

SMOKE GUARD® SYSTEM
MODEL 600 REV. 3
SPECIFICATION

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MasterFormat 2005™ Location:

Recommended location under the current MasterFormat™ 2004 is Section 08 3483 Elevator Door Smoke Containment System.

CSI does not recommend the Division 07 location 07 8700 Smoke Containment Barriers since this is for static smoke containment systems. Smoke Guard products are active smoke containment systems of operable doors tied into fire and smoke alarms systems very similar to overhead coiling fire doors.

This recommendation has been vetted by a number of nationally recognized MasterFormat™ experts, active specification consultants, and the staff of CSI involved with maintaining MasterFormat™.

SECTION 08 3483

ELEVATOR DOOR SMOKE CONTAINMENT SYSTEM

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Smoke detector-activated hoistway 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.
- C. Related Sections:
 - 1. 08 3100–Access Panels.
 - 2. 09 2200–Non-Load Bearing Wall Framing: Metal backing in housing mounting area.
 - 3. 09 9100–Paints: Field painting of specified components; repainting of existing field painted elevator door frames.
 - 4. 28 3000–Detection and Alarm: Provision of smoke detectors.
 - 5. 14 2100–Electric Traction Elevators.
 - 6. 14 2400–Hydraulic Elevators.
 - 7. Division 26 Sections for 120v and control circuit power including conduit, boxes, conductors, wiring devices, and emergency power.

1.02 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 Service 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. 2003.
 - 2. 2006
 - 3. 2009
 - 4. 2012
- F. UL Standards:
 - 1. 268 – Smoke Detectors for Fire Protective Signaling Systems.
 - 2. 864 – Control Units for Fire Protective Signaling Systems.
 - 3. 1784 – Air Leakage Tests for Door Assemblies.

1.03 SUBMITTALS

- A. Reference Section 01 3300–Submittal Procedures; submit following items:
 - 1. Product Data.
 - 2. Shop Drawings: Include door width and height, jamb width, head projection, screen width, mounting height, housing width, and motor location. Show and identify related work performed under other sections of the specifications.
 - 3. Quality Assurance/Control Submittals:
 - a. Qualifications:
 - 1) Proof of manufacturer qualifications.
 - 2) Proof of Installer qualifications.
 - b. Certifications: Copy of specified items.
 - c. Manufacturer’s installation instructions and testing procedures

1.04 CLOSEOUT SUBMITTALS

- A. Comply with Section 01 7700–Closeout Submittals; submit following items:
 - 1. Operation and Maintenance Manual.
 - 2. Manufacturer’s Warranties

1.05 QUALITY ASSURANCE

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

1. Manufacturer Qualifications: Minimum five 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 showing compliance with:
 - a. ICC-ES AC77
 - b. UL standard 1784
 - c. AST, E84
 - d. NFPA 105
 2. IAS (IAS is a trademark of International Accreditation Service) Accredited Testing Laboratory Labels for UL Standard 1784
 3. IAS (IAS is a trademark of International Accreditation Service) Accredited Testing Laboratory Labels for UL Standard 864
 4. California Department of Forestry and Fire Protection and Office of the State Fire Marshal Listing.
 5. OSHPD Anchorage Pre-Approval No. OPA-0318
- D. Pre-Installation Meeting:

Include painting sub-contractor in following paragraph if new or existing elevator door frames or auxiliary rails will be field painted.

1. Schedule and convene a pre-installation meeting prior to commencement of field operations with representatives of the following in attendance: Owner, Architect, General Contractor, smoke containment system sub-contractor, painting sub-contractor, and electrical sub-contractor.
2. Review substrate conditions, requirements of related work, installation instructions, storage and handling procedures, and protection measures.
3. Keep minutes of meeting including responsibilities of various parties and deviations from specifications and installation instructions.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Comply with Section 01 6600–Delivery, Storage, and Handling.
- B. Comply with manufacturer's instructions.

1.07 WARRANTY

- A. Provide manufacturer's standard one year warranty.
- B. Maintenance and Testing:
 1. 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 MANUFACTURER

- A. Model 600
- B. Manufacturer:
 - 1. Smoke Guard, 287 Maple Grove, Boise, Idaho 83704 <http://www.smokeguard.com/>
 - 2. Distributor:

Insert name, address and phone numbers of local distributor. Local distributor can be found at www.smokeguard.com

- 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 REQUIREMENTS

- A. Air Leakage: Not to exceed 3 cfm (0.001416 m³/s) per sf of door opening at 0.1 in (25 Pa) water pressure differential at ambient temperature and 400 degrees F (204 degrees C) tested per IBC 2006, 2009, and 2012.

2.03 COMPONENTS

- A. Screen:
 - 1. Film: Minimum 1 mil (0.025 mm) thick transparent polyimide film reinforced with 100 denier nomex yarn at .25 in (6.35 mm) 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 or stainless steel container and door with concealed hinges, and latch.

Following auxiliary rails are required for elevator door frames that are non-ferrous (e.g. stainless steel, brass, bronze, aluminum) or do not have a flat 2 in (50 mm) wide face, or are recessed in or flush with the finished wall surface.

If rails are to be painted, include following field painting requirements in section 09 9100:

Paint must be heat resistant to 300 degrees f (149 degrees c) and be spray applied, maximum 5 mils (.13 mm) thick including factory primer.

- C. Auxiliary Rails:
 - 1. Material: 16 gage ASTM A 240/240M, Type 430, ferritic stainless steel.
 - 2. Size: [2 in (51 mm) wide by depth as required to project beyond face of elevator door frame] [As shown on Drawings].
- D. Rewind Motor: NFPA 70,
- E. Release Mechanism: IAS (IAS is a trademark of International Accreditation Service) Accredited Testing Laboratory Labels for UL Standard 864
- F. Control: Metal box in housing with battery backup, power disconnect with integral circuit breaker, step down power transformer (120v AC to 24 v DC), and controller circuit board.
 - 1. Emergency Power Supply: 12v DC battery with charger.

- G. 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.
 - 3. Verify existing field painted elevator door frames to be used for screen adherence have been repainted in accordance with smoke containment system manufacturer's instructions or they have the original factory paint.
- 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

Manufacturer's installation instructions cover procedures for normal installation and assume the design and detailing complies with smoke guard requirements. Unusual conditions or variations from Smoke Guard requirements should be added to this article.

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

3.03 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] [elevator service company] minimum one week in advance of scheduled testing.
 - 2. Complete maintenance service record.

3.04 DEMONSTRATION

- A. Demonstrate required testing and maintenance procedures to Owner's Representative.
- B. Maintenance and Testing:
 - 1. 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 and replace every three years minimum.
 - 3. Retain permanent record of tests.
- C. Future Painting: Paint elevator door frame and/or auxiliary rails in accordance with Operation and Maintenance Manual.
- D. Qualified Smoke Guard Inspector assesses unit(s) after exposure to a fire event.

END OF SECTION