SPECIFICATION

FIREMASTER® CLEANROOM

ACTIVE FIRE CURTAIN BARRIER ASSEMBLIES

In accordance with:

BS EN 1634-1
BS EN 12605
BS EN 14600
ISO 14644-1
ISO 4628-1
VDI 2083 Part 17
BS EN 13501-2

Period of Fire Resistance:

120 minutes (2 hours) integrity

Period of Radiation:

120 minutes (2 hours)

Classification:

E120 EW120 C1

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:

FireMaster® Cleanroom active fire curtain barrier assemblies

General description:

An electrically operated FireMaster® Cleanroom active fire curtain barrier assembly used to form a virtually continuous barrier as a fire separating element.

FireMaster® Cleanroom active fire curtain barrier assemblies comprise a metallic fabric wound on to a steel roller, powered by an internal 24V dc electric motor, enclosed within a 1.2 mm (0.047 in) Stainless 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’.

The edges of the curtain are retained inside side guides, providing pressure resistance of at least 20Pa.

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

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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' (120 minutes).

The barrier assemblies have been tested for Air Cleanliness to ISO 14644-1, achieving a Class 6 rating.

The barrier assemblies have been tested for Chemical Resistance to ISO 4628-1 and VDI 2083 Part 17.

Operation:

Barrier assemblies commence movement upon initiation of BMS 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.

Curtain Material:

The curtain material type is EFP™ 3/1000/CR/SS, which is a metallic based fire barrier. The material is halogen-free, exceptionally resistant against attack from most chemicals, non-oxidizing acids, pitting and intergranular corrosion in continuous operation up to 400º C. It has an area weight of 400g/m^2 ± 10%.

The curtain material offers dimensional stability and is non-combustible to EN 13501-1 Reaction to Fire and is suitable for chemical, pharmaceutical and food processing applications.

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.

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- 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, 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.
- 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. The Barrier assembly achieved 120 minutes Integrity and 120 minutes Radiation.
- Complete barrier assemblies have passed tests for durability to BS EN 12605 (500 cycles), and for self-closing to BS EN 14600 (C1).
- Complete barrier assemblies have been tested for Air Cleanliness to ISO 14644-1, achieving a Class 6 rating.
- Complete barrier assemblies have been tested for Chemical Resistance to ISO 4628-1 and VDI 2083 Part 17.
- Motor(s) used within barrier assemblies have passed elevated temperature operational tests to BS 8524-1:2013, Annex G.

Approving standards:

The following standards apply to this product:

- 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 1363-1:1999, Fire resistance tests – Part 1: General requirements
- 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

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- BS EN 12605:2000, Industrial, commercial and garage doors and gates. Mechanical aspects. Test methods.
- BS EN 14600:2005, Doorsets and openable windows with fire resisting and/ or smoke control characteristics. Requirements and classification
- ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water
- ISO 4628-1:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance – Part 1: General introduction and designation system
- VDI 2083-17: Test procedure to determine comparable specific emission rates from material surfaces
- DIN ISO 14644-1:2015, Cleanrooms and associated controlled environments – Part 1: Classification of air cleanliness by particle concentration
- DIN ISO 14644-14:2016, Cleanrooms and associated controlled environments – Part 14: Assessment of suitability for use of equipment by airborne particle concentration
- BS 8524-1:2013, Annex G, “Test method for reliability of motor operation at elevated temperatures”
- BS EN ISO 9001:2015, Quality management system
- BS EN ISO 14001:2015, Environmental management system