

DIVISION 8

SECTION 08 34 00

HIGH-SPEED FABRIC ROLL-UP DOORS/SPECIALTY DOOR SYSTEMS

PART 1 – GENERAL

1.1 SUMMARY

Furnish Complete High-Speed Fabric Roll-Up Door System Including:

- Curtain
- Side frames
- Header
- Operator
- Controller
- Factory-supplied cables required to connect the controller to the operator and factory-supplied photo eyes
- Safety devices
- Activation devices

1.2 RELATED SECTIONS

Coordinate work with:

- **Division 01 – General Requirements:** Coordination with project-wide submittal, commissioning, closeout, and training requirements.
- **Division 05 – Metal Fabrications:** Coordination with structural supports and mounting members.
- **Division 07 – Joint Sealants:** Coordination with perimeter sealants at door frame interfaces.
- **Division 08 – Openings:** Coordination with adjacent opening assemblies.
- **Division 26 – Electrical:** Coordination with power supply and electrical connections.
- **Division 28 – Electronic Safety and Security:** Coordination with access control, interlocks, and security interfaces.

1.3 REFERENCES

Where applicable:

- ASTM D1308
- NFPA 70
- UL 325
- cGMP
- EU GMP Annex 1

1.4 PERFORMANCE REQUIREMENTS

Operating Speed

- Opening speed shall be a minimum of 60 in/sec (1.524 m/s).
- Closing speed shall be suitable for the application while complying with applicable safety standards.

1.5 ENVIRONMENTAL CONDITIONS

- Door system shall be suitable for installation in pharmaceutical manufacturing, biotechnology manufacturing, semiconductor fabrication, medical-device manufacturing, food processing, and other controlled manufacturing environments as well as warehousing, packaging, and general industrial facilities.
- Complete door system shall be suitable for interior operation at ambient temperatures above 32°F.
- Curtain material shall remain flexible at temperatures down to 33°F.

1.6 SUBMITTALS

Submit:

- **Product Data:** Manufacturer's technical data for each door system, operator, and controller.
- **Shop Drawings:** Door dimensions, required clearances, mounting details, electrical requirements, component locations, and interface with adjacent construction.
- **Closeout Submittals:** Operation and maintenance manuals, warranty documentation, and recommended preventive-maintenance requirements.

1.7 QUALITY ASSURANCE

- Manufacturer shall have a minimum of ten years' experience manufacturing high-performance industrial door systems.
- Curtain material shall demonstrate no significant degradation, discoloration, blistering, or loss of performance when tested in accordance with ASTM D1308 using manufacturer-published standard cleaning chemicals.
- Manufacturer shall maintain a documented factory quality-control process that includes dimensional verification and operational testing prior to shipment.
- Electrical components shall be UL Listed or UL Recognized, as applicable.

1.8 WARRANTY

Provide manufacturer's standard warranty:

- Door structure: 1-year parts and labor.
- Curtain: 1-year parts and labor.
- Motor: 1-year parts and labor.
- Controller: 1-year parts and labor.
- Optional accessories: 1-year parts and labor.
- Warranty commencement shall be in accordance with the manufacturer's published warranty.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

Basis of Design:

- ASI Doors - Model: ISO-Roll® 215

Substitutions:

- Proposed substitutions shall demonstrate compliance with every performance requirement, construction requirement, operating characteristic, material specification, safety feature, and dimensional limitation contained within this Specification Section. Proponents of substitutions shall submit a point-by-point compliance statement identifying each requirement of this Specification Section and documenting the proposed substitute's compliance.

2.2 CURTAIN CONSTRUCTION

Curtain

Curtain shall consist of:

- 0.030-inch-thick antimicrobial, UV-resistant PVC curtain suitable for use in facilities operating under cGMP and EU GMP Annex 1 requirements.
- Fully flexible curtain free of rigid or structural stiffeners such as wind bars or horizontal reinforcement members.
- Soft bottom incorporating a wireless monitored reversing edge.
- Curtain material shall maintain flexibility at temperatures down to 33°F.
- Curtain material shall be independently tested in accordance with ASTM D1308 using manufacturer-published cleaning and sanitizing agents.

