

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 07 61 00.

1.2 REFERENCES

- .1 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].
- .3 National Fire Protection Association (NFPA)
 - .1 NFPA 80-[99], Standard for Fire Doors and Fire Windows.
 - .2 NFPA 252-[03], Standard Methods of Fire Tests of Door Assemblies.
- .4 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S701-[01], Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.
 - .2 CAN/ULC-S702-[97], Standard for Thermal Insulation, Mineral Fibre, for Buildings.
 - .3 CAN/ULC-S704-[03], Standard for Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced.
 - .4 CAN4-S104-[M80], Standard Method for Fire Tests of Door Assemblies.
 - .5 CAN4-S105-[M85], Standard Specification for Fire Door Frames Meeting the Performance Required by CAN4-S104.
- .5 ASTM D 790 – Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- .6 ASTM D 638 – Tensile Properties of Plastics.

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.
 - .3 Steel fire rated doors and frames: labelled and listed by an organization accredited by Standards Council of Canada in conformance with CAN4-S104 for ratings specified or indicated.
 - .4 Provide fire labelled frames for openings requiring fire protection ratings.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01330 - Submittal Procedures.

- .2 Provide product data: in accordance with Section 01330 - Submittal Procedures.
- .3 Provide shop drawings: in accordance with Section 01330 - Submittal Procedures.
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Nova Scotia, Canada.
 - .2 Indicate each type of door, material, steel core thicknesses, mortises, reinforcements, location of exposed fasteners, openings, , arrangement of hardware and fire rating and finishes.
 - .3 Indicate each type frame material, core thickness, reinforcements, glazing stops, location of anchors and exposed fastenings
 - .4 Include schedule identifying each unit, with door marks and numbers relating to numbering on drawings and door schedule.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01610 - Basic Product Requirements.
- .2 Waste Management and Disposal:
 - .1 Separate waste materials for reuse and recycling in accordance with Section 01355 - Waste Management and Disposal.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 FRP – Flexural Reinforced Plastic to ASTM D 790.
- .2 Hot dipped galvanized steel sheet: to ASTM A 653M, **ZF75**, minimum base steel thickness in accordance with CSDMA Table 1 - Thickness for Component Parts.
- .3 Reinforcement to CSA G40.20/G40.21, Type 44W, coating designation to ASTM A 653M.
- .4 composites: balance of core materials used in conjunction with lead: in accordance with manufacturers' proprietary design.

2.2 DOOR MATERIALS

- .1 FRP faced non-fire rated corrosion resistant pre-engineered door system, with recessed panels and wood grain.
- .2 Honeycomb construction:
 - .1 Structural small cell, 24.5 mm maximum kraft paper 'honeycomb', weight: 36.3 kg per ream minimum, density: 16.5 kg/m³ minimum sanded to required thickness.

2.3 ADHESIVES

- .1 Honeycomb cores and steel components: heat resistant, spray grade, resin reinforced neoprene/rubber (polychloroprene) based, low viscosity, contact

cement.

- .2 Polystyrene and polyurethane cores: heat resistant, epoxy resin based, low viscosity, contact cement.

2.4 ACCESSORIES

- .1 Door silencers: single stud rubber/neoprene type.
- .2 Fabricate glazing stops as formed channel, minimum 16 mm height, accurately fitted, butted at corners and fastened to frame sections with counter-sunk oval head sheet metal screws.
- .3 Door bottom seal: provide integral weather proof seal .
- .4 Metallic paste filler: to manufacturer's standard.
- .5 Fire labels: as required
- .8 Panel: provide multi panel, 4 recessed custom panels to suit architectural requirements.
- .9 Make provisions for glazing as indicated and provide necessary glazing stops.
 - .1 Provide removable stainless steel glazing beads for use with glazing tapes and compounds and secured with countersunk stainless steel screws
 - .2 Design exterior glazing stops to be tamperproof.

2.5 FRAMES FABRICATION GENERAL

- .1 Fabricate frames in accordance with CSDMA specifications.
- .2 Fabricate frames to profiles and maximum face sizes as indicated.
- .3 Blank, reinforce, drill and tap frames for mortised, templated hardware, using templates provided by finish hardware supplier. Reinforce frames for surface mounted hardware.
- .6 Protect mortised cutouts with steel guard boxes.
- .7 Prepare frame for door silencers, 3 for single door, 2 at head for double door.
- .8 Manufacturer's nameplates on frames and screens are not permitted.
- .9 Conceal fastenings except where exposed fastenings are indicated.
- .10 Provide factory-applied touch up primer at areas where zinc coating has been removed during fabrication.

- .11 Insulate exterior frame components with polyurethane insulation.

2.6 DOOR
FABRICATION
GENERAL

- .1 Doors: swing type, flush, with provision for glass and/or louvre openings as indicated.
- .2 Exterior doors: honeycomb construction. Interior doors: honeycomb construction.
- .3 Doors: manufacturers' proprietary construction, tested and/or engineered as part of a fully operable assembly, including door, frame, gasketing and hardware in accordance with ASTM E
- .5 Blank, reinforce, drill doors and tap for mortised, templated hardware
- .6 Factory prepare holes 12.7 mm diameter and larger except mounting and through-bolt holes, on site, at time of hardware installation.
- .7 Reinforce doors where required, for surface mounted hardware. Provide flush top caps to exterior doors. Provide inverted, recessed, spot welded channels to top and bottom of interior doors.
- .8 Provide factory-applied touch-up primer at areas where zinc coating has been removed during fabrication.
- .9 Provide fire labelled doors for those openings requiring fire protection ratings, as scheduled.

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.
- .6 Maintain continuity of air barrier and vapor retarder.

3.4 DOOR INSTALLATION

- .1 Install doors and hardware in accordance with hardware templates and manufacturer's instructions and Section 08710 - 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, [top of carpet] [noncombustible sill] [and thresholds]: 13 mm.
- .3 Adjust operable parts for correct function.