

A fire curtain is used where, if there is a fire, it is necessary to create a temporary barrier within an opening that seals off the area on fire. The curtain descends and prevents any fire and smoke from spreading from one area to another. It also allows people access to protected escape routes without any loss of fire resistance.

A FM-1 fire curtain comprises a flexible fire-resistant fabric that is wound around a circular tube. Upon receiving a signal from the fire alarm system or on loss of power the curtain automatically unwinds to its operational position.

FM-1 fire curtains have been tested as fire barriers in accordance with EN 1634-1, providing protection for a defined period and at a defined maximum temperature.

Dimensions/ size range

- Overall curtain lengths for single units are available from 1000mm to 6000 mm, and drops are available from 500mm to 5000 mm.
- A requirement above these dimensions will be met by installing either double horizontal or double vertical units. Double vertical and double horizontal units are unlimited in length and drops are available from 500mm to 6000mm.

Generic types

- Single (type SI) unit, where a limited size of barrier is required (e.g. a fire door or shutter)
- Double vertical (type DV) unit, where continuous runs with overlapped fabric to form a continuous barrier are required.
- Double horizontal (type DH) unit, where continuous runs with overlapped fabric to form a continuous barrier are required and where there is a premium on space under the ceiling.

Bottom bars

There are three bottom bar options. All are virtually invisible when the curtain is rolled up.

- ID industrial bottom bar, comprising a fabric loop closure arrangement to ensure a tight seal against an uneven floor.
- U universal bottom bar comprising steel angle.
- UK universal bottom bar comprising steel angle with an additional aluminum profile connected to a spring in order to accommodate any unevenness in the soffit when the curtain is rolled up.

Side guides

The unit is equipped with side guides which provide a seal between the curtain fabric and the building, ensuring that any air pressures created by a fire will be resisted. They can be fitted:

- Onto a soffit
- Onto a wall
- Recessed (in a niche)

Fabric options

The fabric is fire-resistant and comprises one of the following options

- E 60 heat-stabilized fabric, achieving 60 minutes fire integrity
- E 120 heat-stabilized fabric with a stainless-steel inlay, achieving 120 minutes fire integrity, with a EW 30 reduced radiation class
- E 180 heat-stabilized fabric with a stainless-steel inlay, achieving 180 minutes fire integrity, with a EW 30

Control system

Option 1 - basic system

Curtain installation fully protected and fail-safe to avoid the need for fire rated cabling. Curtains maintained in the raised position in the event of a temporary interruption to the power supply if an optional uninterruptible power supply (UPS) has been supplied and connected. If power is not returned, curtains descend to the down / default position for a predetermined period (nominally 30 minutes) in a controlled fashion.

If signaled to descend during this period, the curtains drop under the force of gravity in a controlled manner to their fire operational position in a fail-safe manner. Once the curtains have descended, they can then be driven up.

Panel has a switch for service and maintenance purposes, so that the installation can be individually checked without having to interfere with the fire alarm system.

- Control panel with a fascia-mounted key switch for manual operation of the connected curtain(s).
- Connections to the central fire alarm system via a voltage free contact.
- Optional connection of the panel to a battery back-up to retain the curtain in its retracted position for a set period if there is mains failure.
- Optional voltage free contacts for signaling curtain up/down and for mains voltage failure.

Option 2 – advanced system

As above but with additional functions. Control panel tested to BS 8524. Designed to meet the requirements of the pr12101-9 product standard. Has a local power supply system to maintain all control functions over a period of at least 72 hours, meeting the requirements of EN 12101-10. Modular build to accommodate the specific needs of the project. Monitors cables for wire-break and short circuit in accordance with EN 12101-9. Can function as a standalone system when connected to smoke/heat detectors and break glass push buttons. Has 3 indication lights and a buzzer and push buttons for manual operation.

Options:

- Emergency opening button for personnel leaving an area to be able to open the curtain once it has descended
- Fire-fighter's override button
- Safety bottom bar to stop the curtain if there is an obstruction
- Beam detector to monitor the opening for obstructions
- Intermediate stop for curtains before they descend completely to the floor.
- Combination multi-tone siren and strobe light including the option of a voice warning system.

Performance / Compliance

The following standards apply to this product:

EN 1634-1: "Fire resistance test for door and shutter assemblies and openable windows"

EN 13501-2 "Fire classification of construction products and building elements"

- The FM Fire Curtain has been tested as a fire barrier in accordance with EN 1634-1 and has a E60-C, E120-C and E180-C rating in accordance with EN 13501-2, thereby achieving an integrity rating for either 60, 120 or 180 minutes.
- The E 60, E 120 and E 180 fabrics achieve the building class A2 S1 d0 to EN 13501-1. Colt's E120-C and E180-C fabrics achieve a EW 30 class in accordance with EN 13501-2, which demonstrates that they re-radiate only a limited amount of heat.
- Successful continuous performance test (10,000 cycles) in accordance with DIN 4102-18.