SECTION 08300

ELEVATOR DOOR SMOKE CONTAINMENT SYSTEM

PART 1GENERAL

1.01 SECTION INCLUDES

A. Smoke detector activated elevator door smoke containment screen and control system designed to provide a tight-fitting, smoke- and draft-control assembly.

B. Products supplied but not installed under this section:
   1. End-of-line diode (3.9V, 2W). Installed at smoke detector to monitor the circuit.

1.02 RELATED SECTIONS

A. Section 09111 – Non-Load Bearing Metal Framing: Metal backing in housing mounting area.

B. Section 09900 – Paints and Coatings: Field painting of specified components.

C. Section 16721 – Fire Alarm System: Provision of smoke detectors.

D. Section 14240 – Hydraulic Elevators.

E. Division 16 Sections for 120VAC and control circuit power including conduit, boxes, conductors, wiring devices, and emergency power.

1.03 REFERENCES

A. ASTM A240/240M – Standard Specification for Heat Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels.

B. ICC Evaluation Services ES-AC77 – Acceptance Criteria for Smoke-Containment Systems Used With Fire-Resistive Elevator Hoistway Doors and Frames.

C. ICC Evaluation Service Report ESR-1136.

D. NFPA Codes and Standards:
   1. 70 – National Electrical Code.
   2. 105 – Recommended Practice for the Installation of Smoke-Control Door Assemblies.
   3. 72-2002 and 2007 – National Fire Alarm Code.

E. International Building Code:
   1. 2006 – Sections 715.4.3.1 and 715.4.

F. UL Standards:
   1. 268 – Smoke Detectors for Fire Protective Signaling Systems.
   2. 508 – Industrial Control Equipment.
   3. 864 – Control Units for Fire Protective Signaling Systems.
   4. 1784 – Air Leakage Tests for Door Assemblies.

1.04 SUBMITTALS

A. See Section 01350 – Submittals, for submittal procedures.

B. Product Data: All system components.

C. Shop Drawings: Include door width and height, jamb width, jamb and head projection, screen width, mounting height, and housing width. Show and identify related work performed under other sections of the specifications.

D. Quality Assurance/Control Submittals:
   1. Qualifications:
      a. Proof of manufacturer qualifications.
      b. Proof of Installer qualifications.
   2. Certifications: Copy of specified items.
   3. Manufacturer's installation instructions and testing procedures.

1.05 CLOSEOUT SUBMITTALS

A. See Section 01700 Contract Closeout; submit following items:
   1. Operation and Maintenance Manual.
   2. Manufacturer's Warranties.

1.06 QUALITY ASSURANCE

A. Overall Standards:
   1. Manufacturer shall maintain a quality control program in accordance with ICC-ES Acceptance Criteria AC 77.

B. Qualifications:
   1. Manufacturer Qualifications: Minimum seven years experience in producing smoke containment systems of the type specified.
   2. Installer Qualifications: Factory trained by manufacturer.

C. Certifications:
   1. Manufacturer's ICC Evaluation Service Report ESR-1136.
   2. California Department of Forestry and Fire Protection and Office of the State Fire Marshal Listing.
   3. Testing Laboratory Label.
   4. UL Listing.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Comply with manufacturer's instructions.

1.08 WARRANTY

A. Provide manufacturer's standard one-year warranty.

B. Maintenance and Testing:
   1. During the warrantee, 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.
   2. Backup Battery: Test semi-annually during warranty period.
   3. Provide test documentation.

PART 2 PRODUCTS

2.01 MANUFACTURED UNITS

A. Model 200

B. Manufacturer:
   1. Smoke Guard, 287 Maple Grove, Boise, Idaho 83704 www.smokeguard.com.
   2. Substitutions: See Section 01640 –Substitutions and Product Options.

C. Label each smoke containment system with following information:
   1. Manufacturer's name.
   2. Maximum leakage rating at specified pressure and temperature conditions.
   3. Label of quality control agency.

2.02 PERFORMANCE

A. Air Leakage: Not to exceed 3 cfm per sf of door opening at 0.1 in water pressure differential at ambient temperature and 400 degrees F tested per IBC 2000 714.2.3.

2.03 COMPONENTS

A. Screen:
   1. Film: Minimum 1 mil thick transparent polyimide film reinforced with minimum 100 denier Nomex yarn at .25 in each way.
   2. Magnetic Strips: Flexible multi-pole strips attached to longitudinal edges of film with low modulus silicone adhesive.

B. Housing: 20 gage, powder coated, cold rolled steel container with dust cover and door with concealed hinges and a latch. Housing are 55 inches or 64 inches in length plus 1-1/2 inches for a junction box on the left side.

