

SMOKE AND FIRE CURTAINS

SPECIFICATION SHEET: Fire Series FC4 (V4A) Active Fire Curtain Barrier

Testing or Classification:

BS EN 1634-1:2008	Fire resistance & 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 1363-2:1999	Fire resistance tests. Part 2: Alternative & additional procedures.
BS EN 13501-2:2007+ A1:2009	Fire classification of construction products and building elements. Classification using test data from fire resistance tests, excluding ventilation services ratings
BS8524-1:2013	Active fire curtain barrier assemblies. Annex D. Reliability, Response Time & Durability Tests
BS EN 14600:2005	Doorsets & openable windows with fire resisting and / or smoke control characteristics. Requirements & classification.
BS EN 10219-1:1997	Cold formed welded structural sections of non-alloy and fine grain steels. Technical delivery requirements
BS EN 10025-2:2004	Hot rolled products of structural steels. Technical delivery conditions for non-alloy structural steels
BS EN 10305-3:2002	Specification for seamless & welded tubes for automobile, mechanical & general purposes. Specific requirements for electric resistance welded (including induction welded) steel tubes.
BS EN ISO 9001:2008	Quality management system
Fabric Testing	DIN EN 12127, 1773, 1049-2 & DIN EN ISO 5084, 9354, 5084 & 13934-1

Performance & Classification

135 minutes integrity up to 1000 °C (1832°F)
Approved for spans 6 metres in width, heights up to 4 metres
130 minutes < 15kW/m²
E120 EW120

FC4 Compliance Parameters:

- tested for fire resistance to BS EN 1634-1
- provides gravity fail safe operation
- motors within the assemblies tested to operate at temperatures up to 300 °C

Complete product tested to BS EN1634-1:2008 BS EN1634-3:2004 and achieved up to 1000° C for 240 minutes and is ASB 1 and 3 classified. Designed to operate for 1500 cycles at normal ambient temperatures.

General Description:

The active fire curtain barrier consists of a 420V4A-2L glass fibre fabric. The fabric is tested to withstand temperatures of up to 1000°C for a period of 135 minutes minimum & an irradiance protection of up to 130 minutes, this is wound onto a steel tube, each of which will incorporate a 24 volt d.c. motor, a sealed heavy duty ball bearing assembly, and an electronic control circuit.

The active roller assembly, incorporating the fabric, is housed in galvanised mild-steel head box which is normally bolted to the fabric of the building. Standard head box sizes are 210mm x 210mm. Larger head boxes may be required where the curtain drop is in excess of three metres. Also, the lower edge of the curtains incorporates a twin inverted mild steel angle which acts as a weight bar to enable the curtain to unwind upon receipt of a signal from the fire alarm panel or total mains and battery failure.

Metal side guides with a fabric retaining system shall be installed to provide a seal between the curtain fabric and the building construction.

Control system:

Operation of the curtains is via the Group Control Panel which can either be mounted adjacent to the fire curtain head box within the ceiling void, allowing access for maintenance, or mounted in a remote position from the curtain.

The panel requires a local 240v ac supply rated at 3 amps via an un-switched fused spur on a maintained supply installed by others. For operational purposes the G.C.P. must be connected to a normally-closed volt-free contact within the fire alarm control panel configured to open on fire and fail safe.

Each control panel is capable of operating up to six rollers and includes battery back-up which will maintain the curtains in their retracted position for a period of three hours during a mains failure. It is also possible to manually operate the curtains for twenty cycles during this period.



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Should the battery voltage fall below a predetermined limit, a low voltage cut off circuit will activate the curtain, which will descend in a controlled manner under the force of gravity.

The roller motors, which are 24 volt d.c., must be wired from the G.C.P. in a ring main using suitably sized cable to ensure a voltage of 24v d.c -10%.

The curtains descend upon receipt of a signal from the fire-alarm panel and retract when the signal is removed. During ascent the motors are controlled via a synchronised speed circuit to ensure all curtains are raised at similar rates. The curtains descend under the force of gravity at all times, including total mains and battery backup failure.

Limit switches are not used to control the upper and lower positions of the curtain.

There is a manual key operation from GCP to facilitate override and testing.

Optional Extras:

Split drop delay:

An optional braking system is available to allow a two stage descent during gravity deployment. Partial descent to a predetermined level to permit preliminary escape and initial smoke containment, after delay the barrier descends to full operational position.

Voice warning:

Audio or spoken multi message facility.

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.

Visual alert system:

Standard localized light or strobe light.

Emergency retract:

Hold on retract facility for multi escape and emergency service access.

Other variants are available such as manual reset, curtain decals and signage and delayed descent.

Manufacturer

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Warranty

The manufacturer will provide a written warranty for a period of one year. If any part of the work including design, fabrication or installation, are sublet to any party not authorised or approved by the manufacturer, that party shall provide a collateral warranty equivalent to the manufacturers' warranty.