

THE LEADING EDGE IN FIRE & SMOKE CONTROL SYSTEMS

>FC240, THE FOUR HOUR FIRE CURTAIN

BLE Smoke & Fire Curtains recognised early on that integrity requirements would increase in line with modern building products.

This led to the early design of the 240-minute fire integrity curtain.

In line with BLE Smoke & Fire Curtains considerable investment in global testing, the FC series was put through its paces with various testing facilities.

The result was a fully certified 240-minute integrity curtain retaining all the advantages of the BLE system; excellent build quality, simple design, backward compatibility and many control and interface options.



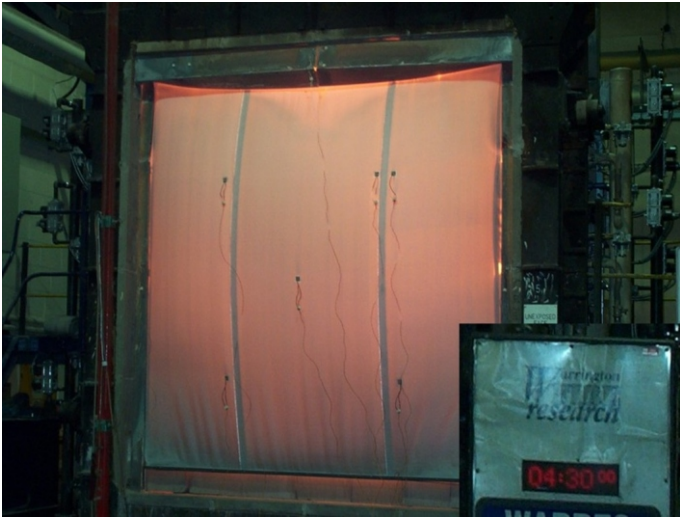
- EN 1634-1 FR & Integrity 240 minutes
- EN 1634-3 Air Leakage to Head & Jamb
- BS 476 Part 22 FR & Integrity Testing 270 mins
- UL10D Fire Protective Curtains 120 mins
- UL10D S With Smoke Sealing
- UL864 Releasing Devices
- AS 1530.4 FR & Integrity test 120 mins
- FRT12 Macau FR & Integrity 240 mins

BLE Smoke & Fire Curtains are the only company to have achieved a UL Listing for products of this class.

- Fabric Type c41000wk
- Fabric Rating 240minutes
- Fabric Weight 700g/ sq metre
- Curtain Descent Gravity Fail Safe

BLE Smoke & Fire Curtains also have a large number of assessments on their tests based around customers' specific requirements for individual projects.

FC240S - Single Roller Automatic Fire Curtain



The FC240S Automatic Fire Curtain is fully certified to **BS: 476 Part 22** have a rating of 270 minutes at 1000° C.

The wire reinforced fabric was subjected to a heat flux density test. The following results were recorded at 1.0m away from the curtain:

15 Minutes - 1.6KW/m²

30 Minutes - 2.6KW/m²

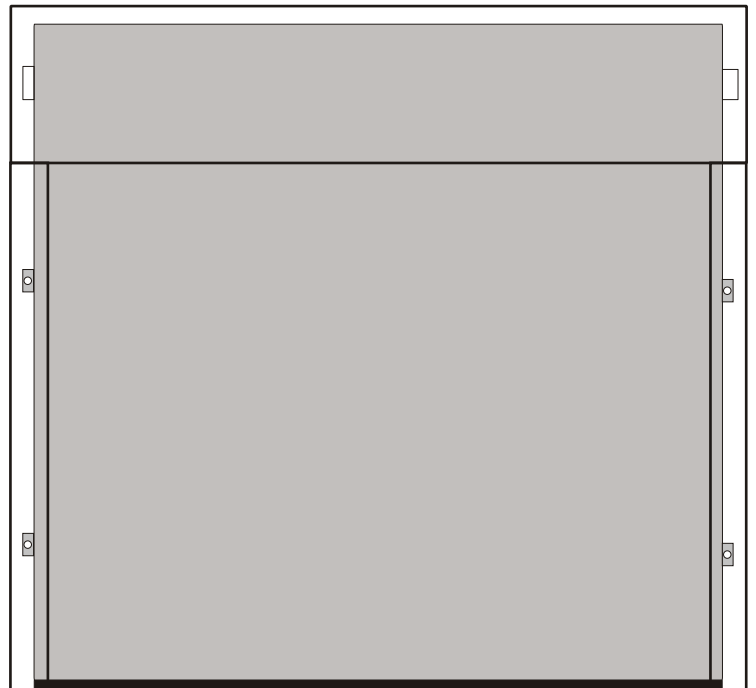
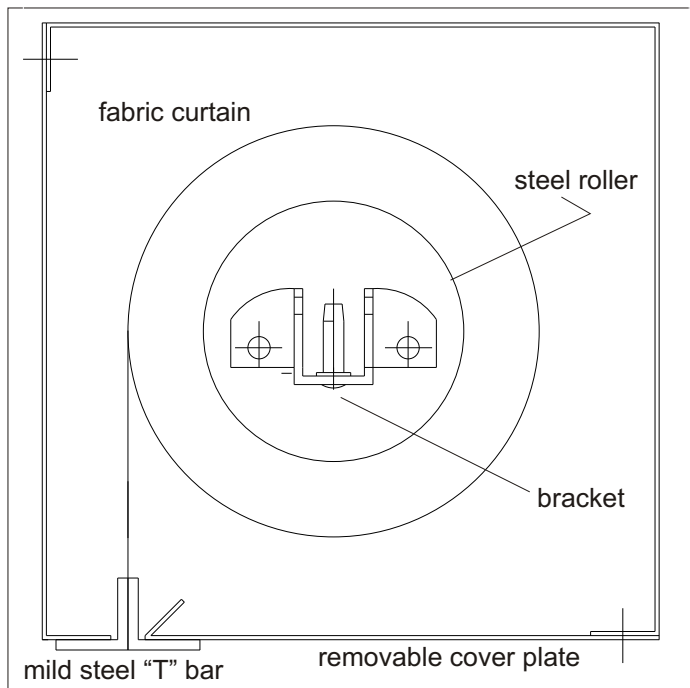
60 Minutes - 4.4KW/m²

