

Part 1 General

1.1 REFERENCES

- .1 The Aluminum Association Inc. (AA).
 - .1 Aluminum Association Designation System for Aluminum Finishes-DAF 45-03.
- .2 American Society for Testing and Materials International, (ASTM).
 - .1 ASTM A1008/A1008M-04, Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
 - .2 ASTM D523-99 (R1999), Test Method for Specular Gloss.
 - .3 ASTM D822-01, Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.
- .3 Canadian General Standards Board (CGSB).
 - .1 CAN/CGSB-1.105-M91, Quick-Drying Primer. (not referenced in NBCC 2005 or OBC 2006)
 - .2 CAN/CGSB-1.213-95, Etch Primer (Pretreatment Coating) for Steel and Aluminum. (not referenced in NBCC 2005 or OBC 2006)
 - .3 CGSB 1.181-99, Coating, Zinc-Rich, Organic, Ready Mixed. (not referenced in NBCC 2005 or OBC 2006)
 - .4 CAN/CGSB-12.12-M90, Plastic Safety Glazing. (not referenced in NBCC 2005 or OBC 2006)
- .4 Canadian Standards Association (CSA International).
 - .1 CSA G164-M92 (R1998), Hot Dip Galvanizing of Irregularly Shaped Articles.

1.2 SYSTEM DESCRIPTION

- .1 Design Requirements.
 - .1 Design exterior door assembly to withstand windload in accordance with code requirements with a maximum horizontal deflection of 1/240 of opening width.
 - .2 Design door panel assemblies with thermal insulation factor 2.8 RSI.

1.3 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with **Section E3**.
 - .2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets in accordance with Section E3. Indicate VOC's:
 - .1 For caulking materials during application and curing.
 - .2 For door materials and adhesives.

- .2 Shop Drawings
 - .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Indicate sizes, service rating, types, materials, finishes, installation details, operating mechanisms, glazing locations and details, hardware and accessories, and required clearances.
- .3 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.
- .4 Manufacturers' Field Reports: submit copies of manufacturers field reports.

1.4 CLOSEOUT SUBMITTALS

- .1 Provide operation and maintenance data for overhead door hardware for incorporation into manual specified in **Section E4**.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section D13. Waste Management and Disposal, and with Waste Reduction Workplan.
- .3 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .4 Dispose of corrugated cardboard polystyrene plastic packaging material in appropriate on-site bin for recycling in accordance with site waste management program.
- .5 Divert unused metal and wiring materials from landfill to metal recycling facility approved by Contract Administrator.
- .6 Divert unused paint material from landfill to official hazardous material collections site approved by Contract Administrator.
- .7 Do not dispose of unused paint materials into sewer systems, into lakes, streams, onto ground or in locations where it will pose health or environmental hazard.
- .8 Unused or damaged glazing materials are not recyclable and must not be diverted to municipal recycling programs.

Part 2 Products

2.1

- .1 This Section of the Specifications is based on heavy duty insulated sectional overhead metal doors for industrial applications.
- .2 Manufacturers of Insulated Sectional Metal Doors having Products conforming to the requirements of this Section, considered acceptable for use:
 - .1 Richards-Wilcox

- .2 Upwardor Corp.
 - .3 Overhead Door Company
 - .4 Approved equal in accordance with B7.
- .3 Models
- .1 Insulated Sectional Overhead Metal Doors:
 - .1 Richards-Wilcox Thermatite – Model T175,
 - .2 Upwardor Corp. Thermalex 2000 Series.
 - .3 Overhead Door Company Thermacore,

2.2 MATERIALS

- .1 Galvanized steel sheet: commercial quality Z275 zinc coating.
- .2 Steel sheet: commercial quality to ASTM A1008/A1008M, exposed (E), with factory applied powder coating or baked enamel finish.
- .3 Aluminum sheet: prefinished embossed pattern utility sheet.
- .4 Aluminum extrusions: Aluminum Association alloy AA6063-T5.
- .5 Primer: to CAN/CGSB-1.105 for steel CAN/CGSB-1.213 for aluminum CGSB1.181, for galvanized steel surfaces.
- .6 Insulation: polyurethane core to minimum insulating value RSI 2.84.
- .7 Plastic glazing: to CAN/CGSB-12.12.
 - .1 Material: acrylic, clear, double glazed, sealed units.
- .8 Cable: multi-strand galvanized steel aircraft cable with minimum safety factor of 5 to 1.