Vision Panel (Optional)

When indicated, provide clear, flexible, 0.040-inch-thick PVC vision panel extending the full width of the curtain, approximately 28 inches high, and located in accordance with the manufacturer's standard design.

2.3 SIDE FRAMES WITH COVERS AND OPTIONAL SHROUD

- Provide galvanized steel side frames with covers.
- When specified, provide shroud fabricated from galvanized steel.
- When specified, provide side frames and shroud fabricated from smooth white painted steel, or 304 or 316 stainless steel.

2.4 IMPACTABLE RETENTION SYSTEM

- Curtain release anywhere along travel
- Curtain retention system shall maintain continuous engagement with the side guides throughout curtain travel and shall preserve curtain retention during normal operation.
- Assisted curtain reinsertion by guide blocks

2.5 DRIVE SYSTEM

System

- Door system shall be designed, engineered, and tested to meet the requirements of UL 325.

Motor

- Motor shall be controlled by a variable frequency drive (VFD).
- Absolute encoder and VFD shall provide controlled acceleration and deceleration.
- Absolute encoder shall retain door position through power interruptions without requiring re-homing or limit reset.
- 120/208/230 V single-phase or 208/230/460/575 V three-phase as indicated.
- Self-contained 1 hp electric motor with minimum IP55 enclosure rating.

Controls

- Provide microprocessor-based controller with self-diagnostic capability and field-adjustable time delay.

Control Panel

- Provide corrosion-resistant, UL Listed control enclosure rated NEMA 4.
- Disconnect switch accessible from the outside of the box.
- When specified, an emergency stop button shall be mounted to the outside of the control panel.

2.6 SAFETY SYSTEMS

Provide the following:

Photo Eyes: Provide one set integrated into the side frames.

Bottom-Edge Sensor: Provide a wireless, continuously monitored reversing edge extending across the full width of the curtain bottom.

Back-Roll Prevention System: Provide back-roll prevention system mounted and fully contained within the header.

Emergency Stop (Optional): Mount emergency-stop push button on exterior face of control enclosure.

Remote Reversing Edge Receiver (Optional): When specified, provide remote receiver to enhance communication reliability between the bottom-edge sensor and control enclosure.

2.7 ACTIVATION DEVICES

Provide as scheduled:

- Motion detectors
- Push buttons
- Touchless switches
- Audible or visual pre-announcement device indicating impending door closure
- Loop detectors
- Card reader access integration

- Factory-engineered door interlock system provided by the door manufacturer

2.8 ELECTRICAL REQUIREMENTS

Electrical Contractor: Provide a dedicated branch circuit serving only the door system and final power connection to the door system.

Door Installer: Verify that incoming voltage conforms to manufacturer's requirements before energizing the door system.

PART 3 – EXECUTION

3.1 EXAMINATION

Verify opening dimensions, structural support conditions, electrical service availability, wall plumbness, and floor levelness before beginning installation.

Do not begin installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

Install and adjust the door system in accordance with the manufacturer's written instructions and approved shop drawings. Coordinate installation with adjacent construction and electrical work.

3.3 FIELD QUALITY CONTROL

Test and verify the following:

- Opening speed
- Closing speed
- Limit positions
- Encoder operation
- Safety edge
- Photo eyes
- Visually verify continuous engagement and seal integrity in the closed position
- Functionality of specified activation devices
- Controller functionality

After completing adjustments and functional testing, operate the door through five consecutive complete open-and-close cycles without fault, interruption, or required adjustment.

3.4 CLOSEOUT SUBMITTALS

Provide operation and maintenance manuals including normal operating procedures, safety procedures, preventive-maintenance requirements, and manufacturer's warranty information.

3.5 DEMONSTRATION

Installing Contractor shall demonstrate the following to the Owner's designated personnel:

- Normal door operation
- Safety device operation

- Preventive maintenance procedures
- Manual release operation, when provided

END OF SECTION