From the above data it can be calculated using a formula from the SFPE Handbook, section 2, that it would be possible for building occupants to safely pass a 6.0m wide BLE fire curtain at a distance of 1.0m after a period of 60 minutes.

FC240 incorporates the latest technology to allow gravity fail safe operation and also eradicates the need for limit switches. The integral tubular motor and the motor control circuit together provide a current limiting facility for the upper curtain position and back EMF generation for the controlled fail safe descent. Fire & test deployment is always by gravity, even when the mains and battery supply is available. This proves that the system will operate under worst case (mains and battery failure) conditions.

Fire curtains up to 6.0m with a drop of less than 5.0m can be manufactured from a single span 76 mm diameter roller. For curtains with a drop greater than 5.0m a 127mm diameter tube shall be used to avoid curtain "travel" and "bunching" due to the large number of fabric layers on the tube when rewound. The larger 127mm tube is also more rigid and therefore less prone to deflection.

The head box is manufactured from 1.2mm galvanised steel, the box can be powder coated to any standard RAL finish. The standard bottom bar is manufactured from mild steel angle with an overall dimension of 42mm having a weight of 1.76 Kg per linear metre. For curtains less than 2.3m wide a 4.3 Kg per linear metre bottom bar would be used to ensure correct deployment under gravity. The "T" bar can be powder coated to any standard RAL finish.



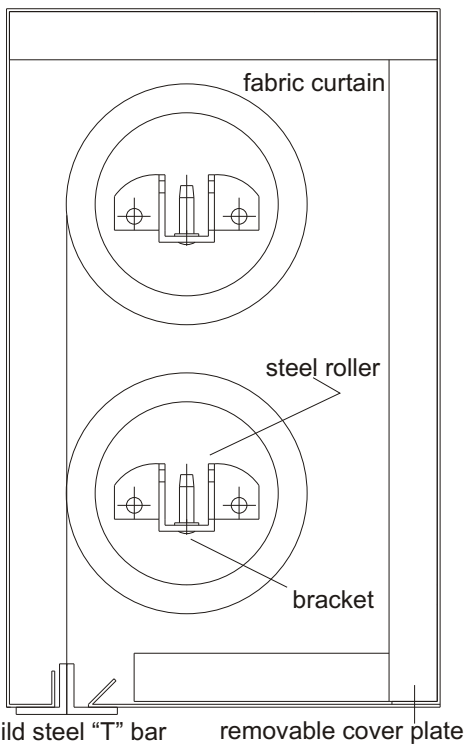
Single roller head box - 180 mm wide x 180 mm high based upon a curtain drop of 3 metres, larger drops would require oversized boxes. The head box will be supplied with a galvanised steel finish although a powder coated or stainless steel finish can be provided as an optional extra.

FC240M - Multiple Roller Automatic Fire Curtain

Automatic fire curtains are now regularly used as an alternative to fire shutters, and building designers are requiring curtains to replace partition walls spanning large openings.

