

SECTION 08 33 43

OVERHEAD COILING SMOKE CURTAINS

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GENERAL

1.1 SECTION INCLUDES

- A. Overhead Coiling Smoke Curtains for Elevator Doors.

1.2 RELATED SECTIONS

- A. Section 14 21 00 – Electric Traction Elevators.
- B. Section 14 24 00 – Hydraulic Elevators.
- C. Section 28 30 00 – Detection and Alarms.

1.3 COORDINATION

- A. Coordinate smoke curtain assemblies with power, signal, fire-alarm, and smoke-detection systems specified in Division 26 and Division 28.
- B. Coordinate elevator smoke-protective curtain assemblies with elevator hoistway door frames specified in Division 14.
- C. Coordinate smoke-protective curtain assemblies with ceilings for operational clearances and maintenance access requirements.
- D. Coordinate smoke-protective curtain assemblies with walls for support requirements, rating continuity above ceilings, and recessed wall switches.
- E. Coordinate requirements for metal supports required for smoke-protective curtain assemblies.

1.4 INFORMATIONAL SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Manufacturer's product information and data sheets for each product specified in this section, including:

1. Substrate preparation instructions and recommendations.
2. Installation means and methods.
3. Recommendations and requirements for proper storage and handling.

C. Shop Drawings:

1. Submit Manufacturer's approved shop drawings detailing the section and elevation views of each product to be installed.
2. Coordinate with locations listed on Contract Drawings.

D. Warranty Information:

1. Submit confirmation and details of manufacturer's warranty, extended warranty, and replacement policies.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For smoke-protective curtain assemblies to include in emergency, operation, and maintenance manuals.
- B. Field quality-control reports for required testing.

1.6 QUALITY ASSURANCE

A. Qualifications:

1. Manufacturer: Minimum of seven (7) years experience in manufacturing draft-control curtain assemblies at a facility in the United States that have been successfully installed in compliance with requirements of authorities having jurisdiction.
2. Installers: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle materials and products in accordance with the manufacturer's instructions and recommendations and industry standards.
- B. Store all materials in the manufacturer's original packaging until ready for installation. Protect all products from damage or exposure to adverse weather conditions.

1.8 PROJECT CONDITIONS

- A. Prior to fabrication, verify that dimensions are consistent with those found in the construction drawings. Where discrepancies exist, confirm the proper dimensions with the Architect before proceeding with work.

1.9 WARRANTY

- A. Manufacturer Warranty: Provide manufacturer's warranty covering parts and labor costs to repair or replace parts that fail to perform.
 - 1. Warranty Period: Parts and labor warranty for 12 months from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design Manufacturer: Smoke Guard, A CSW Industrials Company.
 - 1. Address: 287 North Maple Grove Road, Boise, ID 83704.
 - 2. Phone: (800) 574-0330.
 - 3. Website: <https://smokeguard.com>
- B. Manufacturer List:
 - 1. Manufacturer:
- C. Substitution Limitations:
 - 1. Submit substitution requests in accordance with provisions of Section 01 60 00.
 - 2. Single manufacturer to provide, from a single source, a fully integrated smoke-and-draft containment system consisting of smoke-and-draft-protective curtains and the following components:
 - a. Smoke-and-Draft-Protective Curtain Operators.
 - b. Smoke-and-Draft-Protective Curtain Controls.

2.2 SMOKE-PROTECTIVE CURTAIN ASSEMBLIES FOR ELEVATOR ENTRANCES

- A. Alarm-activated transparent-film smoke curtain assembly complying with ICC-ES AC77 and NFPA 105.
 - 1. Basis of Design Product: Model 600, by Smoke Guard, a CSW Industrials Company.
- B. Smoke-Protective Curtain Assemblies: Provide smoke-protective curtains listed and labeled with the letter "S" by a qualified testing agency for smoke- and draft-control based on testing in accordance with UL 1784 without an artificial bottom seal; with maximum air-leakage rate of 3.0 cfm/sq. ft. (0.01524 cu. m/s x sq. m) of opening at 0.10 inch wg (24.9 Pa) for both ambient and elevated temperature tests in accordance with ICC-ES AC77.
- C. Curtain Materials: Provide manufacturer's standard curtain complying with each of the following:
 - 1. Flame-Spread and Smoke-Developed Indexes: No greater than 25 and 50, respectively, when tested in accordance with ASTM E84.

