

FLAMESHIELD EW 120 “S” FIRE CURTAIN 24 VOLT TUBE MOTOR (1HR, 2HR)

APPROVED STANDARDS

EN BS 1634-1 Classification C0 Sa WF 36619
 BS 8524-1 Reliability and Durability (+500 cycles)
 BS 8524-1 Response Time and Velocity

RADIATION PERFORMANCE

120 Minutes < 15KW/m2
 15 Minutes - 2.617KW/m2
 30 Minutes - 3.748KW/m2
 60 Minutes - 6.306KW/m2
 90 Minutes - 8.328KW/m2
 120 Minutes -10.708KW/m2

INTEGRITY

Sustained flaming	132 minutes*
Gap gauge	132 minutes*
Cotton Pad	64 minutes

8 meters by 8 meters to a maximum of 32m2

Insulating Zone:

At the request of the sponsor the specimen was also evaluated against the performance requirements for ‘Insulating Zone’ as detailed within PAS 121. A movable thermocouple was positioned 50 mm in front of the test specimen and its position adjusted throughout the test so as to maintain a recorded air temperature as close to 180°C as possible. The measured distance between the thermocouple and the specimen (prior to deflection) throughout the test was as follows:

Time (minutes)	0	30	60	90	120
Distance from Specimen (prior to deflection)	50mm	50mm	50mm	50mm	50mm
Actual Recorded Temperature	14°C	49°C	52°C	64°C	76°C

Product Construction all A1S fire / smoke control curtains are manufactured and produced in accordance with the parameters and technical requirements indicated within the specification. All curtains are tested and approved by Warrington Fire Research Centre and Element / Exova. Tests are fully compliant and in accordance with BS EN 1634-1 for Fire and Radiation (Radiation & tenability replaces the insulation zone although data is given for certain country requirements).

The construction and manufacture is in accordance with Warrington Test WF 405074 and Warrington Test WF 406515. Manufactured in accordance with certain sections of the European Standard BS EN 16034 implemented in 2015.

Basic description The automatic curtains comprise of a mild steel barrel and motor incorporating an attached fabric curtain, the barrel deflection conforms to the necessary British Standard BS 6323-5, the fabric can withstand temperatures in excess of 1000°C the unique 2 section bottom rail allows smooth operation of the curtain. The fire barrier shall be powered by an internal 24V DC electric motor that has all of the applicable safety standards.

Fabric Fire curtains are formed from a fire rated fabric 0.54mm thick stainless-steel wire reinforced, with a specially formulated aluminum pigmented and fire-retardant polymer which provides a heat reflecting surface as well as other properties for smoke and fire. The fire curtain fabric is referenced Valmeira 4415-2. An luminescent graphite coating was applied to both sides of the curtain.

As a requirement of BS EN 1634-1, the fabric and curtain are tested as a complete assembly in compliance with BS EN 1363-1 and BS EN 1363-2.

Sampling a representative of Warrington Certification Ltd conducted the sampling and selection of the tested specimen, this was to cover a requirement of EN 16034 the new European Standard.

Reliability, Response Time and Durability tests performed in accordance with BS 8524-1, Warrington Fire Report 406515.

Barrel Fire curtain barrels are manufactured from mild steel tube, tube size dependent on the overall size of the unit and deflection calculated to conform to British Standards.

Operation / Control System The fire curtain barrier shall meet the requirements of BS 8524-1 and BS 8524-2 (and is tested to Annex D).

Tested to controlled speeds in all circumstances including gravity, closing to the operational position on total power failure, with the no need for a secondary supply, for regenerative absorption. When the barrier is retracted the armature shall be isolated from the supply and the barrier shall be locked in position with the electromagnetic brake. Thus, ensuring the motor armature not damaged and the retracted position is maintained without drift.

The barrier shall operate with the backup of secure gravity fail safe in accordance with BS 8524-1.

The barrier shall move to the operational position, via controlled descent, when all primary and secondary power is exhausted. In the event of a mains power failure backup power shall be provided by the inbuilt secondary power source, the barrier shall remain in the retracted position and continue to monitor the alarm and system inputs. If signaled to operate during this period the barrier shall operate as normal.

All barriers shall have a current limit stall option in the retracted position to negate damage to ceilings and fascias.

The secondary supply voltage source is continually monitored. If the voltage becomes critically low the barrier shall be signaled to close to the operational position (normally between 30 and 120 minutes).

The barrier shall move to the fire operational position with a velocity within the range of 0.06m/s to 0.15m/s in accordance with BS 8524-1.

The barrier shall require an alarm signal provided by the Electrical Subcontractor. This signal shall be volt free, normally closed (open on alarm signal). Fire detection / alarm systems shall conform to BS 8524-1 (5.8.4).

Optional Extras :

Partial Drop

- The barrier shall have the facility to deploy to a pre-determined position to allow escape and initial smoke containment. The partial close position shall be site adjustable with a time of up to ten minutes.

Emergency Retract

- The barrier can have an emergency retract interface for escape and emergency access. The interface shall be volt free, normally open (close on operation). The signal required shall be momentary with a site adjustable retract time. The emergency retract facility shall be operational as long as there is a primary/secondary source or via an external source (optional extra).

Audio / Visual / Spoken Warning Unit

- The barrier has a volt free c/o contact which indicates an active c/o (change over) contact indicating an active alarm signal. An Audio/Visual warning can be interfaced with this using power supplied by secondary source or via an external source (optional extra).

BMS Interface

- The barrier has volt free c/o contacts to indicate whether the barrier is fully open or fully closed.

Obstruction Warning Devices

Where sensory equipment for detecting obstructions to barrier assembly deployment is provided, e.g. a single or multi-beam detection system, when the barrier assembly is tested in accordance with Annex H, it shall provide a warning in accordance with 5.8.5.2.

- NOTE A multi-beam detection system is required when the barrier assembly is intended to protect a means of escape route. For more information, see BS 8524 - 2.5.8.5.2.

Warning shall commence between 5 min and 10 min after the obstruction occurs and may be audible, visual or both as appropriate for the application. It shall not be possible to manually reset the alarm while the obstruction is still in place (optional extra).