Large single roller systems using support rollers were trialed but the supporting rollers soon damaged the fabric also the integrity of the fabric could not be guaranteed when the panels were sewn together on site.

An overlapping system was preferred and subsequently tested to BS 476: pt22. Rollers with an overlap of 600 mm were installed in a mild steel head box joined with a common bottom bar. An integrity rating of 240 minutes was achieved.



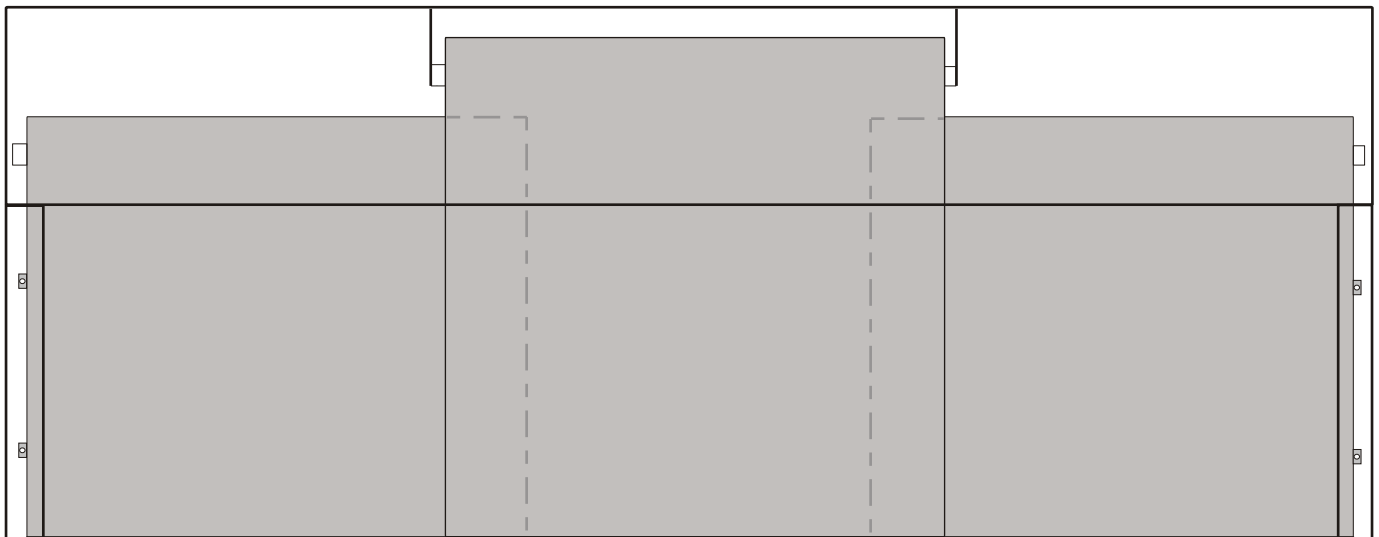
FC240M uses the same gravity fail safe method of operation as the FC240S.

Overlapping rollers with a diameter of 76 mm would be used for curtains with a drop up to 5.0m. For curtains with a drop greater than 5.0m 127mm diameter tubes can be used to prevent deflection, fabric "travel" and "bunching".

The head box is manufactured from 1.2mm galvanised steel, the box can be powder coated to any standard RAL finish.

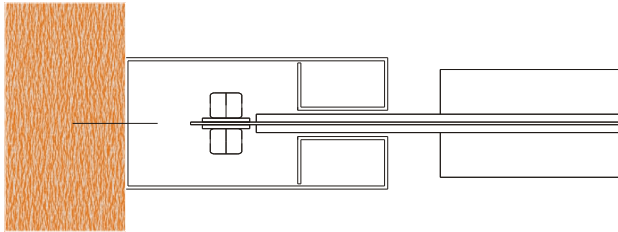
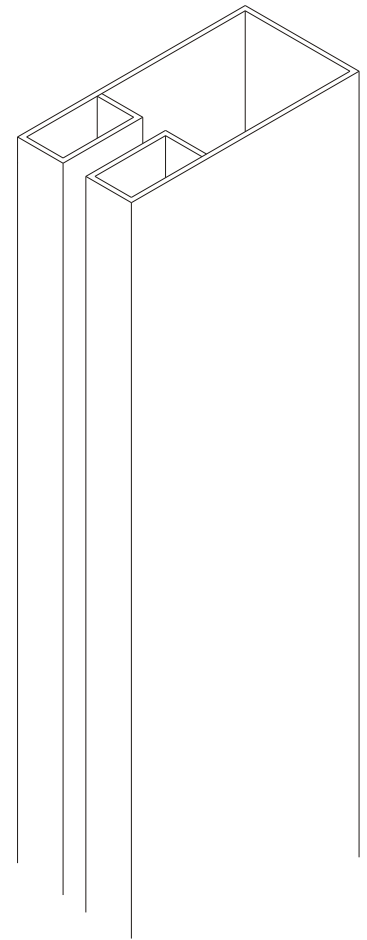
As shown in the diagram below the rollers will include for a 600mm overlap. The rollers must be positioned one above the other (over & under) to prevent the curtain gaping at the top and losing integrity.

