Code Compliance Research Report
CCRR-1059

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DIVISION: 07 00 00 – THERMAL AND MOISTURE PROTECTION
Section: 07 87 00 – Smoke Containment Barriers

DIVISION: 08 00 00 – OPENINGS
Section: 08 30 00 – Specialty Doors and Frames

REPORT HOLDER:
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REPORT SUBJECT:
Smoke Curtain GX, Model Aperitex, Smoke Containment System

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

- 2024, 2021, 2018 *International Building Code®* (IBC)
- 2024, 2021, 2018 *International Fire Code®* (IFC)

NOTE: This report references the most recent editions of the codes cited. Section numbers may be different for earlier editions of the Codes.

1.2 Smoke Curtain GX System has been evaluated for the following properties (see Table 1):

- Smoke Containment
- Surface Burning Characteristics

1.3 Smoke Curtain GX System has been evaluated for the following uses (see Table 1):

- The Stoebich System is a rolling gasketing smoke containment system used in conjunction with fire-resistance-rated elevator hoistway door and frame assemblies or in elevator lobbies to provide smoke and draft control.

2.0 STATEMENT OF COMPLIANCE

The Smoke Curtain GX System complies with the Codes listed in Section 1.1, for the properties stated in Section 1.2 and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.

2.1 2024 IBC and IRC Evaluation Reports: The Intertek CCRR is an Evaluation Report for approval of an alternate material, design, or method of construction in accordance with Section 104.2.3.6.1 of the 2024 IBC and Section R104.2.2.6.1 of the 2024 IRC.

3.0 DESCRIPTION

3.1 General:

3.1.1 Model Aperitex: The Smoke Curtain GX, Model Aperitex, consists of a Listed (to ASTM E84) reinforced transparent film designed to unroll from a housing unit positioned above the elevator opening, down along the existing elevator frame or auxiliary rails to cover the elevator opening in the event of activation of the smoke detector(s). Auxiliary rails are used if the elevator frame is nonferrous, beveled, painted, or irregular, or if the appearance of rails is desired.

3.1.2 Electrically Operated Drive Control System: The drive control system, actuating the deployment and rewind functions of the system, is intended for connection to the building's 110VAC power supply and to either the auxiliary contacts of the smoke detector located in the elevator lobby or, when approved by the AHJ, to the building's fire protection system. The electrically operated system is Listed for conformance to UL Standard 864.

3.1.3 Curtain Deployment: The curtain protects the elevator opening from smoke migration by creating a smoke and draft control barrier. The Smoke Curtain GX System is connected to the smoke detection system

located in the elevator lobby, or to the building's fire protection system, which initiates deployment within 10 seconds of smoke detector or fire protection system alarm operation. A cabling system allows the film to unwind (with or without auxiliary power). Flexible magnetic strips, on the vertical edges of the film, seal the film to the elevator door frame or to the auxiliary rails (see Figure 1).

3.1.4 Elevator Egress: In the event that elevator occupants encounter a deployed Smoke Curtain GX System, a rewind switch located on the elevator side of the curtain can be manually activated per IBC Section 3002.6, to allow the occupants to exit from the elevator. A separate, manually operated wall switch (optional) will also rewind the system. The system will redeploy after occupant egress if the presence of smoke continues to be detected by the smoke detector. In the event of a loss of power, a force of less than 15 pounds, per IBC Section 1010.1.3, applied to the curtain boundary will push the flexible magnetic strips away from the hoistway frame to allow occupant egress. The Smoke Curtain GX System is available with optional battery backup allowing functioning as intended in the event of an interruption in the building's electrical power supply.

3.2 Performance Characteristics:

3.2.1 Smoke and Draft Control: When tested in accordance with UL 1784 without the use of an artificial bottom seal, the Smoke Curtain GX System has air leakage ratings that do not exceed 3.0 cfm per square foot of opening at a pressure differential of 0.1 inch w.c. (25 Pa), at both ambient and elevated temperatures, and are eligible to bear an "S" label.

3.2.2 Surface Burning Characteristics: When tested in accordance with ASTM E84, the Smoke Curtain GX System fabric has a flame spread index of 25 or less and a smoke developed index of 50 or less.

4.0 INSTALLATION

4.1 General:

The Smoke Curtain GX System must be installed in accordance with the manufacturer's published installation instructions, the applicable Code and this Research Report. The manufacturer's published installation instructions and this Research Report must be strictly adhered to, and a copy of the instructions must be available on the jobsite during installation.

The systems must be either surface-mounted or flush-mounted to the elevator frame. Neither the maximum elevator door opening width nor height may exceed 118-1/8 inches. The frame surrounding the elevator door must be a minimum of No. 14 gage [0.0747 inch] steel with a 2-inch-wide flat profile. Narrow, nonferrous, irregular, or beveled frames require the installation of auxiliary ferrous steel rails.

