



Section 08373 Architectural Specification
UltraBig M&I High Speed Rubber Door
For doors sizes Larger than 30' x 30'

SECTION 08373
HIGH-SPEED ROLLING DOORS

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Work described in this section includes manufacture, delivery and installation of high speed rolling doors, and control devices.

1.02 RELATED SECTIONS

- A. Field painting
- B. Electrical connections

1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM)
- B. National Electrical Manufacturer's Association (NEMA)
- C. Underwriters Laboratories, Inc. (CUL)

1.04 SYSTEM DESCRIPTION

- A. Electrical Motor operated unit with manual override in case of power failure.

1.05 SUBMITTALS

- A. Submit the following:
 - a. Shop Drawings: Indicate pertinent dimensioning.
 - b. Product Data: Provide general construction, component connections and details, electrical equipment and operation instructions.
 - c. Samples: Submit color samples of door panels for selection by owner.
 - d. Manufacturer's Installation: Indicate installation sequence and procedures, adjustment and alignment procedures.

1.06 REGULATORY REQUIREMENTS

- A. Electrical components UL listed.
- B. Electrical enclosure NEMA approved.

1.07 PERFORMANCE REQUIREMENTS

- A. High Wind Loading Option: Equipped with wind gussets.

1.08 QUALITY ASSURANCE

- A. Furnish high-speed roll doors and all components and accessories by one manufacturer.

1.09 FIELD MEASUREMENTS

- A. Verify field measurements are as indicated on shop drawings.

1.10 COORDINATION

- A. Coordinate the work with installation of electric power and locations and sizes of conduit.

1.11 WARRANTY

- A. SBR fabric for the life of the door, labor limited to one (1) year.
- B. Optional EDPM fabric for five (5) years, labor limited to one (1) year.
- C. One (1) year parts and labor limited warranty.

PART 2 – PRODUCTS

2.01 PRODUCTS

- A. Albany Door Systems UltraBig High Speed Rubber door
- B. No substitutions permitted.

2.02 MATERIALS

A. Door Panel:

a. Fabric:

- i. 2 layers of Styrene Butadiene Rubber (SBR) each 1/8" (0.8mm) thick, 60 durometer; sandwiched with 1-ply, 110plw (50kg) polyester cord center.
- ii. Complete with bonded SBR bevelled continuous windlocks, providing normal resiliency and flexibility at temperatures ranging from -40° F to +180°F (-40°C to +85°C).

b. Characteristics:

- i. Breaking strength 1100 lbs/in/ply

c. Standard color Black ** Also available in blue, or grey EPDM (specifications may vary).

**Color and fabric type selected by Architect upon approval of manufacturer.

B. Door Header:

- a. Door roll
 - i. Fabricate minimum 12" (219 mm) diameter, steel tube from 0.188" (4.75 mm) steel complying with ASTM A513.
 - ii. Drum tube deflection shall not exceed 0.03" per foot (2.5 mm / M) of opening width
 - iii. Drive barrel shafts are constructed of 2 1/2" (63.5 mm) diameter 1045 bolt-on steel shafts
 - iv. Drive barrel shafts for doors 40' wide and wider is 16" (406.4 mm) in diameter
 - b. Idler
 - i. Fabric guiding barrel shall be constructed of minimum 6 5/8" (168 mm) O.D. round tubing with a minimum wall thickness of 0.25" (6 mm) and supported by 2 3/4" (70 mm) diameter 1018 steel shafts.
 - ii. Idler barrel configuration for door sizes 40' wide and wider is split with 2" diameter 1018 shafts.
 - c. Top plates
 - i. Constructed of minimum 1/4" (6 mm) hot-rolled steel laser-cut plates with heavy-duty, self-aligning bearings with cast iron housings to support both the spring and idler barrels.
 - ii. To include top roll alignment plates for installation.
 - d. Counterbalance System
 - i. Torsion springs shall be connected by chain and sprocket to drive barrel.
- C. Side Frames:
- a. Frames
 - i. Frame assemblies shall be constructed of steel members to form a slot of sufficient depth to allow the thicker edges of the rubber curtain windloks to move freely in the guides at all times. Steel members are to be of sufficient thickness and rigidity to maintain the windloks within the guides while enabling the windloks to break away during impact.
 - b. Wind Resistance
 - i. Wind resistant capabilities shall include a windlok rubber component on each side of the curtain fabric and guide gussets The windlok feature runs the full height of the door curtain and is contained in the side frames to secure the door under wind pressure and to decrease air infiltration.
 - c. Paint
 - i. Painted with durable, chemical and corrosion resistant coating
 - ii. Color: orange
 - d. Side frames covers shall be hinged to allow easy curtain access.
- D. Control Panel:
- a. Panel enclosure shall be NEMA-4
 - b. Wiring shall be completed by manufacturer and shall be UL listed (File E103891).
 - c. Drive system shall be controlled by programmable logic controller (PLC) .
 - d. Control functions determined by manufacture's preparation of programmable logic controller.
 - e. Optional custom designed control system and/or components.
 - f. Control panel shall be adjustable using a minimum of the following items: automatic closing timer, emergency stop, two actuating push buttons and a cycle counter.
- E. Drive:
- a. Electric door operators shall be CSA/UL approved, Model FDGH, heavy-duty gearhead type c/w pre-wired, coded cables to manufacturer's standard.
- F. Electrical Motor:

- a. Motor to be T.E., high-starting torque, flange & foot mount, hoist-type, operating through a parallel helical gear reducer mechanism. The gear reducer is mounted on a heavy-duty base of 1/4" steel.
- b. Motor and sprocketing to be of capacity to operate door at maximum speeds of up to 18" per second, depending on door size to manufacturer's standard, rated for up to 5HP.
- c. Provide high-starting torque, reversible intermittent duty, enclosed non-ventilated electric motor, sized to move door in either direction, from any position.
- d. Power Supply:
 - I. Primary Voltage: Coordinate wiring requirements and current characteristics of door electrical system with building electrical system. Supply shall be rated at **220**460**575** volt,
 - II. (3) phase, 60 Hz, up to 20 FLA (full loaded amps).

G. Operator:

- a. Operator shall be equipped with rotary screw-type limit switches to control open and close door positions as well as an electro-mechanical brake system to stop and hold door in any position to manufacturer's standards.
- b. Operator shall be equipped with built-in manual emergency chain hoist. Built-in electrical interlock shall prevent motor operation during use of manual chain hoist. The stop switches shall be integrated at the head to avoid breakage due to environmental problems (limit switch).

H. Bottom Bar:

- a. Bottom bar shall extend the full width of the curtain, sufficient to maintain the bottom edge of the curtain parallel to the door threshold at all times. The bottom bar shall be constructed of a steel angle and flat bar bolted together and shall have a breakaway center section to reduce risk of damage during accidental impacts and provide ease of straightening, allowing for simple re-assembly.
- b. 6" tall weatherproof rubber loop made of EPDM able to seal uneven finished floors
- c. Door to be provided with failsafe electric safety edge. No pneumatic edges allowed.

I. Safety Features:

- a. Provide fuses to protect from power line overcurrent and from secondary control voltage overcurrent.
- b. Provide chain host switch to electrically disconnect control circuitry during manual operations.
- c. Running timer shall be provided to protect drive unit from motor run-on.
- d. Safety Edge:
 - i. Safety edge system shall continuously monitor and prevent door from closing if a fault is detected.
 - ii. Electric edge pressure contacts shall reverse the door to full open position, on contact with foreign object(s).
 - iii. Electric edge shall be fail safe.
 - iv. Electric Edge protective cover shall be a 7" tall and 1/8" thick weather proof rubber loop made of EPDM.
- e. Provide emergency stop feature to instantly stop door in any position.
- f. Provide start-up protection to ensure there is not movement of door when system detects a failure (power on/off/on, E stop...).
- g. Provide inline thru beam photocell in proximity to door line.

J. Speed:

- a. Door to operate at a variable speed up to 9" per second in the up direction depending on door size.

K. All components furnished by factory.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Verify that opening sizes, tolerances and conditions are acceptable.

3.02 INSTALLATION

- A. Install door assembly in accordance with manufacturer's instructions.
- B. Use anchorage devices to securely fasten assembly to wall constructions and building framing without distortion or stress.
- C. Fit and align assembly including hardware; level and plumb to provide smooth operation.
- D. Coordinate installation of electrical service. Complete wiring from disconnect to unit components.
- E. Touch-up paint on frame and other painted surfaces in accord with painting section.
 - a. Upon completion of installation, including work by other trades, lubricate, test and adjust doors to operate in accordance with manufacturer's product data. Final adjustments shall be made by manufacturer's authorized representative.
 - b. Protect finished installations until Date of Substantial Completion. Repair damage to door panel, hardware and operators.

3.03 ADJUSTING

- A. Adjust door and operating assemblies.
- B. Test and adjust door, if necessary, for proper operations.

3.04 CLEANING

- A. Clean door and components.

END OF SECTION