Curtains with a drop of 3.0m or less would be housed in a head box with dimensions of 180mm wide x 290mm high.

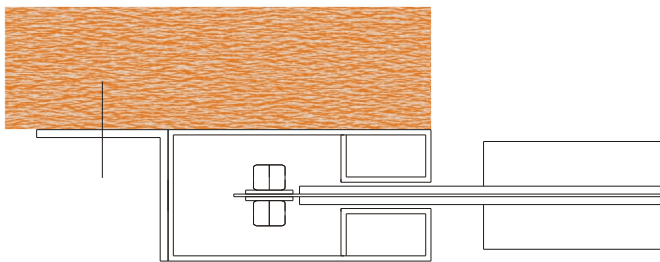


Side Guide & Fire Curtain Head Box Typical Installation Details

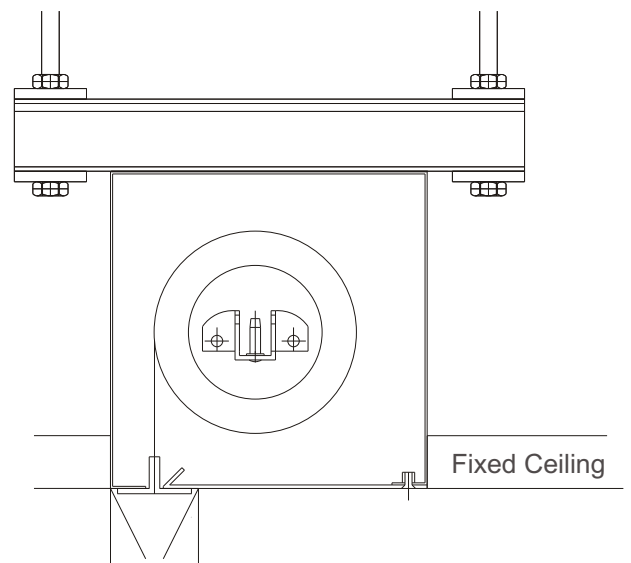
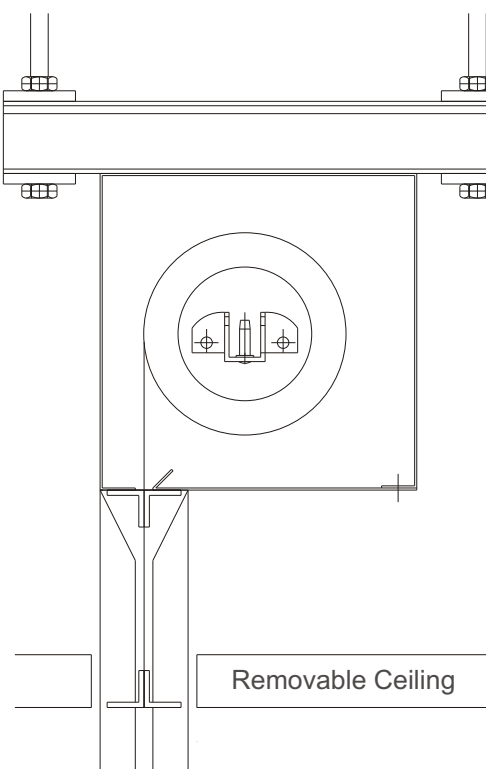
Fire curtain systems require side guides to provide a seal between the curtain fabric & the structure of the building. A fire will cause either positive or negative pressures, these pressures can cause the curtain to billow & pull the curtain fabric out of the side guides. Fabric retaining tabs are fixed to the edge of the curtain to prevent this occurring. The side guides are extruded from 2 mm galvanised steel. Powder coating is available as an optional extra. Unit dimensions 100 mm D x 50 mm W.



Reveal fix side guide. The fixing into the structure is inserted through the back of the guide.



Face fix side guide. A steel angle is fixed to the back of the guide. The angle is secured to the structure



Typical Head Box Arrangement

- A: Recessed box with as stopping bar leaving the bottom bar level with the ceiling.
- B: Flush mounted box. The cover plate can be made from 2 mm steel with a countersunk screws for improved aesthetics