

**PART 1 GENERAL****1.01 SUMMARY**

- A. Model PI High Performance Insulated Doors shall be manufactured by Lawrence Roll-Up Doors, Inc.

**1.02 SYSTEM DESCRIPTION**

- A. Doors shall be springless and designed for 500,000 cycles usage.  
B. Doors shall have an average operating speed of up to 24 inches per second to open, 12 inches per second to close.  
C. Doors shall provide a thermal resistance of R5.  
*NOTE: Thermal resistance (R) through center of slat is calculated per ASHRAE standards assuming 15mph wind outside and still air conditions inside. Calculated value may vary from tested or actual values.*  
D. Doors shall be designed to withstand up to a 20 PSF windload.  
E. Doors shall be for use on openings up to 24 ft. wide, 14 ft. high, 280 sq. ft. (24' wide, 14' high, 256 sq. ft. with aluminum slats).

**1.03 WARRANTY**

- A. Doors shall be warranted against defects in workmanship and materials for two years on the door and five years on the motor operator from date of shipment, provided designed cycle life is not exceeded. Factory finishes are excluded from warranty.

**PART 2 PRODUCTS****2.01 MATERIALS**

- A. **Curtain** shall be assembled from interlocking Type 33 (2 1/2" x 7/8") double-wall flat slats, roll-formed from 18 gauge (.040") aluminum [22 gauge galvanized steel] [22 gauge stainless steel] strip. Slats shall be insulated with expanded polystyrene (EPS) foam and covered with fully interlocking backslats roll-formed from material matching the slats. Malleable iron endlocks, or windlocks as required by windload design, shall be riveted to ends of alternate slats. Delrin endlocks shall be riveted to ends of every 4<sup>th</sup> slat on doors without windlocks to reduce friction. Curtain shall be provided with the *Scratch-Guards* Protection System – 2" wide elasticized black straps secured to the coil side and spaced approximately every 3' across the curtain – to reduce finish wear and operating noise.  
B. **Bottom bar** shall be a rectangular aluminum extrusion, 4 5/8" high x 1 3/4" wide, attached to bottom of curtain to limit vertical and lateral deflection. Bottom bar shall be self-leveling to accommodate slopes up to 1/2".  
C. **Guides** shall be 3/16" steel U-channels fitted with replaceable extruded UHMW wear strips, bolted to 1/4" minimum steel wall angles [3/16" steel tube supports], with integrated mounting for light curtain. Guides shall be assembled with 3/8" minimum bolts no more than 24" on center and attached to wall with 1/2" minimum bolts no more than 24" on center [attached to floor and structure above]. When windlocks are provided on curtain U-channels shall have wind bars. Removable curtain stops shall be provided. [Neoprene isolation strips shall be provided between wall angles and wall, with neoprene washers on wall bolts, to reduce vibration and noise from the grille to the structure.]  
D. **Barrel** shall be steel pipe, 8 5/8" minimum diameter. Pipe shall be sized to minimize operating revolutions and support curtain with a maximum deflection of 0.03" per ft. of width. Steel shafts, 1 1/2" minimum diameter, shall be used to support each end of barrel.  
E. **Brackets** shall be 1/4" minimum steel plates bolted to wall tubes. Plates shall be sized to support curtain and barrel and provided with flanges for hood attachment. Brackets shall be fitted with self-aligning 4-bolt iron flange bearings.  
F. **Hood** shall be formed from 24 gauge minimum galvanized steel [18 gauge (.040") aluminum] [24 gauge stainless steel] sheet with top and bottom reinforcements to reduce deflection. [Brush weather seal shall be field installed on the header.]  
G. **Operation** of doors shall be by a Model HGH inline gear drive motor operator, UL Listed, 2 HP minimum, 208/230-3ph [460v-3ph], continuous duty motor, auxiliary chain hoist, integral speed governor to prevent curtain free-fall in event of operator component failure, adjustable soft start/stop variable speed controller, solenoid actuated brake, adjustable limit switches, delay on reverse, non-resettable cycle counter, adjustable reclose timer and auxiliary transformer to support secondary sensors and ancillary control devices, 3-button open-close-stop control, NEMA 1 enclosures. Drive chain shall be minimum #80 roller chain. Motor operator shall be mounted horizontally in front of and parallel to the door coil and shall not require additional clearance above the top of the coil. Control panel shall be mounted on the wall and connected to the motor operator via pre-assembled 18 ft. wiring harnesses. Average operating speeds shall be up to 24" per second to open, 12" per second to close, and shall slow prior to full open and full close.  
H. **Sensing devices** shall be provided to stop and reverse the door when closing, and stop when opening, if an obstruction in the opening is detected. A monitored light curtain and wireless monitored sensing edge, consisting of a rubber dual-chamber profile with integral isolated conductive elastomer switches, shall be attached to the bottom of the bottom bar shall be provided to stop and reverse a closing door upon sensing an obstruction. Upon monitoring a sensing edge system fault condition, the door will stay in or return to the open position and revert to a constant pressure close function to allow partial operability until the fault is corrected. [Loop detectors [presence sensors] shall be installed to stop and reverse a closing door upon sensing the presence of a vehicle.]  
I. **Locking** shall be provided by self-locking gear reduction of the motor operator.

**2.02 FINISHES**

- A. Aluminum slats, backslats, bottom bar and hood shall have a clear anodized finish. Galvanized steel slats, backslats and hood shall have a baked-on primer and grey polyester top coat. Stainless steel slats, backslats and hood shall have a brush finish. Steel guides and brackets shall be shop painted with a black color rust-inhibiting primer.

**PART 3 EXECUTION****3.01 INSTALLATION**

- A. Doors shall be installed in accordance with Lawrence Roll-Up Doors, Inc. installation instructions.

**3.02 SCHEDULES**

- A. Doors shall be inspected and maintained at least every 3 months or 25,000 cycles by a Lawrence Roll-Up Doors, Inc. authorized dealer. A written record of inspections and maintenance shall be kept for the warranty period.