

**SPECIFICATION**  
**Vii® FIRE A1**  
**ACTIVE FIRE CURTAIN BARRIER ASSEMBLIES**

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**In accordance with:**

BS 8524-1  
BS EN 1634-1  
BS EN 1634-3  
BS 5234-2  
BS EN 14600  
BS EN 13501-2  
BS EN ISO 1716  
BS EN 13501-1+A1  
BS EN ISO 14184-1

**Period of Fire Resistance:**

120 minutes (2 hours) integrity (single)

**Period of Radiation:**

37 minutes <15kW/m<sup>2</sup>

**Classification:**

Single: E120 EW30 C1 Grade 1

**Certification:**

Complete barrier assemblies are certified by an independent accredited certification body operating to ISO/IEC 17065:2012.

Complete barrier assemblies are certified with an independent accredited certification body operating an accredited UKAS scheme for installation, commissioning and servicing.

**Product Name and Model:**

Vii® Fire A1 active fire curtain barrier assemblies

**General description:**

An electrically operated Vii® Fire A1 active fire curtain barrier assembly used to form a virtually continuous barrier as a fire separating element.

*NOTE For ease of reference the Vii® Fire A1 active fire curtain barrier assembly has been referred to the "barrier assembly - ies" throughout the remainder of this specification.*

The barrier assemblies comprise a woven steel and glass fabric wound on to a steel roller, powered by an internal 24V dc electric motor, enclosed within a 1.2 mm steel box.

A bottom bar is fitted to the bottom edge of the curtain providing tension to the curtain with sufficient weight for the curtain to 'fail-safe by gravity'.

## SPECIFICATION

### Vii® FIRE A1

#### ACTIVE FIRE CURTAIN BARRIER ASSEMBLIES

---

The 24V motor contains an electromagnetic brake to arrest motion of the curtain when in the open position.

The barrier assemblies have been tested to the requirements of BS EN 14600:2005 for 'Durability of Self-Closing' (500 cycles on primary power and an additional 50 cycles using back-up power; closing speed of 0.08m/s).

The barrier assemblies have been tested to the requirements of BS EN 1634-1:2014 for 'Fire Resistance' (120 minutes integrity).

The barrier assemblies have been tested to the requirements of BS EN 1634-1:2014 for 'Radiant Heat Flux' (30 minutes). Operation:

#### **Operation:**

Barrier assemblies commence movement upon initiation of alarm or power or system failure, and fully deploy to the fire operational position within the range of velocities of 0.06 m/s to 0.15 m/s using the unique VarioSpeed™ function.

Operating speeds are site adjustable without altering the bottom bar mass. Speeds may be dictated by those authorities having jurisdiction for 'safety in use' according to the location, nature or function of each unit.

In the event of a mains supply power failure, the curtain is retained in the open position for a pre-determined period (nominally 30 minutes), using battery back-up power. During this period, the Barrier assembly will deploy on receipt of a signal. At the end of the period, the Barrier assembly will deploy.

#### **Fabric:**

The fabric material has been tested as part of the complete assembly complete as either a single construction or as an overlapped and conjoined construction separately in the orientation and standard use of the application and installed in accordance with the fire resistance test in accordance with BS EN 1363-1 and -2 as required by BS EN 1634-1 in accordance with BS 8524-1.

#### **Air Leakage:**

The fabric material has been tested as part of the complete assembly for permeability to BS EN 1634-3 with a rate  $<3\text{m}^3/\text{h}/\text{m}$  at 25 Pa in accordance with BS 8524-1 Annex F.

#### **Curtain Material:**

The main curtain fabric type is EFP™ A1, which is a stainless steel wire reinforced glass fabric fire barrier. It has an area weight of  $665\text{g}/\text{m}^2 \pm 10\%$ .

The curtain fabric offers dimensional stability and is non-combustible to BS EN 13501-1 + A1 – Reaction to Fire.

The fabric has passed testing to BS 8524-1, BS EN 1634-1, BS EN 1363-1, BS EN 1362-2 and BS EN 1634-3 (Fire/Smoke Resistance)

The fabric has passed testing to BS 6853 Annex B.2 (Toxicity)

The fabric has passed testing to BS 6853 Annex D.8.4 (Methods for Measuring Smoke Density)

## SPECIFICATION

### Vii® FIRE A1

#### ACTIVE FIRE CURTAIN BARRIER ASSEMBLIES

---

The fabric has passed testing to BS EN ISO 1716 (Determination of the Heat of Combustion for Building Products)

The fabric has passed testing to BS 476 part 6 (Fire Propagation Tests) and part 7 (Surface Spread of Flame Tests)

The fabric has passed testing to BS EN 13823 (Reaction to Fire Tests – Single Burning Item)