C. Mandatory Auxiliary Rails:
   1. Material: 16 gage ASTM A 240/240M, Type 430, ferritic stainless steel.
   2. Size: 2 inch wide, 1 inch deep, as shown in Shop Drawings.

D. Rewind Motor: NFPA 70, 90v DC.

E. Release Mechanism: Comply with UL Standard No. 864.

F. Screen Rewind Switch: Include switch to rewind screen into housing.

PART 3 EXECUTION

3.01 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. Commencement of work by installer is acceptance of substrate.

3.02 INSTALLATION

A. Install smoke containment system components in accordance with manufacturer' installation instructions.

3.03 FIELD QUALITY CONTROL

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

3.04 DEMONSTRATION

A. Demonstrate required testing and maintenance procedures to County.

B. Maintenance and Testing: As required by Article 1.08 B.

C. Qualified Smoke Guard Inspector assesses unit(s) after exposure to a fire event.

END SECTION

SECTION 08331

OVERHEAD COILING DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Overhead coiling doors, operating hardware,exterior and manual operation.

1.02 RELATED REQUIREMENTS

A. Section 04810 - Unit Masonry Assemblies: Support framing.

B. Section 09900 - Paints and Coatings: Field paint finish.

1.03 REFERENCE STANDARDS

A. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel.

B. ASTM A 123/A 123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

C. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

1.04 SUBMITTALS

A. See Section 01350 - Submittals, for submittal procedures.

B. Product Data: Provide general construction, component connections and details.

C. Shop Drawings: Indicate pertinent dimensioning, anchorage methods, hardware locations, and installation details.

D. Manufacturer's Instructions: Indicate installation sequence and procedures, adjustment and alignment procedures.

E. Maintenance Data: Indicate lubrication requirements and frequency and periodic adjustments required.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Overhead Coiling Doors:
   1. Alpine Overhead Doors, Inc: www.alpinedoors.com.
   2. Cornell Iron Works, Inc: www.cornelliron.com.
   3. The Cookson Company: www.cooksondoor.com.
   4. Wayne-Dalton Corporation: www.waynedalton.com.
   5. Substitutions: See Section 01640 - Substitutions and Product Options.

2.02 COILING DOORS

A. Exterior Coiling Doors: Steel slat curtain.
   1. Capable of withstanding positive and negative wind loads of 20 psf, without undue deflection or damage to components.
   2. Single thickness slats.
   3. Nominal Slat Size: 3 inches wide x required length.
   4. Finish: Primed.
   5. Guides: Angles; galvanized steel.
   6. Hood Enclosure: Manufacturer's standard; primed steel.
   7. Manual hand chain lift operation.
   8. Mounting: Surface mounted.

9. Exterior lock and latch handle.

2.03 MATERIALS

A. Curtain Construction: Interlocking slats.
   1. Slat Ends: Each slat fitted with end locks to act as wearing surface in guides and to prevent lateral movement.
   2. Curtain Bottom: Fitted with angles to provide reinforcement and positive contact in closed position.
   3. Weatherstripping: Moisture and rot proof, resilient type, located at jamb edges, bottom of curtain, and where curtain enters hood enclosure of all doors.

B. Steel Slats: Minimum 22 gage ASTM A 653/A 653M galvanized steel sheet.

C. Guide Construction: Continuous, of profile to retain door in place with snap-on trim, mounting brackets of same metal.

D. Steel Guides: ASTM A 36/A 36M steel angles, size as required for wind loading, prime painted.

E. Hood Enclosure: Internally reinforced to maintain rigidity and shape.
   1. Minimum 24 gage.
   2. Prime paint.

F. Hardware:
   1. Padlockable slide locks.

G. Roller Shaft Counterbalance: Steel pipe and helical steel spring system, capable of producing torque sufficient to ensure smooth operation of curtain from any position and capable of holding position at mid-travel; with adjustable spring tension; requiring 25 lb nominal force to operate.

PART 3 EXECUTION

3.01 EXAMINATION

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

3.02 INSTALLATION

A. Install units 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. Securely and rigidly brace components suspended from structure. Secure guides to structural members only.

D. Fit and align assembly including hardware; level and plumb, to provide smooth operation.

E. Coordinate installation of sealants and backing materials at frame perimeter as specified in Section 07900.

3.03 TOLERANCES

A. Maintain dimensional tolerances and alignment with adjacent work.

B. Maximum Variation From Plumb: 1/16 inch.

C. Maximum Variation From Level: 1/16 inch.

D. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch per 10 ft straight edge.

3.04 ADJUSTING

A. Adjust operating assemblies for smooth and noiseless operation.

3.05 CLEANING

A. Clean installed components.

B. Remove labels and visible markings.

END OF SECTION