NBS Specification:
FireSafe 120 – Active Curtain Barrier (BS 8524-1)

1. **Product Reference:**
   Firesafe 120

2. **System classification:**
   E120 EW60 C1 Sa (to BS EN 13501-2:2007 + A1:2009)

3. **Standard Compliance:**
   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 120 is an electrically operated automatic active Fire curtain, 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/aluminium 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:
  Options available for both flexible and rigid supporting structures.

7. PERFORMANCE CHARACTERISTICS

The FireSafe 120 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 E120 EW60 C1 Sa in accordance with BS EN 13501 2:2007+A1:2009.

FireSafe 120 system was subjected to a fire-resistance test achieving a performance level of over 120 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 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 both flexible and 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. Fixing method: Flexible Supporting Constructions and Extended Application (EXAP

This configuration forms the associated construction for fire classification and must be replicated on-site unless covered by an approved extended application (EXAP).

Component	Specification
Framing	Timber stud frame (C16 construction grade pine) – 45 mm x 100 mm sections
Wall Lining (each face)	3 layers of 15 mm British Gypsum FireLine plasterboard
Fixing Method	Screw-fixed to timber frame with drywall nails (55 mm x 3.5 mm)
Total Wall Thickness	Approx. 135 mm (excluding any cavity insulation)
Subframe Fixing	M6 steel machine screws (150 mm long) securing top box and side guides
Sealants & Gaskets	Rockwool FirePro Intumescent Acoustic Sealant (10 mm bead)
Curtain Fixing into Wall	6.0 mm x 100 mm steel bolts into reinforced timber zones

10. General Description:

FireSafe 120 is enclosed is a head box manufactured from 1.2 mm Zintec steel with a removeable cover plates allowing access to the fabric curtain roller for ease of service and maintenance. The system incorporates an under over configuration,

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 120 has fixing options to suit a number of types of configurations therefore can be integrated into either a flexible or rigid supporting surround.

The active curtain barrier systems, remains hidden until required. Upon receiving a signal from the fire detection system or on loss of power the active curtain barrier unwinds to its fire operational position on a controlled descent to it fire operational position under gravity.

FireSafe 120 ENHANCED as per assessment report can be provided to protect opening vertical widths of up to 7000mm on a single roller and heights up to 7000mm.

11. 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 descents 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"

12. Headbox Sizing Chart

FireSafe 120 - Headbox Sizing Chart	
Curtain Drop	**Single Box**
	Standard
	Size (WxH) mm
Up to 2m	180mm x 160mm
2m -4m	200mm x 200mm
4m - plus	210mm x 210mm

13. 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.

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 weight 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 120 Single Curtain Drawing