Code Compliance Research Report
CCRR-0418

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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:
SD60GS Fire-protective Smoke Curtain®
SD60GS Elevator 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 Code editions cited. Section numbers for earlier editions of the Codes may differ.

1.2 The SD60GS curtain systems have been evaluated for the following properties (see Table 1):

- Smoke containment
- Surface burning characteristics
- Fire resistance (SD60GS Fire-protective Smoke Curtain only)

1.3 The SD60GS Fire-protective Smoke Curtain system has been evaluated for the following uses (see Table 1):

- Use at the intersection of the elevator lobby and corridor as an alternative to a separated enclosed elevator lobby
- Use as a smoke and draft control assembly
- Use as a fire protective curtain assembly in accordance with 2021 and 2024 IBC Section 716.4

1.4 The SD60GS Elevator Smoke Containment system has been evaluated for the following uses (see Table 1):

- Use with fire-resistance-rated elevator hoistway doors and frames as an alternative to a separated enclosed elevator lobby
- Use as a smoke and draft control assembly

2.0 STATEMENT OF COMPLIANCE

The SD60GS curtain systems comply with the Codes listed in Section 1.1, for the properties stated in Section 1.2 and uses stated in Sections 1.3 and 1.4, 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: Both SD60GS curtain systems consist of a coated filament glass curtain, sheet metal headbox, side guides, bottom bar, roller assembly, and an electronically operated drive-control system. The filament glass fabric curtain is attached to the roller assembly within the headbox. The edges of the curtain incorporate steel retaining tabs, which secure the curtain within the side guides. The headbox is positioned above the elevator or elevator lobby opening and the side guides are installed from the floor to the underside of the headbox on both sides of the protected opening. The bottom edge of the curtain is terminated with a weighted bottom bar, which enables the curtain to descend under gravity. Deployment of the curtain is automatic upon receipt of an alarm condition, and the curtain is retracted upon clearing of the alarm condition.

The SD60GS curtain systems must be connected to the building fire protection system or to a smoke detection system located adjacent to the curtain (see Section 6.3).

Rewind switches located on either side of the barrier retract a deployed smoke-containment system in compliance with Section 3002.6 of the IBC. Rewind switches are permitted to be mounted on the wall adjacent to the side guides, mounted on the side guides directly, or incorporated into the curtain panel as membrane switches. If an alarm condition is still detected after egress, the curtain systems will redeploy.

3.2 SD60GS Fire-protective Smoke Curtain: The SD60GS Fire-protective Smoke Curtain is intended for installation at the intersection of the elevator lobby and corridor as an alternative to the enclosed elevator lobby required by Section 3006.3 of the IBC. When installed as indicated in this report, the system forms a protective opening in a smoke partition and is an alternative to the smoke and draft control doors required by Section 710.5.2.2 of the IBC.

The system may be configured with multiple roller assemblies, provided the curtain panels are overlapped 24 inches. In the case of a loss of power, a horizontal force of less than 15 pounds applied to the curtain overlap is required to open a pass-through slot that can be used to exit the deployed curtain.

3.3 SD60GS Elevator Smoke Containment System: The SD60GS Elevator Smoke Containment system is intended for installation at a fire-resistance-rated elevator hoistway door, allowing the elevator doors to open directly into a fire-resistance-rated or non-fire-resistance-rated corridor, and eliminating the need for an enclosed elevator lobby in accordance with Item 5 of IBC Section 3006.3. In the absence of a corridor, fire-resistance-rated elevator doors protected by a SD60GS Elevator Smoke Containment system may open directly into an open floor plan.

The single-roller system uses an electromechanical latch to restrain the bottom bar of the curtain. In the case of a loss of power, an uplift force of less than 15 pounds applied to the integral grab strap is required to disengage the latch and lift the curtain assembly 36 inches to allow passage under the deployed curtain.

The curtain must be a single continuous panel system and must include a viewing panel in compliance with ASME A17.1/CSA B44 Section 2.11.6.3. The viewing panel is comprised of an amber-colored, polyimide film with a nominal thickness of 2 mils and maximum size of 56 inches wide and 30 inches tall.

3.4 System Components:

3.5 Curtain: The curtain is a fiberglass fabric with an aluminum polymer coating on two sides and a nominal weight of 14 oz/yd^2. Curtains are created by stitching multiple fabric panels together with fiberglass and stainless steel thread.

3.5.1 Releasing Device: The releasing device of the SD60GS systems is ETL Listed for conformance to UL 864. The control system must be connected to the building's 120 VAC power supply and the alarm contacts of the building's fire-protection system or adjacent smoke detection system. In the case of a loss of building power, the system includes a 24 VDC backup battery.

