**SMOKESHIELD™ ELEVATOR SPECIFICATION**

**SECTION 08 3483**

**ELEVATOR DOOR SMOKE CONTAINMENT SYSTEM**

**GENERAL NOTES TO SPECIFIER:**

This specification section has been prepared to assist design professionals in the preparation of project or office master specifications. It follows guidelines established by the construction specifications institute, and therefore may be used with most master specification systems with minor editing.

Edit carefully to suit project requirements. Modify as necessary and delete items that are not applicable. Verify that referenced section numbers and titles are correct. (Numbers and titles referenced are based on MasterFormat®, 2004 edition).

This section assumes the project manual will contain complete division 01 documents including sections 01 33 00–submittal procedures, 01 62 00–product options, 01 25 13–product substitution procedures, 01 66 00–product storage and handling requirements, 01 77 00–closeout procedures, and 01 78 00–closeout submittals. If the project manual does not contain these sections, additional information should be included under the appropriate articles.

This is an open proprietary specification allowing users the option of approving other manufacturers which comply with the criteria specified herein.

**\*\*NOTES TO THE SPECIFIER\*\*** are included in red text and should be deleted from final copy.

Optional items requiring selection by the specifier are enclosed within brackets and highlighted, e.G.: [35] [40] [45]. In cases where one of the optional items is a standard feature of the door model, it is listed in the first position. Make appropriate selection and delete others.

Items requiring additional information are underlined and highlighted, e.G.: \_\_\_\_\_\_\_\_\_\_\_\_\_.

**PART 1 - GENERAL**

1.01 SUMMARY

A. **Section Includes:** Alarm activated elevator door smoke containment system designed to seal the hoistway opening from smoke and air infiltration.

B. **Related Sections:**

1. 14 2100 – Electric Traction Elevators.

2. 14 2400 – Hydraulic Elevators.

3. 09 9100 – Paints: Field painting of specified components; repainting of existing field painted elevator door frames.

4. 09 2200 – Non-Load Bearing Wall Framing: Metal backing in housing mounting area.

5. Division 26 Sections for 120VAC and control circuit power including conduit, boxes, conductors, wiring devices, and emergency power.

6. 28 3000 – Detection and Alarm: Provisions for smoke detectors.

1.02 REFERENCES

A. **Codes and Standards:**

1. NFPA 70 National Electric Code

2. NFPA 105 Smoke Door Assemblies

3. NFPA 72 National Fire Alarm and Signaling Code

4. NFPA 255 Method of Test of Surface Burning Characteristics of Building Materials,

5. NFPA80 Fire Doors and other Opening Protectives

6. NFPA 101 Life Safety Code

B. **International Building Code**

1. 2006

2. 2009

3. 2012

4. 2015

5. 2018

6. 2021

C. **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, jamb and head projection, curtain width, mounting height, and housing width.

3. **Quality Assurance/Control Submittals:**

a. Qualifications:

1) Proof of manufacturer qualifications.

2) Factory approved installation personnel.

b. Manufacturer’s installation instructions and inspection/drop testing procedures.

c. Provide manufacturer’s Health Product Declaration (HPD) for each

product

1.04 CLOSEOUT SUBMITTALS

A. **Comply Section 01 7700 – Closeout Submittals; submit following items:**

1. Operation and Maintenance Manual

2. Drop test documentation.

3. Manufacturer’s Warranties

1.05 QUALITY ASSURANCE

A. **Overall Standards:**

1. Manufacturer shall maintain a quality control program in accordance with ISO 9001:2015.

2. Manufacturer shall maintain a UL in-plant follow up inspection procedure.

B. **Qualifications:**

1. **Manufacturer Qualifications:** Minimum ten years’ experience in manufacturing fire and smoke protection closures.

2. **Installer Qualifications:** Factory authorized.

C. **Certifications:**

1. In compliance with:

a. ICC-ES AC77 and ESR 4175

b. NFPA 101

c. NFPA 105

d. NFPA 80

e. UL 864

**f. ASTM E84**

g. OSHPD

h. California State Fire Marshall Approval

2. Underwriters Laboratories Listing Labels

a. UL standard 1784 “S” Label

D. **Pre-Installation Meeting:**

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. Reference Section 01 6600 – Product Storage and Handling Requirements.

B. Follow manufacturer’s instructions.

1.07 WARRANTY

A. Provide manufacturer’s standard two year warranty.

B. Inspection, Maintenance and Testing:

1. Perform minimum annual maintenance and testing on each smoke containment system as required by NFPA 80, manufacturer’s warranty, and otherwise as required by local authority having jurisdiction.

2. Provide test documentation.

**PART 2 - PRODUCTS**

2.01 MANUFACTURER

A. **Basis of design:** Cornell Model ERF10: SmokeShield™ Elevator

B. **Approved Manufacturers:**

1. **Cornell:** 24 Elmwood Ave, Mountain Top, PA 18229.

