



MAKING BUILDINGS SAFER

# Smoke & Fire Curtains

+44 (0) 114 251 4703  
ble-smokeandfirecurtains.com

## SPECIFICATION SHEET: **Smoke Series SC1** (SC60) Active Smoke Curtain barrier

### Testing or Classification:

<b>BSEN 12101-1+A1:2006</b>	Smoke & heat control systems. Part 1: Specification for smoke barriers.
<b>BSEN 1363-1:1999</b>	Fire resistance tests. Part 1: General requirements.
<b>BSEN 1634-3:2004</b>	Fire resistance & smoke control tests for door and shutter assemblies, openable windows and elements of building hardware. Smoke control test for door and shutter assemblies.
<b>BSEN 13501-4:2007+A1:2009</b>	Fire classification of construction products and building elements. Classification using data from fire resistance tests on components of smoke control systems.
<b>BS476-6:1989+A1:2009</b>	Fire tests on building materials and structures. Method of test for fire propagation for products.
<b>BS476-7:1997</b>	Fire tests on building materials and structures. Method of test to determine the classification of the surface spread of flame of products.
<b>BSEN 10219-1:1997</b>	Cold formed welded structural sections of non-alloy and fine grain steels.
<b>BSEN 10025-2:2004</b>	Hot rolled products of structural steels.
<b>BSEN 755</b>	Aluminium and aluminium alloys. Extruded rod/bar, tube and profiles. Mechanical properties.
<b>BSEN 10305-3:2002</b>	Specification for seamless & welded tubes for automobile, mechanical & general purposes. Specific requirements for electric resistance welded (including induction welded) steel tubes.
<b>BSEN ISO 9001:2008</b>	Quality management system.
<b>UL 10D</b>	Fire protective curtains classification.
<b>UL 10D S</b>	Fire protective curtains classification, smoke designation.
<b>UL864</b>	Control units & accessories for fire alarm.
<b>ULC-S527</b>	Standard for control units for fire alarm systems.
<b>UL723:2008</b>	Test for surface burning characteristics of building materials.
<b>UL1784:2009</b>	Air leakage tests of door assemblies.
<b>Fabric Testing</b>	DIN EN 53855, 53851, 53855 T1, 53830, 53857 T1, 52273 & DIN EN 1049

### Performance & Classification

120 minutes integrity up to 600 °C (1112°F)  
Approved for spans unlimited in width, heights up to 8m minimum fabric overlap 400mm  
D120 Dh60, A2-s1, d0, Class "0"

### SC1 Compliance Parameters:

- CE Marked in accordance with EU Construction Products Directive (89/106/EEC)
- tested to EN12101-1+A1
- tested for smoke leakage to BS EN1634-3
- provides gravity fail safe operation
- tested to UL10D
- motors within the assemblies tested to operate at temperatures up to 300 °C
- fabric tested to BS476-6+A1
- fabric tested to BS476-7

### Product Performance:

Complete product tested to (BS) EN12101-1:2005 and BS7346: Part 3, and achieved a rating of DA (600°C, above 120 minutes) and is ASB 1 and 3 classified.

Designed to operate for 2000 cycles at normal ambient temperatures in the range of 0°C to 60°C and to withstand hot air and smoke at temperatures up to 600°C for over 120 minutes once only.

The fabric has a class 1 surface spread of flame when tested to BS 476: Part 7 and a fire propagation index  $I = 1.4$  when tested to BS 476: Part 6. The results of the tests demonstrate that the product complies with the requirements for Class 0, as defined in paragraph A13(b) of Approved Document B,

'Fire Safety', to the building Regulations 2000 edition consolidated with 2000 and 2002 amendments.

The system is CE Marked in accordance with EU Construction Products Directive (89/106/EEC) as amended by the CE Marketing Directive (93/68/EEC)

System carries enhanced "S" designation for smoke seal when installed with guides and additional smoke protection.

### **General Description:**

The fabric curtain is manufactured from X32K woven glass fibre cloth incorporating a "Panama" weave for increased stability the fabric has a nominal weight of 540g/m<sup>2</sup> and is tested to withstand temperatures of up to 1000°C for a period of 60 minutes.

The active roller assembly, incorporating the fabric, is housed in galvanised mild-steel head box which is normally bolted to the fabric of the building. The curtain head box is manufactured from 1.2 mm galvanised steel, the enclosure is rated at the same temperature as the curtain fabric. Removable cover plates are incorporated to allow access to the curtain rollers. Standard head box sizes are 150mm x 150mm for single.

Larger head boxes may be required where the curtain drop is in excess of three metres. A suitably weighted bottom bar is provided to prevent deflection and ensure correct operation under gravity upon receipt of a signal from the fire alarm panel or total mains and battery failure. Various oversize assessments have been conducted.

A polycarbonate extrusion is supplied as standard, this locates into the profile formed in the bottom of the box. The roller is constructed from an octagonal tube, each of which incorporates a 24volt d.c. motor & gearbox and a sealed heavy duty ball bearing assembly. A motor control circuit housed in a steel enclosure is mounted onto the motor end of the head box.

### **Control system:**

Operation of the curtains is via the Group Control Panel which can either be mounted adjacent to the smoke curtain head box within the ceiling void, allowing access for maintenance, or mounted in a remote position from the curtain.

The panel requires a local 230v ac supply rated at 3 amps via an un-switched fused spur on a maintained supply installed by others. For operational purposes the G.C.P. must be connected to a normally-closed volt-free contact within the fire alarm control panel configured to open on fire and fail safe.

Each control panel is capable of operating up to six rollers and includes battery back-up which will maintain the curtains in their retracted position for a period of three hours during a mains failure. It is also possible to manually operate the curtains during this period.

Should the battery voltage fall below a predetermined limit, a low voltage cut off circuit will activate the curtain, which will descend in a controlled manner under the force of gravity.

The roller motors, which are 24 volt d.c., must be wired from the G.C.P. in a ring main using suitably sized cable to ensure a voltage of 24v d.c -10%.

The curtains descend upon receipt of a signal from the fire-alarm panel and retract when the signal is removed. During ascent the motors are controlled via a synchronised speed circuit to ensure all curtains are raised at similar rates. In the event of mains and battery backup failure, the curtains descend under the force of gravity.

Limit switches are not used to control the upper and lower positions of the curtain. There is a manual key operation from GCP to facilitate override and testing.

### **Optional Extras:**

#### **Split drop delay:**

An optional braking system is available to allow a two stage descent during gravity deployment. This provides partial descent to a predetermined level to permit preliminary escape and initial smoke containment. After delay the barrier descends to its full operational position.

#### **Voice warning:**

Audio or spoken multi message facility.



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**Obstruction warning:**

A beam detector which will sound in the event of any obstruction being placed in the curtain drop line.

**Visual alert system:**

Standard localised light or strobe light.

**Emergency retract:**

Manual operation to momentarily retract for occupant escape and emergency service access.

**Walk through escape:**

A push-through overlap to provide means of passage through the barrier once deployed.

**Others:**

Other variants are available such as manual reset, curtain decals and signage and delayed descent.

**Manufacturer**

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**Warranty**

The manufacturer will provide a written warranty for a period of one year. Exclusions may apply if any element is sublet to any unauthorised party.