2. Transparent-Film Curtain: Provide curtain of transparent film in compliance with vision panel requirements of ASME A17.1.
 3. Screen Reinforcement: Provide film with reinforcement to limit deflection or tearing.
- D. Curtain Egress: Provide curtain that is operable from the egress side without use of keys, tools, special knowledge, or effort in excess of the opening force requirements of authorities having jurisdiction.
1. Egress Switch: Include switch to rewind screen into housing to comply with egress requirements of ASME A17.1.
 - a. Switch Size and Color: Provide switch no less than 4 by 4 inches and in contrasting color with curtain.
 - b. Switch Operation: Provide switch operable with a closed fist or a loose grip, not requiring finger movements in compliance with the requirements of authorities having jurisdiction.
 - c. Switch Location: Centered on screen between 15 and 48 inches above finished floor level in compliance with forward reach requirements of authorities having jurisdiction.
 2. Manual Egress: Provide curtain allowing fail-safe manual egress with less than 15 pounds release pressure in the direction of travel.
 - a. Opening Size: Provide curtain with manual egress opening of at least 32 inches in compliance with the requirements of authorities having jurisdiction.
- E. Curtain Attachment: Provide curtain that forms a pressure-resisting seal by magnetic adhesion with flexible multi-pole magnetic strips attached to longitudinal edges of film with low modulus silicone adhesive.
1. Curtain Installation: Provide curtain attachment systems that do not require modification of the elevator jamb including direct or mechanical attachment.
 2. Elevator Door Frame Method: Type 430 ferritic stainless steel elevator door frames to create seal with curtain by magnetic adhesion.
 - a. Auxiliary Rails: Provide 16-gauge ASTM A240/240M, Type 430, ferritic stainless steel vertical rails above elevator door head to create seal with curtain by magnetic adhesion no less than 2 inches (51 mm) wide.
 3. Auxiliary Rail Method: Provide vertical rails to create seal with curtain by magnetic adhesion.
 - a. Material: 16-gauge ASTM A240/240M, Type 430, ferritic stainless steel.
 - b. Size: At least 2 inches (51 mm) wide.
- F. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

- G. Curtain Housing: Provide sheet metal housings containing support rollers and associated electronics.
 - 1. Coordinate operator wiring requirements and electrical characteristics with building electrical system.
 - 2. Housing includes electrical junction box that does not require the removal of any part of the building in accordance with NFPA 70.
 - 3. Provide electrical junction box access through housing in the open condition.
 - 4. Curtain housing to contain all components required for operation.
 - 5. Housing Finish: Manufacturer's standard powder coat finish in white.
 - 6. Housing Finish: Manufacturer's standard powder coat finish in custom RAL color.
 - 7. Housing Finish: Manufacturer's standard stainless steel.

- H. Curtain Operation: Motorized controlled descent and rewind with battery backup fail-safe.
 - 1. Curtain deploys on activation of one of the following:
 - a. Local Smoke Detector.
 - b. Building Fire Alarm.
 - c. Testing Key Switch
 - 2. Release Mechanism: Labelled as defined by UL864.

2.3 ACCESSORIES

- 1. End of Line Diode: Provide manufacturer's standard diode device installed at smoke detector to monitor the circuit.
 - a. Power Requirements: 3.3 Volts, 2 Watts.
- 2. Firefighter's Smoke Control Station (FSCS): Provide manufacturer's standard integration with FSCS with the following functionality:
 - a. Open/Retract Curtain.
 - b. Open Confirm.
 - c. Open Fault Alert.
 - d. Close/Deploy Curtain.
 - e. Close Confirm.
 - f. Closed Fault Alert.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrates upon which work will be installed.
 - 1. Verify related work performed under other sections is complete and in accordance with Shop Drawings.
 - 2. Verify wall surfaces and elevator door frames are acceptable for installation of smoke containment system components.
- B. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
- D. Verify that locations of concealed reinforcements have been clearly marked for the installer.
- E. Locate reinforcement points and clearly mark their locations if not already done.

3.2 PREPARATION

- A. Clean surfaces prior to installation.
- B. Prepare surfaces as recommended by the manufacturer for achieving optimal results.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's current installation instructions and industry recognized best practices.
- B. Install in accordance with all code bodies having jurisdiction.

3.4 CLEANING AND PROTECTION

- A. Clean and remove all stains, grime, or other soils using soap and water. Only use detergents approved by the manufacturer for use on the finishes specified. Do not use acid solutions, steel wool, and other harsh abrasives.
- B. Damaged products must be repaired or replaced prior to substantial completion.
- C. Protect installed products until completion of work specified in this section.

3.5 FIELD QUALITY CONTROL

- A. Field Test: Follow manufacturer's cycle test procedures.
 - 1. Notify Owner's Representative, local Fire Marshal, alarm sub-contractor and elevator sub-contractor or service company minimum one week in advance of scheduled testing.
 - 2. Complete maintenance service record.

3.6 DEMONSTRATION

- A. Demonstrate required testing and maintenance procedures to Owner's Representative.

3.7 MAINTENANCE AND TESTING

- A. Perform minimum semi-annual maintenance and testing on each smoke containment system as required by the manufacturer's warranty, code agency evaluation reports, and as required by local authority having jurisdiction.
 - 1. Retain permanent record of tests.
- B. Future Painting: Paint elevator door frame and/or auxiliary rails in accordance with Operation and Maintenance Manual.
- C. Fire Event: Owner shall engage a qualified inspector to assess unit(s) after exposure to a fire event.

END OF SECTION