4.0 PERFORMANCE CHARACTERISTICS

4.1 Smoke and Draft Control: When tested in accordance with UL 1784, the SD60GS systems have air leakage ratings not exceeding 3.0 cfm per square foot of opening at a pressure differential of 0.10 inch w.c. at both ambient and elevated temperatures and are therefore eligible to bear an "S" label in accordance with Section 710.5.2.2.1 of the IBC. The UL 1784 tests were conducted without the use of an artificial bottom seal.

4.2 Surface Burning Characteristics: When tested in accordance with ASTM E84, the SD60GS curtain and viewing panel have flame spread indices of 25 or less and smoke developed indices of 50 or less.

4.3 Fire Resistance: When tested in accordance with UL 10C, the SD60GS Fire-protective Smoke Curtain has a 20-minute fire-protection rating without hose stream.

5.0 INSTALLATION

5.1 General:

The SD60GS curtain systems must be installed in accordance with the manufacturer's published installation instructions, the applicable Code, and this Research Report. A copy of the manufacturer's instructions must be available on the jobsite during installation.

The SD60GS Elevator Smoke Containment system must be installed at a fire-resistance-rated elevator door and may be

installed in clear opening widths of 36 to 72 inches and clear opening heights of 84 to 240 inches.

The SD60GS Fire-protective Smoke Curtain system may be installed at the intersection of the elevator lobby and corridor and may be installed in clear opening widths of 84 to 1752 inches and clear opening heights of 78 to 552 inches.

5.2 Smoke Detection System:

The SD60GS curtain systems must be connected to an approved smoke detection system. The smoke detectors shall be tested and Listed to UL 268 and shall be equipped with a battery backup or be connected to an emergency electrical system. When approved by the AHJ, the SD60GS curtain systems may be connected to the building fire protection system instead of direct connection to a smoke detection system at the installation location.

When installed at an elevator hoistway door and frame, the SD60GS Elevator Smoke Containment system shall be connected to a smoke detector installed on the ceiling in front of the elevator hoistway door.

When installed at the intersection of the elevator lobby and corridor, the SD60GS Fire-protective Smoke Curtain shall be connected to smoke detectors installed on the ceiling on either side of the curtain.

5.3 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. The operating process, including simulation of the smoke alarm activation of the releasing device, must be repeated five times to verify functionality.

6.0 CONDITIONS OF USE

6.1 Installation and maintenance must comply with this Research Report, the manufacturer's published installation instructions and Operations & Maintenance manual, and the applicable Code. In the event of a conflict, this report governs.

6.2 Installation must be by installers authorized and factory certified by the manufacturer, ASA, GP.

6.3 The SD60GS curtain systems must be connected to a smoke detection system as described in Section 5.2.

6.4 After installation, the systems must be maintained in accordance with Sections 110 and 705.2 of the IFC, Chapters 8 and 9 of NFPA 105, and Chapter 21 of NFPA 80, as applicable.

6.5 The curtain systems 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.

6.6 The SD60GS curtain systems shall not be used where elevator hoistway pressurization is provided in accordance with Section 909.21 of the IBC, except where the smoke control system is designed by a registered professional in accordance with the applicable requirements of Section 909 of the IBC and IFC.

6.7 The SD60GS curtain systems are intended for use with elevators or elevator lobbies when, in accordance with Section 1003.7 of the IBC, the elevators are not used as a component of a required means of egress from any part of the building.

6.8 The SD60GS curtains are manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

7.0 SUPPORTING EVIDENCE

7.1 Reports of tests demonstrating compliance with UL 10C.

7.2 Data in accordance with the ICC-ES Acceptance Criteria for Smoke-containment Systems Used with Fire-resistance-rated Elevator Hoistway Doors and Frames and at the Intersection of Elevator Lobby and Corridor (AC77), dated February 2019.

7.3 Intertek Listing Reports "ASA, GP SD60GS Elevator Smoke Containment" and "ASA, GP SD60GS Fire-protective Smoke Curtain", on the Intertek Directory of Building Products.

8.0 IDENTIFICATION

The SD60GS curtain systems are identified with the manufacturer's name (ASA, GP), address and telephone number, the product name (SD60GS Fire-protective Smoke Curtain or SD60GS Elevator Smoke Containment), the Intertek Mark as shown below, and the Code Compliance Research Report number (CCRR-0418).

9.0 OTHER CODES

This section is not applicable.

10.0 CODE COMPLIANCE RESEARCH REPORT USE

10.1 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.

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

10.3 Reference to the https://bpdirectory.intertek.com is recommended to ascertain the current version and status of this report.

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TABLE 1 - PROPERTIES EVALUATED

PROPERTY	APPLICABLE CODE SECTIONS[1]	
	IBC SECTION	IFC SECTION
Smoke and draft control doors	710.5.2.2	NA
Smoke control systems	909	909
Surface burning characteristics	803.1.2	803.1.2
Hoistway opening protection	3006.3	1020.2.1
Fire resistance	716.2.2.1 716.4	NA

[1] Section numbers pertain to the most recent edition cited in Section 1.1 of this Report