The Smoke Curtain GX System housing is attached to a sheet metal mounting plate attached to the wall above the elevator hoistway frame. The Smoke Curtain GX Coil (motor and curtain assembly) is installed in the prepared System housing.

The unrolled curtain must magnetically adhere to either the elevator hoistway frame or the auxiliary rails. The magnets are adjusted to align with the elevator hoistway jambs and the curtain is stretched tightly across the elevator hoistway opening. The curtain must be adjusted vertically so that the bottom threshold is in contact with the floor. After initial adjustment, the curtain must be unrolled again to check the vertical alignment. Line slack must be removed and adjusted to provide equal tension between cables.

A smoke detector complying with UL 268 must be installed at the ceiling in front of the elevator hoistway doors. The smoke detector must be equipped with an auxiliary contact and battery backup (not provided by the Smoke Curtain GX System control station) or an emergency electrical system. When approved by the building official, the smoke containment systems may be connected to the building's fire protection system instead of to smoke detectors at the elevator hoistway doors.

The Smoke Curtain GX System must be used with fire-resistance-rated elevator doors to comply with IBC Section 716.2.2.1, allowing the elevator doors to open directly into the fire-resistance-rated or non-fire-resistance-rated corridor, and eliminating the need for an enclosed elevator lobby in accordance with Subsection 5 of IBC Section 3006.3. In the absence of a corridor, elevator doors equipped with the Smoke Curtain GX System may open directly into an open floor plan.

The Smoke Curtain GX System may be deployed only at those hoistway openings of elevators where fire alarm initiating devices used to initiate Phase I Emergency Recall Operation associated with that elevator have been activated. [Reference ASME A17.1-2022/CSA B44:22, Section 2.11.6.3 (e)]

4.2 Final Adjustment and Inspection:

After the installation is complete, the installer must perform a final adjustment and inspection of the system. The deployment and rewind motor must be engaged and inspected for proper operation. Travel of the curtain and all moving parts must be inspected and adjustments made as required to the cable tension. The operating process, including device simulation of the smoke alarm activation of the releasing device, must be repeated five times to verify functionality. After installation, the system must be maintained in accordance with Sections 110 and 705.2 of the IFC and Chapter 8 of NFPA 105. Annual inspection must be provided in accordance with Chapter 8 of NFPA 105.

The Smoke Curtain GX System must be cycle-tested by the building owner of record or owner's representative on a semiannual basis. A permanent record of the cycle tests must be retained by the building owner of record or the owner's representative.

5.0 CONDITIONS OF USE

5.1 Installation must comply with this Research Report, the manufacturer's published installation instructions and the applicable Code. In the event of a conflict between the manufacturer's instructions and this report, this report governs.

5.2 Installation must be by installers authorized by Stoebich Fire Protection Systems LP.

5.3 The Smoke Curtain GX System must not be used where elevator hoistway pressurization in accordance with IBC Section 909.21 is provided, except when used in a smoke control system designed by registered professionals in accordance with the applicable requirement of Section 909 of the IBC and the IFC.

5.4 Openings protected with Smoke Curtain GX Systems must be cycle tested and maintained in accordance with Section 4.2 of this report.

5.5 The Smoke Curtain GX System may not be used as a component of the required means of egress, in accordance with IBC Section 1003.7.

5.6 The Stoebich Smoke Curtain GX system is manufactured in Goslar, Germany, under a quality control program with inspection by Intertek Testing Services, NA, Inc.

6.0 SUPPORTING EVIDENCE

6.1 Reports of tests in accordance with ASTM E84 and UL 1784.

6.2 Data in accordance with the ICC-ES Acceptance Criteria for Smoke Containment Systems Used with Fire-resistive Elevator Hoistway Doors and Frames (AC77, Section 3.1.1), dated February 2019.

6.3 Intertek Listing Report Stoebich Smoke Curtain GX, Model Aperitex, Smoke Containment System.

7.0 IDENTIFICATION

The Smoke Curtain GX System described in this Research Report is identified by a marking bearing the report holder's name (Stoebich Brandschutz GmbH), the Intertek Mark, and the Code Compliance Research Report number (CCRR-1059).

8.0 OTHER CODES

This section is not applicable.

9.0 CODE COMPLIANCE RESEARCH REPORT USE

9.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

9.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

9.3 Reference to the Intertek website address at https://bpdirectory.intertek.com is recommended to ascertain the current version and status of this report.

TABLE 1 – PROPERTIES EVALUATED

PROPERTY	2024 IBC SECTION[1]	2024 IFC SECTION[1]
Smoke and Draft Control Doors	710.5.2.2 3006.3	705
Smoke Control Systems	909	909
Maintenance	909	110 705.2
Flame Spread & Smoke Developed Index	803.1	803.1

[1] Section numbers in earlier editions of the code may differ.

FIGURE 1 – TYPICAL INSTALLATIONS
(Showing wall mounting and optional rewind buttons and concealed ceiling mounting)