

Architectural Specifications\*

**HI-PRESSURE DOOR<sup>TM</sup>**  
**TECHNICAL SPECIFICATIONS**

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\* Please verify specifications. Provincial Doors Inc. reserves the right to modify specifications any time without notice

# HI-PRESSURE™ DOOR TECHNICAL SPECIFICATIONS

The following material descriptions are based on the HI-PRESSURE™ Door as manufactured by Provincial Doors Inc. This door system consists of several hinged steel sections that are mounted one on top of the other and are guided to a horizontal overhead position by way of a trolley type drive through a roller track system.

## DOOR PANELS

1. Horizontal struts and intermediate stiles to be constructed of 2" x 2" x .188" H.S.S. tubing. End stiles to be constructed of 5" x 2" x 1/4" H.S.S. tubing. Maximum spacing of intermediate stiles not to exceed 24" centre to centre.
2. Panel face shall be 18-gauge C.R. steel.
3. Where pressure differentials and door width conclude, one (1) high-pressure Abox-type® strut shall be mounted across the centre of each panel to minimize deflection.

## HARDWARE

1. End strap hinges to be of 3-knuckle construction composed of 4-1/2" x 4-1/2" x 1/4" thick steel leaves, 5/8" O.D. x 11 gauge (cold-drawn seamless mechanical tubing) knuckles and a 3/8" diameter steel hinge pin with a grease fitting.
2. Intermediate strap hinges to be of 3-knuckle construction composed of 3" x 1-1/2" x 1/4" thick steel leaves, 5/8" O.D. x 11 gauge (cold-drawn seamless mechanical tubing) knuckles and a 3/8" diameter steel hinge pin with a grease fitting.
3. Rollers to consist of 3" O.D. x 11/16" thick solid steel wheel, 3/4" diameter x 7" LG cold-rolled shafts, 1-3/4" O.D. sealed bearing for trouble free operation.
4. Roller supports composed of 1/4" thick hot-rolled steel, 1-1/4" O.D. x .812" I.D. seamless mechanical tubing c/w grease nipple for ease of lubrication.
5. End angle brackets shall be constructed of 1/4" thick H.R. steel c/w 1/4" thick hot-rolled steel gussets for additional stability.
6. All hardware to be secured by 3/8" NC Grade 5 plated bolts and nuts throughout.

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## **ROLLER TRACK**

1. Panels shall be guided by two (2) vertical and two (2) horizontal roller tracks.
2. Roller track shall be 3" roll-formed galvanized steel track with a minimum thickness of .109".
3. Vertical roller tracks shall be mounted on two (2) vertical track supports (C8 x 11.5 structural channel) and shall be further supported by a steel angle (1-1/2" x 2" x 3/16") positioned vertically against the curved edge of the track for additional stability. The vertical track support on the operator side shall come with a cutout at the 5-foot level for ease of replacing the reversing edge.
4. Horizontal roller tracks having minimum 15" radius curve shall be mounted on C6 x 8.2 structural channel and shall be further supported by a steel angle (1-1/2" x 1-1/2" x 3/16") positioned horizontally under the track. Eight horizontal track hangers (2-1/2" x 2" x 3/16" @ 4' long) to be supplied per door.

## **COUNTERBALANCE SPRING ASSEMBLY**

1. A counterbalance spring assembly shall be supplied for installation above the door opening to counterbalance the weight of the door.
2. The spring assembly shall consist of oil-tempered, helical torsion springs c/w 1-1/4" C-1045 precision ground shafting and shall be designed for a minimum life of 25,000 cycles.
3. Incorporated with the spring assembly are (i) two (2) cable drums having a normal diameter of 8-5/16" and a minimum load rating of 1100 lbs each and (ii) 1/4" galvanized cables which shall be used to transfer the weight of the door from the bottom corners of the lowest door panel to the cable drums.
4. Spring shafts shall be joined together by a 1-1/4" I.D. adjustable steel coupling. These shafts shall be supported above the opening at a minimum of six (6) locations by sealed, self-aligned bearings with cast iron 2-hole flange housings.

These locations consist of two (2) vertical track supports and a series of 1/4" thick steel support brackets. All self-aligning bearings used throughout the door system shall have a dynamic load rating of 5820 lbs (2641 kg) and a static load rating of 3400 (1571 kg).

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## **OVERHEAD TROLLEY ASSEMBLY**

1. The door system shall incorporate a trolley with a lift-arm attached to the top panel to raise and lower the door.
2. The trolley shall ride within a trolley track and powered through a #50 ANSI roller chain utilizing #50 sprockets throughout.
3. The trolley track shall be constructed from 2-1/2" x 2" x 3/16" steel angle, 3/16" x 2" FB spreaders and c/w four (4) 1-1/4" I.D. sealed, self-aligning pillow block bearings.
4. The trolley lift arm shall be composed of 2" x 1-1/2" FB and have two (2) 5/16" x 1" steel FB stiffeners and c/w steel bushing for ease of movement.
5. A 1-1/4" diameter C-1045 jackshaft shall transmit the power from the operator side of the opening to the trolley over the centre line of the opening. The jackshaft shall be supported at four locations by sealed, self-aligning bearings.

## **FINISH**

All metal shall be prime-coated and factory finished in the manufacturer's standard colour.

## **ELECTRIC OPERATION**

1. Operators shall be CSA/UL-approved, Model RCGH, extra heavy-duty gear head type c/w pre-wired, number-coded control panels.
2. Motor to be T.E.F.C., high starting torque, C-faced mount, and hoist-type operating through an enclosed 80mm worm gear reducer.
3. Motor and sprocketing to be of a capacity to operate the door at a maximum speed of 12" (305mm) per second.
4. Operator shall be equipped with rotary screw limit switches to control open and close door positions as well as a solenoid operator drum brake system c/w 360 external compressing brake shoe to stop and hold the door in any position.
5. Operator shall be equipped with a built-in emergency manual chain hoist with a floor level disconnect device. A built-in electrical interlock shall prevent motor operation while the emergency manual chain hoist is in use.

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## CONTROL PANEL

1. Wall-mounted control panel unit includes: Allen-Bradley integral reversing starter, overload and control relays, fused disconnect, panel-mounted open/close/stop pushbuttons and two (2) WP-1 pull cords for remote operation. The control panel and pull cords are to EEMAC/NEMA-4 Standards.

## REVERSING EDGE

1. An electrically controlled, flexible, emergency door-stopping device shall be comprised of two (2) aluminium foil contact strips mounted on a live foam rubber base.

It shall cause the door to stop its downward motion upon contact with an obstacle. These components shall be enclosed in a weatherproof, heavy-duty reinforced P.V.C. covering.

2. This reversing edge shall also serve as a sealing device between the base of the door and the floor. It shall be designed to compensate for uneven thresholds up to an edge-to-edge difference of 2" (51mm).