**Telephone:** (800) 294-4358.

2. The **Cookson Company**

3. **Clopay Corporation**

**Substitutions:** Not permitted.

D. **Label each smoke containment system with following information:**

1. Manufacturer’s name.

2. Underwriter’s Laboratories 1784 listing label.

2.02 PERFORMANCE REQUIREMENTS

A. **UL 1784 Test Standard for Air Leakage:** UL Listed. 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, 2012, 2015, 2018, 2021.

B. **UL 864.** UL Listed.

C. **AC-77**: International Code Council Acceptance Criteria for Hoistway Closures

D. **ESR #4175**: ICC Evaluation Services Report,

2.03 COMPONENTS

A. CURTAIN

1. **Curtain Material:** Transparent film.

1. **Curtain Graphics:**

a. Provide curtain mounted electrical switches with the word “OPEN” on each side of curtain.

b. Provide clearly delineated lift handle operational graphic or icon.

\*\*Note to Specifier: Guides are mounted adjacent to elevator frame and may be mounted face of wall exposed, or face of wall and hidden under sheetrock, wood or masonry fascia. Please coordinate bottom bar finish selection with manufacturer and specify accordingly\*\*

3. **Bottom Bar:** Shaped to retain curtain in guides and to seal curtain at sill.

a. Provide bottom bar powder coat finish to match [ceiling] [housing powder coat] [fascia] [guide powder coat] finish.

4. **Edge Retention:** Provide mechanically retained curtain to guide channel to provide complete curtain reseal after each cycle.

5. **Lift Strap:** ADA compliant 3/16 inch (4.76mm) thick, 1 inch (25mm) wide nylon webbing.

a. Anchor to bottom bar and to curtain.

b. Provide one strap for each side of curtain

c. Provide full opening access by lifting curtain to full opening height.

d. Comply with ADA 15 lb. lifting force requirements

6. **Barrel:** Curtain to coil onto a steel barrel permanently mounted within the housing.

a. Provide counterbalance for curtain to allow full opening height manual operation when necessary.

\*\*Note to Specifier: RAL 9010 white is the standard powder coat color. Housing may also be powder coated from a list of standard or custom colors. Please consult the manufacturer’s RAL chart to determine the appropriate finish. Please select desired mounting location in item 4 below\*\*

B. **Housing:**

1. 24 gage cold rolled powder coated steel housing.

2. 20 gage cold rolled powder coated steel mounting plate.

3. Removable control box, battery and motor covers.

4. Housing to be mounted [below ceiling] [flush with ceiling]

\*\*Note to Specifier: Guides are mounted adjacent to elevator frame and may be mounted face of wall exposed, or hidden under sheetrock, wood or masonry fascia. RAL 9010 white is the standard powder coat color. Please coordinate finish selection with manufacturer and specify accordingly. Please select guide finish desired below\*\*

C. **Guides**

* + - 1. Material: 6063-T6 aluminum [powder coated RAL #\_\_\_\_\_] [field painted] [anodized to match #4 brushed stainless] finish.
      2. Pack-off materials to project headbox and guides away from operator frame or obstructions as required.
      3. Provide extruded aluminum guide components with no visible fasteners or shadow lines.

D. **Operation:**

1. Provide 24 VDC motor and controls.

\*\*Note to Specifier: Please select activation means below\*\*

2. Provide electrical activation by [local smoke detector] [fire alarm control panel]

3. Provide maximum ten second time delay to close upon activation.

4. Provide curtain mounted “OPEN” switches operable from either side of curtain.

5. Provide motor integrated governor to control descent from 8” – 14” per second.

6. Provide automatic reset and auto-open upon alarm clear during testing procedures.

7. Provide system with battery backup mounted entirely within headbox to prevent nuisance drops.

8. Provide monitored battery backup power to operate system for a minimum of 24 hours after power interruption.

E. **Motor Controller:**

1. Provide motor control panel mounted entirely within headbox assembly.

2. Power and alarm connections to be completed by electrical and alarm contractors.

F. **Failsafe Release Device:**

1. Integral to motor operator as a UL listed component.

2.04 ACCESSORIES

\*\*Note to Specifier: Please select battery charge indicator if desired or delete if not required below\*\*

1. **Battery Level Indicator:** Provide a permanently mounted meter or gauge to indicate level of battery charge.

**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 suitable for installation of elevator smoke containment system.

B. Coordinate with owner’s representative to perform corrective work on unsatisfactory substrates prior to commencing installation.

3.02 INSTALLATION

A. Install per manufacturer’s installation instructions.

B. Perform drop test and reset procedure witnessed by owner’s representative per NFPA 80.

3.03 FIELD QUALITY CONTROL

A. Installation Inspection and Testing:

1. Follow manufacturer’s inspection and drop test procedures.

2. Provide owner with a copy of procedure for inspection by authority having jurisdiction.

3.04 DEMONSTRATION

A. Demonstrate required testing and maintenance procedures to owner’s representative.

B. Follow Up Inspection, Maintenance and Testing:

1. Perform annual inspection, maintenance and testing on each smoke containment system as required by NFPA 80 or more often as determined by the authority having jurisdiction.

2. Follow manufacturer’s inspection and drop test procedures.

3. Provide owner with a copy of the inspection and drop test procedure for inspection by the authority having jurisdiction.

**END OF SECTION**