

COILING DOORS

1. GENERAL

1.1 Submittals

- .1 Shop Drawings: Indicate each type of coiling doors, arrangement of hardware, operating mechanism and required clearances.
- .2 Maintenance Data: Provide operation and maintenance data for coiling doors for incorporation into Maintenance Manual.

2. PRODUCTS

2.1 Materials

- .1 Galvanized Steel Sheet: Commercial quality to ASTM A653, Z275 coating designation.
- .2 Steel Shapes, Plates, and Similar Items: CAN/CSA-G40.20-G40.21-M, Grade 350W, hot dipped galvanized to CSA G164.
- .3 Zinc Primer: Zinc rich, ready mix to CAN/CGSB -1.181.
- .4 Insulation: Manufacturer's standard rigid cellular polystyrene or polyurethane-foam-type thermal insulation complying with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, in accordance with CAN/ULC S102.
- .5 Weatherseals: Provide replaceable, adjustable, continuous, compressible weather-stripping gaskets of flexible vinyl, rubber, or neoprene fitted to jambs, bottom and top of exterior doors. At door head, use 3 mm ($\frac{1}{8}$ " thick, replaceable, continuous sheet secured to inside of hood.
 - .1 Motor Operated Doors: Combination bottom weatherseal and sensor edge.

2.2 Fabrication

- .1 Door Curtains: Fabricate overhead coiling door curtain of interlocking galvanized sheet steel slats in baked finish, designed to withstand wind loading indicated, in a continuous length for width of door without splices. Unless otherwise indicated, provide slats of thickness and mechanical properties recommended by door Manufacturer for performance, size, and type of door indicated. Supply and install insulated doors as indicated.
 - .1 Insulated Doors: Fill slat cavity with thermal insulation, enclose insulation completely within metal slat faces.
- .2 Curtain Jamb Guides: Steel angles or channels and angles, with sufficient depth and strength to retain curtain, to allow curtain to operate smoothly, and to withstand loading. Build up

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units with not less than 5 mm ($3/16$ ") thick galvanized steel. Slot bolt holes for guide adjustment.

- .1 Provide removable stops on guides to prevent overtravel of curtain, and a continuous bar for holding windlocks.
- .3 Construct counterbalance assembly consisting of torsion spring with 25% overload factor. Enclose spring in steel pipe to support door curtain and counterbalance mechanism with maximum deflection of 1/360th of opening width. Provide ball bearings at rotating points. Provide spring tension adjusting wheel, accessible for setting.
 - .1 Support counterbalance assembly on 5 mm minimum thickness steel plate brackets, forming end enclosures.
- .4 Hood: Same material as doors, form to act as weatherseal and entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Provide closed ends for surface-mounted hoods and provide fascia for any portion of between jamb mounting projecting beyond wall face. Provide intermediate support brackets as required to prevent sagging.
- .5 Endlocks and Windlocks: Malleable-iron casings galvanized after fabrication, secured to curtain slats with galvanized rivets or high-strength nylon. Provide locks on not less than alternate curtain slats for curtain alignment and resistance against lateral movement.
- .6 Bottom Bars: Consisting of 2 angles, each not less than 38 mm x 38 mm x 3 mm ($1\ 1/2$ " x $1\ 1/2$ " x $1/8$ "), galvanized, stainless-steel, or aluminium extrusions to suit type of curtain slats.
- .7 Equip doors for locking from inside with cylinder locks compatible with masterkeyed cylinder specified in Division 8 Section Finish Hardware.

2.3 Electric Door Operators

- .1 General: Electric door operator assembly of size and capacity recommended and provided by door Manufacturer, with electric motor and factory-prewired motor controls, starter, gear-reduction unit, solenoid-operated brake, clutch, remote-control stations, control devices, integral gearing for locking door, and accessories required for proper operation.
- .2 Electric Motors: High starting torque, reversible, continuous-duty, worm gear, heavy duty industrial type, bracket mounted, Class A insulated, with overload protection; sized to start, accelerate, and operate door in either direction from any position, at not less than 0.2 m/s ($2/3$ f/s) and not more than 0.3 m/s (1 f/s).
 - .1 Coordinate wiring requirements and electrical characteristics of motors with building electrical system.

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- .3 Back Up Manual Operation: Chain hoist equipped with a disconnect device which allows the operator to be disengaged from the door and operate the door manually from the floor by hand in the event of a power failure without having to remove the drive roller chain.
- .4 Brake: Solenoid disc brake to prevent door from coasting and secure stopping and locking of door in any position.
- .5 Control Station: 3-button control, momentary contact type, open-close-stop, mounted on wall adjacent to door in location where directed by Contract Administrator.
- .6 Sensor Edge: Provide each motorized door with an automatic safety sensor edge, located within astragal or weather stripping mounted to bottom bar. Contact with sensor immediately stops and reverses downward door travel. Connect to control circuit using Manufacturer's standard take-up reel or self-coiling cable.
 - .1 Provide pneumatically actuated automatic bottom bar.
- .7 Limit Switches: Adjustable switches, interlocked with motor controls and set to automatically stop door at fully opened and fully closed positions.

2.4 Steel and Galvanized Steel Finishes

- .1 Baked Finish: Manufacturer's standard baked finish consisting of primer and topcoat in accordance with coating manufacturer's written instructions for cleaning, pretreatment, application, thermosetting, and minimum dry film thickness.

3. EXECUTION

3.1 Electrical Co-Ordination

- .1 The disconnect switch/junction box and power to the disconnect switch/junction box shall be supplied and installed under Electrical Divisions. Wiring and connection at and from the disconnect switch/junction box to motors, starters, switches, controls, safety devices and other items requiring power from the disconnect switch/junction box shall be the responsibility of this Section.
- .2 Employ licensed electrician to wire and interconnect all operational and safety components for the Work. Terminate wiring required for connection to control circuitry and power in NEMA enclosures. Ground all control wiring.
- .3 Do wiring in strict conformity with the Electrical Code and Electrical Divisions requirements.
- .4 Use CSA approved, tested and labelled materials and electrical components for intended use.

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3.2 Installation

- .1 Install work in accordance with Manufacturers' printed instructions.
- .2 Adjust operable parts for correct function and smooth operation.

END OF SECTION