per drawings.

1.2 RELATED WORK

- .1 Section 07 92 00 – Joint Sealing
- .2 Section 08 71 00 – Door Hardware
- .3 Division 09 – Painting

1.3 REFERENCE STANDARDS

- .1 Canadian Steel Door and Frame Manufacturer's Association.

1.4 STORAGE AND PROTECTION

- .1 Deliver, store and handle all metal doors and frames in such a manner as to prevent damage and deterioration.
- .2 Prevent rust and damage to materials during delivery and storage.
- .3 Stack frames suitably to prevent any damage.
- .4 Store doors upright, in a protected dry area, at least 100 mm off the ground and with at least 12 mm air space between individual pieces; protect all prefinished and hardware surfaces as required.
- .5 Use all means necessary to protect the installed work and materials of all other trades.
- .6 In the event of damage, immediately make all repairs and replacements necessary to the approval of the Contract Administrator and at the Contractor's expense.

1.5 SHOP DRAWINGS

- .1 Submit shop drawings in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Clearly indicate each type of door, material, steel core thicknesses, mortises, reinforcements, locations of exposed fasteners, glazed openings.
- .3 Clearly indicate each type of frame, material, gauge, mortises, reinforcements, anchors, finish and special features.

Part 2 Products

2.1 DOOR MATERIALS

- .1 Hot dipped galvanized steel sheet: to ASTM A653/A653M, coating designation for locations as follows:
 - .1 Z275 (G90): exterior doors and frames.
- .2 For doors and frames with Z275 (G90) coating include factory applied primer (in addition to galvanized coating) as specified in Article “Shop Priming” this Section.

- .3 Insulated core: semi-rigid fibreglass insulation minimum density 24 kg/m³ for all exterior doors.
- .4 Primer: zinc chromate primer to CGSB-1.181.

2.2 DOOR FABRICATION

- .1 Fabricate steel doors in compliance with Canadian Steel Door and Frame Manufacturer's Association, "Canadian Manufacturing Specification for Steel Doors and Frames", for hollow steel and honeycomb core construction, except where specified otherwise.
- .2 Mortise, reinforce, drill and tap doors and reinforcements to receive hardware using templates provided by finish hardware supplier. Refer to Section 08 71 00 – Door Hardware for mounting heights.
- .3 Touch up doors with primer where galvanized finish was damaged during fabrication.

2.3 FRAME MATERIALS

- .1 Sheet steel: commercial grade galvanized to ASTM A653/A653M.
 - .1 Frames: 1.6 mm base thickness steel.
 - .2 Floor anchors, channel spreaders and wall anchors: minimum 1.6 mm base thickness steel.
 - .3 Guard boxes: minimum 0.8 mm base thickness steel.
- .2 Reinforcing channel: to CSA-G40.21-300W.
- .3 Door bumpers: black neoprene stud.
- .4 Primer: to CGSB-1.181.

2.4 FRAME FABRICATION

- .1 Fabricate frames as detailed, to Canadian Steel Door and Frame Manufacturers Association, "Canadian Manufacturing Specifications for Steel Doors and Frames".
- .2 Cut mitres and joints accurately and weld continuously on inside of frame profile.
- .3 Grind welded corners and joints to flat plane, fill with metallic paste filler and sand to uniform smooth finish.
- .4 Touch up frames with primer where galvanized finish is damaged during fabrication.
- .5 Provide jamb anchors for fixing at floor.
- .6 Reinforce head of frames wider than 1200 mm.
- .7 Fill surface depressions and butted joints with metallic paste filler and sand to uniform smooth finish, ready to receive finish painting.

2.5 SHOP PRIMING

- .1 Provide touch-up primer at areas where zinc coating has been removed during fabrication or installation.
- .2 For doors and frames fabricated of steel sheet with Z275 (G90) designation galvanized coating 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.

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Part 3 Execution

3.1 INSTALLATION

- .1 Set frames plumb, 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 Install doors and hardware in accordance with templates and manufacturer's instructions. Maximum permissible warp is 3.0 mm measured diagonally across door. Install door threshold seals as required by hardware schedule and door schedule.
- .6 Adjust operable parts for correct function.
- .7 Fill surface depressions and butted joints with metallic paste filler and sand to uniform smooth finish, ready to receive finish painting.

3.2 DOOR SCHEDULE

- .1 For door, frame and hardware schedule refer to drawings.

END OF SECTION

Part 1 General

1.1 DESCRIPTION

- .1 This section specifies the hardware for all buildings.
- .2 Hardware shall be supplied and installed as part of the Contract.

1.2 RELATED WORK

- .1 Section 08 11 00 - Hollow Steel Doors and Frames

1.3 STANDARDS

- .1 Codes Standards:
 - .1 Conform to NECC 2005 and Manitoba Supplements.
 - .2 Conform to Underwriters Laboratories of Canada, as applicable for labelled hardware in labelled or rated doors and frames.