The fabric has passed testing to HSG 248 (Analysis of Material for the presence of Asbestos)

The fabric has passed testing to BS EN 14184-1 (Textiles – Determination of Formaldehyde – Part 1: Free and hydrolysed formaldehyde (water extraction method))

#### Optional Extras:

- Voice warning:  
Audio or spoken multi message facility when mains or emergency power is available.
- Beam protection and obstruction warning:  
A beam detector, with delay timer which will sound in the event of any obstruction being placed in the barrier drop line when mains or emergency power is available.
- Visual alert system:  
Light warning system when mains or emergency power is available.
- Split drop delay:  
To partially deploy to pre-determined level to permit escape, and initial smoke containment. After delay fully deploys to its fire operational position when mains, or emergency power is available.
- Emergency retract:  
Touch button retract facility for multi-escape and emergency service ingress/egress when mains or emergency power is available.

#### Manufacturers:

Subject to compliance with all requirements set out in this specification, manufacturers offering products may be incorporated into the work are limited to the following:

Coopers Fire Limited, Ignis House, Houghton Avenue, Waterlooville Hampshire, PO7 3DU, United Kingdom. Tel +44 (0)23 9245 4405, Email: [sales@coopersfire.com](mailto:sales@coopersfire.com), Web: <http://www.coopersfire.com>

#### Warranty:

The manufacturer shall submit a written warranty for a period of one (1) year. If any part of the works of this section, including design, fabrication or installation are sublet to any party, such party shall provide a collateral warranty equivalent to the warranty.

#### Product certification, performance and/ or testing:

- Complete barrier assemblies are certified by an independent accredited certification body operating to ISO/IEC 17065:2012.

## SPECIFICATION

### Vii® FIRE A1

#### ACTIVE FIRE CURTAIN BARRIER ASSEMBLIES

---

- Complete barrier assemblies are certified with an independent accredited certification body operating an accredited UKAS scheme for installation, commissioning and servicing
- Complete barrier assemblies have been tested for fire resistance to BS EN 1634-1 as required by BS 8524-1. The Barrier assembly achieved 120 minutes Integrity and 30 minutes Radiation.
- Complete barrier assemblies have been tested for smoke leakage to BS EN 1634-3 as required by BS 8524-1
- Complete barrier assemblies have been tested for impact to BS 5234-2 as required by BS 8524-1
- Complete barrier assemblies have been tested for reliability, durability and self-closing to BS EN 14600 as required by BS 8524-1
- Complete barrier assemblies have been tested for gravity fail-safe as required by BS 8524-1
- Complete barrier assemblies must show tested ability to adjust and control speeds on site to suit specific site requirements as required by BS 8524-1
- Motor(s) used within barrier assemblies the above tests have been tested for operation at temperatures of 400 °C as required by BS 8524-1
- The fabric used within the barrier assemblies have been tested to BS 476-6 and BS 476-7 and achieve a Class 0 rating.

#### Approving standards:

The following standards apply to this product:

- BS 8524-1:2013, Specification for active fire curtain barrier assemblies
- BS EN 1634-1:2014, Fire resistance and smoke control tests for door, shutter and, openable window assemblies and elements of building hardware. Fire resistance tests for doors, shutters and openable windows
- BS EN 1634-3:2004, Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware. Smoke control test for door and shutter assemblies
- BS EN 1363-1:2012, Fire resistance tests – Part 1: General requirements
- BS EN 1363-2:1999, Fire resistance tests – Part 2: Alternative and additional procedures
- BS EN 13501-2:2007+A1, Fire classification of construction products and building elements. Classification using data from fire resistance tests, excluding ventilation services rating
- BS EN 14600:2005, Doorsets and openable windows with fire resisting and/ or smoke control characteristics. Requirements and classification
- BS EN 13501-1:2007+A1:2009, Fire classification of construction products and building elements. Classification using test data from reaction to fire tests
- BS EN ISO 1716, Determination of the Heat of Combustion for Building Products
- BS 6853 Annex B.2, Toxicity
- BS 6853 Annex D.8.4, Methods for Measuring Smoke Density

## **SPECIFICATION**

### **Vii® FIRE A1**

#### **ACTIVE FIRE CURTAIN BARRIER ASSEMBLIES**

---

- BS 476-6, Fire Propagation Tests
- BS 476-7, Surface Spread of Flame Tests
- BS EN 13823, Reaction to Fire Tests – Single Burning Item
- BS EN 14184-1, Textiles – Determination of Formaldehyde – Part 1: Free and hydrolysed formaldehyde (water extraction method)
- HSG 248, Analysis of Material for the presence of Asbestos
- BS EN ISO 9001:2008, Quality management system
- BS EN ISO 14001:2004, Environmental management system