

NBS Specification:

FireSafe 240 – Active Curtain Barrier (BS 8524-1)

- 1. Product Reference:**
Firesafe 240
- 2. System Classification:**
E240 E240 W60 C1 Sa (to BS EN 13501-2:2007 + A1:2009)
- 3. Standard Compliance:** BS EN 1363-1: 1999
BS 8524-1:2013
BS EN 1634-1:2014+A1:2018
BS EN 1363-1:1999, BS EN 1363-2:1999
BS EN 14600:2005 (C1 cycle classification)
BS EN 1634-3:2004 (Sa smoke leakage)
BS EN ISO 1716, BS EN 13823 (A2-s1, d0 fabric classification)
BS EN ISO 9001:2015
Machinery Directive 2006/42/EC
EMC Directive 2014/30/EU

This machinery conforms to all the requirements of the Machinery Directive 2006/42/EC	
This machinery also conforms to the following Directives	EMC Directive 2014/30/EU
The following standards have been used	EN 12100-1, EN 60204-1:2018, EN 12453:2017

4. System Description:

The FireSafe 240 is an electrically operated automatic Fire Barrier, to be used to form a continuous barrier against fire.

Complete product testing to BS8524-1, where the specification of the product is tested through an exhaustive regime of tests to ensure robustness, reliability, and durability of the system.

5. Product type:

Electrically operated automatic active fire curtain barrier used to provide fire compartmentation.

6. Construction:

- Curtain fabric: Lightweight glass fabric reinforced with stainless steel wire, coated in fire-retardant polyurethane/aluminum pigment.
- Housing: 1.2 mm Zintec steel headbox with removable cover for access.
- Bottom bar: Weighted, integrated into fabric to allow controlled descent under gravity.
- Side guides: Retain curtain edges and fix to supporting construction.
- Fixing method: Rigid Supporting Construction
- Options available for both flexible and rigid supporting structures.

7. PERFORMANCE CHARACTERISTICS

The FireSafe 240 is an electrically operated Automatic Fire Barrier, to be used to form a compartmentation against fire, tested to the compliance requirements of BS8524-1. The system has a classification of E240 EW60 C1 Sa in accordance with BS EN 13501 2:2007+A1:2009.

FireSafe 240 system was subjected to a fire-resistance test achieving a performance level of over 240 minutes to BS EN 1634 1:2008 in accordance with BS EN 1363 1:1999 and a Radiation of less than 15kW/m² was measured for a period up to 60 minutes to BS EN 1634 1:2008 in accordance with BS EN 1363 2:1999.

The system was subjected to 500 pre-conditioned cycles achieving a C1 classification in accordance with BS EN 14600:2005, to show reliability and then Fire Resistance.

The system was subjected to a smoke leakage test achieving an Sa classification to BS EN 1634 3:2004.

The fabric curtain consists of a lightweight glass fabric reinforced with stainless steel wire and coated with a specially formulated fire-retardant aluminum pigment polyurethane coating. The fabric weight is approx. 690g/m² ±5% with a nominal thickness of 0.7mm ±5%.

The fabric has been independently tested for reaction to fire in accordance with BS EN ISO 1716:2010 and BS EN 13823:2010 achieving a classification of A2-s1, d0 class in accordance with BS EN 13501 1:2007+A1: 2009.

Power Supplies and Control Panels have been tested in accordance EN12101-10 under the (CPR) and for UKCA marking.

8. Fixing method: Rigid Supporting Constructions and Extended Application

Options available for rigid supporting structures. subject to the conditions defined in the direct or extended application report (EXAP) derived from EN 15269-11:

1. Masonry or Concrete Walls - same or greater fire resistance as the curtain (≥ E120)
2. Steel Framed Apertures with Fire Protection Board Cladding -
3. Precast Concrete or In-Situ Concrete Walls -Minimum of E120
4. Rigid Shaft Walls / Compartment Walls (Tested to EN 1364-1) E120 or greater

Interfacing Elements: All seals, guides, and headbox configurations must match the tested system or EXAP scenario.

9. General Description:

FireSafe 240 is enclosed in a head box manufactured from 1.2 mm Zintec steel with a removable cover plates allowing access to the fabric curtain roller for ease of service and maintenance.

The system incorporates an under/ over roller configuration, designed for larger width opening areas, the system then uses a multiple barrel overlapping max 6 barrel system with overlaps on each barrel ranging from 600mm to 650mm to achieve desired widths.

FireSafe 240 - BS8524 – 1 Complaint system can be provided to protect openings widths of up to 30m on a single roller and heights up to 9m.

The lower edge of the fabric curtain incorporates a bottom bar. This weighted bar enables the fabric curtain to unwind, upon receipt of a signal, to its fire operational position. The bottom bar helps to stabilise the fabric curtain and provides an interface against the underside of the head box.

The roller is constructed from steel tube, which incorporates a 24Vdc motor which is connected to the systems control panel. The fabric curtain edges are retained inside guides either side of the opening and are fixed to the construction opening.

FireSafe 240 - BS8524 – 1 Utilizing a multiple roller configuration widths can be provided with unlimited widths and heights up to 7m or 6m when incorporating an increased overlap of 1000mm.

Disclaimer: Smoke and Fire Curtains Ltd. has assessments for fire curtain heights up to 14m. However, we do not recommend such a drop height due to design specifications and system functionality. The optimal drop height is limited to a maximum of 7m to ensure performance and reliability.

10. Optional Extras can all be provided, depending on the design application type:

Split Drop

- Deploys to a pre-determined height to contain smoke and allow occupants to escape, then moves to its fire operational position.

Delay on Alarm

- Initial delay on alarm for pre-determined time before commencement to fire operational position.

Beam Sensors / Obstruction Sensor with Audio

- Obstruction warning system, alerts obstruction within the descent path of the system.

Smoke Seals

- If systems are protecting a means of escape in a dwelling, this will require smoke seals to restrict the passage of smoke.

Emergency Retract Button

- Press to hold open to allow escape, on release system descends to fire operational position.

Audio Visual Alert

- Visual and audible alert system to sound on activation of system

Voice Warning Recorder

- Spoken voice message alert system, "Warning Fire Curtain Closing"

11. Headbox Sizing Chart

FireSafe 240 - Headbox Sizing Chart	
Curtain Drop	Double Box
	Over / Under
	Size (WxH) mm
Up to 2m	180 x 360
2m to 4m	200 x 400
4m - plus	250 x 450

12. Control System:

Under normal operating conditions system control panel will hold the curtains in the retracted position via the motors operating at low voltage. Upon activation of the fire alarm the control panel will remove the supply voltage and the curtain will descend under the power of gravity in a controlled manner. A dynamic braking system housed in the motor control circuit controls the speed of descent of the curtain, this is electronically synchronized on overlapping curtains with a common bottom bar.

To retract the curtain the control panel supplies 24v to the motor and the motors drive the curtains to the upper position. As the bottom bar hits the curtain head box the limits setting holds the bottom bar in the retracted position.

Should the mains power fail to the group control panel the supply is automatically switched to the integral standby battery. The curtain remains in the retracted position for a designated period of time depending on the weigh of the system. The curtain will remain fully operational until the battery low voltage cut off facility reads a voltage of 21v, the curtains will then safely descend under the power of gravity to the operational position.

FireSafe 240 Single Curtain Drawing