1.4 SUBMITTALS

- .1 Submittals shall be in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Submit a detailed hardware schedule prior to ordering hardware. The hardware schedule shall show:
 - .1 door details
 - .2 mounting heights
 - .3 finish details
 - .4 symbols, abbreviations
 - .5 manufacturer name and product number
- .3 Label with permanent labels where hardware must have Underwriters Laboratories of Canada label.
- .4 Provide parts and maintenance information, and where wrenches are required for adjustment, provide at least one of each.

1.5 PRODUCT HANDLING

- .1 Delivery:
 - .1 Each item of hardware to be separately wrapped in a manner to prevent damage to finish or surfaces. Deliver items to site with like items packed together, labelled as to exact item identification. Packing list must show quantities of each item shipped.
- .2 Packaging:
 - .1 Include with each item of hardware the following:
 - .1 screws, bolts and fastenings necessary for installation
 - .2 installation instructions
 - .3 special tools required for installation
 - .4 keys for locksets (except as hereinafter noted under "Keying Control System") in a suitable envelope tagged and plainly marked with the change number, door designation and all other identifying information as required.

- .3 Labelling:
 - .1 Legibly mark and adequately label, indicating the part of the work for which it is intended. Deliver hardware required for shop application in ample time so as not to impede the progress of the work.

1.6 COORDINATION

- .1 After the award of the Contract and before furnishing any hardware, carefully check drawings of work requiring hardware, verify door swings, door and frame material and operating conditions and assure that all hardware will properly fit the work to which it is to be attached.
- .2 Cooperate with trades using hardware supplied under this section.

1.7 GUARANTEES

- .1 Provide 2 year warranty for all hardware except for closers which shall have a five (5) year warranty.

Part 2 Products

2.1 GENERAL

- .1 Construct hardware to fit indicated details. Furnish hardware to template and with machine screws for use with metal frames or hollow metal doors. Use template strikes and wrought boxes, strike lip flat or curved as required by the latch and not to be projected beyond the jamb or door face.
- .2 Furnish hardware with fastenings suitable to assure permanent anchorage. Where exposed, countersink, using oval-head fasteners except use flat-head type for hinges. Provide concealed fastenings wherever possible.
- .3 All hardware shall comply with requirements of this section, the Hardware Schedule and local code requirements. The most stringent condition is to be applied. If in doubt, apply to the City for clarification.

2.2 FASTENINGS

- .1 Furnish all hardware with all necessary screws, bolts, and other fasteners of suitable size and type, to anchor the hardware in position for long life under hard use.
- .2 Fastening devices shall be of the same finish and material as the hardware which is to be fastened.
- .3 Furnish fastenings where necessary with expansion shields, toggle bolts, hex bolts, and other anchors approved by the City, according to the material to which the hardware is to be applied and the recommendations of the hardware manufacturer and as specified.

2.3 KEYING

- .1 Stamp keying code numbers on keys and cylinders.
- .2 Deliver all keys to the City upon completion.

Part 3 Execution

3.1 DELIVERIES

- .1 Stock all items sufficiently in advance to ensure their availability and make all necessary deliveries in timely manner to ensure orderly progress of the work.

3.2 INSTALLATION

- .1 Install finish hardware to approved schedule locations.
- .2 Install in accordance with manufacturer's written instruction using the proper template supplied.
- .3 Install to heights and centres scheduled for the component assemblies involved.
- .4 Install each component in compliance with the manufacturer's instructions.
- .5 Set all components level, plumb and true to line and location. Adjust and lubricate so that components will operate smoothly and freely.
- .6 After installation, provide such protection as will adequately protect all finishes from injury until completion of work. Upon completion, and at the time the Project is turned over to the City, each door and frame assembly shall be without blemishes, clean and in proper operating condition.

3.3 ADJUSTMENT

- .1 Rehang or replace doors which do not swing or operate freely.
- .2 Replace doors, frames and other components of the door openings which have been damaged prior to acceptance of the Project by the City.

3.4 ADJUSTING, CLEANING

- .1 During installation of hardware and at completion, adjust hardware as necessary to ensure proper smooth and free operation.
- .2 If shimming is necessary, use only approved non-corrodile metal shimms. Organic materials will not be allowed.
- .3 Ensure key cylinders are properly installed in correct locations in accordance with approved keying schedule and that keys work properly.
- .4 Clean and polish all hardware. Remove any scratched, marred or damaged hardware and replace with new. Ensure all screws are fully set, secure and flush.

3.5 MAINTENANCE MATERIAL

- .1 Supply one set of wrenches for door closer and lockset.

END OF SECTION