2.3 DOORS

- .1 Fabricate 45 mm thick insulated flush panel doors of interlocking steel sections from steel sheets with minimum core thickness of 0.48 mm with embossed texture pattern and horizontal stiffening ribs, foamed-in-place insulation core self-laminated to each skin, thermal break between skins, non-corrosive metal end caps.
- .2 Fabricate panel frames in a continuous box frame with vertical stiffeners at 600 mm centres.
- .3 Install glazing for door sections vision panels.
 - .1 Double glazed lites, size 600 mm wide x 200 mm high x 3 mm thick acrylic with rounded corners, mounted in continuous rubber mouldings individually in inner and outer door skins. Number of lites as indicated on drawings.
- .4 Assemble components by means of spot or arc welding or coated rivet system or adhesive and self-tapping screws to manufacturer's recommendations.

- .5 Fabricate doors from prepainted steel stock.

2.4 HEAVY DUTY INDUSTRIAL HARDWARE

- .1 Track: high lift hardware with 75 mm size 2.66 mm core thickness galvanized steel track.
- .2 Track Supports: 2.3 mm core thickness continuous galvanized steel angle track supports.
- .3 Spring counter balance: heavy duty oil tempered torsion spring to counter balance door weight for easy lift operation, with manufacturer's standard brackets.
 - .1 Drum: 200 mm diameter die cast aluminum.
 - .2 Shaft: 32 mm diameter galvanized steel.
- .4 Top roller carrier: galvanized Steel 3.04 mm thick adjustable.
- .5 Rollers: full floating grease packed hardened steel, ball bearing 75 mm diameter solid steel tire.
- .6 Roller brackets: adjustable, minimum 2.5 mm galvanized steel.
- .7 Hinges: heavy duty, 3.04 mm thick galvanized stainless steel as recommended by manufacturer.
- .8 Cable: 6 mm diameter galvanized steel aircraft cable.

2.5 ACCESSORIES

- .1 Overhead horizontal track: galvanized steel, type and size to suit installation, adequately reinforced, braced, and suspended.
- .2 Handles.
 - .1 Flat bar door latch with night latch.
 - .2 Handles: key handle operated from outside, handle operated from inside.
- .3 Two horizontal sliding lock bolts on interior.
- .4 Weather stripping.
 - .1 Sills: bulb type full width extruded neoprene weatherstrip.
 - .2 Jambs and head: extruded aluminum and arctic grade vinyl weatherstrip to manufacturer's standard on exterior surface of each panel.
 - .3 Rubber joint seals full length between sections.
- .5 Weather breaks: overlap each door 25 mm on jambs and head of door opening.
- .6 Finish ferrous hardware items with minimum zinc coating of 300 g/m² to CSA G164.

2.6 PREFINISHED STEEL SHEET

- .1 Prefinished steel with factory applied silicone modified polyester.

- .1 Class F1S.
- .2 Colour selected by Contract Administrator from manufacturer's standard range.
- .3 Specular gloss: 30 units \pm 5 in accordance with ASTM D523.
- .4 Coating thickness: not less than 20 micrometres.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 INSTALLATION

- .1 Install doors and hardware in accordance with approved shop drawings and manufacturer's instructions.
- .2 Do all drilling, tapping and cutting of frames and other work as required to install doors, guides, operators, hardware, fittings, etc., and provide all necessary bolts, anchors, inserts and supplementary framing.
- .3 Rigidly support rail and operator and secure to supporting structure.
- .4 Touch-up steel doors with primer where galvanized finish damaged during fabrication.
- .5 Lubricate and adjust door operating components to ensure smooth opening and closing of doors.
- .6 Install and adjust weather stripping to form a weather tight seal.

3.3 CLEANING

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Remove traces of primer, caulking; clean doors and frames.
- .3 Clean glass and glazing materials with approved non-abrasive cleaner.
- .4 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION