



**SECTION 083000
HIGH-SPEED ROLLING DOORS**

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. High-speed roll up doors.
- B. Wiring from electric circuit disconnect to operator to control station.

1.02 RELATED SECTIONS

- A. None

1.03 REFERENCES

- A. NEMA – National Electrical Manufacturers Association.
- B. LED – Light Emitting Diode.

1.04 SYSTEM DESCRIPTION

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

1.05 SUBMITTALS

- A. Submit the following:
 - 1. Shop Drawings: Indicate pertinent dimensioning, anchorage methods, hardware locations and installation details.
 - 2. Product Data: Provide general construction, component connections and details, electrical equipment, operation instructions and information.
 - 3. Samples: Submit sample of door panel.
 - 4. Manufacturer's Installation: Indicate installation sequence and procedures, adjustment and alignment procedures.

1.06 MAINTENANCE DATA

- A. Recommended preventive maintenance program to be included indicating lubrication requirements and frequency, periodic adjustments required, scheduled maintenance suggested, manufacturer data sheets, and equipment interconnection diagrams.



1.07 REGULATORY REQUIREMENTS

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

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 indicated as shown shop drawings.

1.10 COORDINATION

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

1.11 WARRANTY

- A. One year parts, one year labor.
- B. Lifetime warranty on door counterweights.

PART 2 – PRODUCTS

2.01 PRODUCTS

- A. Rytec Corporation Turbo-Seal Insulated.
- B. No substitutions permitted.

2.02 MATERIALS

- A. Door Panel
 1. Rilon Thermal panel material is a 1” thick, non-porous, closed-cell foam panel with an outer layer of 2-ply Rilon industrial fabric on one side and a friction and puncture-resistant coating on the other side. Panel will have uniform thickness, create a vapor barrier and be moisture proof.
 2. 2-ply Rilon material to be multi-layered, woven, dimensionally stable, puncture resistant, polymer impregnated monofilament polyester fabric.
 3. Material to be laterally stiff and vertically flexible.
 4. Door panels constructed with stitching, lamination, gussets or quilting in addition to panels using air pockets, bubble wrap or porous open-celled insulation will not be accepted.



- B. Side Frames
 1. To be self-supporting and consisting of extruded aluminum and fiberglass. Side frame covers to be 14-gauge cold rolled sheet metal.
 2. Side frames to incorporate fiberglass protrusions with thermal break
 3. Quad seals will include a total of four (4) full-height brush seals, two (2) on the front and two on the rear of each side frame to provide a tight seal on both sides of fabric panel.
 4. Dual electric thru-beam photo eyes standard.
 5. Pathwatch[®] Safety Light System standard.

- C. Bottom Bar
 1. Self-Repairing Break-Away[™] bottom bar with thermal break, consisting of a one-piece composite member that releases in either direction without damage to the door. When bottom bar and door panel are displaced from side guides, signal is sent to controller to automatically re-set bottom bar and panel material into the side guides, which re-sets the door cycle.
 2. Dual chamber pneumatic auto-reversing edge on bottom bar.
 3. Vinyl loop hugs contour of floor for tight seal.
 4. Break-Away and reversing edge signal is transmitted via wireless system.
 5. Doors with coil cords or which require manual reset after break-away, will not be accepted.

- D. Counterweight System
 1. Dual guided counterweights custom-sized to provide proper balancing of the door. System to include polyester belting and Nylon spools
 2. Doors that use springs as a counterbalance system will not be accepted.

- E. Drive System
 1. Three phase, variable speed AC Drive provides soft acceleration and deceleration. Independent opening and closing speeds provide flexibility to meet any application.
 2. Motor and electrical components are factory wired to junction boxes in the head assembly.
 3. Motors using a clutch or brake to start or stop door movement will not be accepted.

- F. Travel Speed
 1. Opens at an *average* speed of 101” per second, reaching peak speeds of up to 182” per second. Factory set to close at an average speed of 30” per second.

- G. Defrost System
 1. Two 1/5 hp high efficiency blowers can be used in conjunction with the door to ensure there is no moisture build-up on the door panel.
 2. Doors that require any type of conventional defrost systems in the in the form of heated blowers, infrared heat lamps or heat tape will not be accepted.

- F. Electrical Controls
 1. Rytec controller housed in a UL/cUL Listed NEMA 4X-rated enclosure with factory set parameters.



2. Parameter changes and all door configurations can be made from the face of the control box, no exposure to high voltage. Control panels that require opening of the control box and reaching inside to make parameter changes will not be accepted.
 3. Controls include a variable speed AC drive system capable of infinitely variable speed control in both directions.
 4. Programmable inputs and outputs accommodate special control applications (traffic lights, horns, actuation devices, timing sequences, etc.) without the need for additional electrical components.
 5. Self-diagnostic scrolling two-line vacuum fluorescent display provides expanded informational messages for straightforward installation, control adjustments and error reporting.
- H. Door to use absolute encoder to regulate door travel limits. Limits to be adjustable, without the use of tools, from the face of the control panel. Doors using mechanical limits switches, pulse encoders or doors that require tools or access to the operator in order to adjust limits, will not be accepted.

PART 3 – SAFETY

3.01 RY-WI[®] WIRELESS SAFETY SYSTEM

- A. Provides continuous and uninterruptible wireless signal which eliminates the need for cords on the bottom bar. Two-way communication ensures functioning wireless system. Total frequency control eliminates interference.
- B. Doors without two way communication to ensure functioning wireless system will not be accepted.

3.02 THRESHOLD WARNING LIGHTS

- A. Amber and Red LED lights located on side columns indicate door closing for added safety at the threshold.

3.03 SAFETY LIGHTS

- A. Standard dual thru-beam photo eyes send a beam across the door path on either side of the door travel line. If either beam is broken, a signal is sent to the controller to open the door.
- B. Pathwatch[®] Safety Light System standard.

3.04 REVERSING EDGE

- A. Sensitivity-adjustable dual chamber pneumatic reversing edge. Door automatically reverses if anything makes contact with the reversing edge.



PART 4 – EXECUTION

4.01 EXAMINATION

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

4.02 INSTALLATION

- A. Install door unit assembly in accordance with manufacturer's instructions.
- B. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.
- C. Fit and align assembly including hardware; level to plumb to provide smooth operation.
- D. Coordinate installation of electrical service. Complete wiring from disconnect to unit components.

4.03 ADJUSTING

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

4.04 CLEANING

- A. Clean door and components.

END OF SECTION