



Coopers SmokeStop® DH60

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Detailed description

The SmokeStop® DH60 is an active smoke barrier that deploys vertically to protect escalators and atria from smoke in standard commercial buildings. It suits all types of ceiling configurations to integrate with both solid and suspended ceilings. It remains hidden within a ceiling until deployed. It is supplied with the Coopers Total Gravity Fail Safe (TGFS) system, high temperature motors, side channels, variable speed, warning systems and controlled descent.

Barrier assemblies shall be tested for fire resistance to BS EN 1363-1, tested for permeability BS EN 1634-3 as required by BS EN 12101-1:2005+A1:2006, and be classified to BS EN 13501-4.

Active smoke barrier assemblies shall comprise of a fire resistant fabric which is wound onto a steel roller, with 1:600 deflection performance to BS 6323-5, which is powered by an internal 24 V d.c. electric motor. They are enclosed within a 1.2 mm galvanized carbon steel box. A bottom bar to suit the deflection performance requirements of the project and the desired ceiling configuration is fitted to the bottom edge of the fabric curtain.

Motors shall meet all applicable safety standards. Motors shall contain the necessary drive mechanisms, a mechanical epicyclic gearbox retarder, automatic overload protection and both automatic and manual distance travel positioning, linked to an internal 24 V d.c. electromagnetic brake with regenerative braking system. When motors are retracted, their internal drive motor shall be isolated from all power and the barrier shall be held in position by an internal electromagnetic brake. This ensures the barriers do not drift upward or downward.

The barrier assemblies shall operate with fail-safe by gravity, using patented true TOTAL (TGFS), in accordance with BS EN 12101-1:2005+A1:2006, and be able to move to their fire operational position even in the event of open or closed circuit wiring, or total system corruption, with controlled braking system and drive mechanisms. All working parts shall be totally enclosed and protected within the steel roller and shall be tested as part of the complete assembly for fire resistance.

The barrier assemblies must show the tested ability to use a range of heavy bottom bar weights in order to meet the critical anti-deflection performance requirements, as required in design guides BS 7346-4, BR 368. The bottom edge of the smoke barrier shall incorporate a heavy bottom bar with a minimum standard weight of 3 kg/m with the facility to increase this weight to 10 kg/m to ensure positive operation when subjected to pressure.

Operation:

The barrier assemblies type ASB1 and ASB3 for "Life Safety" shall move to their fire operational position in a controlled manner when all consumable primary and auxiliary power sources are removed, in the event of wiring, open or short circuit, or system corruption, or any combination thereof.

The barrier assemblies shall fail-safe by gravity, using patented true TOTAL (TGFS), and 'drive up' with mains power available. In the event of mains power failure, they shall remain retracted using their own dedicated battery

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back-up power supply for a pre-determined period (normally 30 minutes). If signalled to descend during this period, they shall fail-safe by gravity in a controlled manner to their fire operational position. This safety feature is essential to avoid dangerous guillotine/ free-fall deployment.

The barrier assemblies must commence movement upon initiation or any initiation, power or system failure and move to the fire operational position, in all operating modes, at site specific adjustable and synchronised velocities within the range of 0.06 m/s to 0.30 m/s using the unique VarioSpeed™ function. Barrier assemblies which are located in critical areas of the project, e.g. escape routes to have synchronised velocities within the range of 0.06 m/s to 0.15 m/s using the VarioSpeed™ function. Operating speeds shall be site adjustable without altering 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.

The barrier assemblies shall have the facility to deploy to a partial drop position prior to moving to their fire operational position under both mains and emergency power. Barrier assemblies in their retracted or 'stalled' position shall have all power removed from the motor(s) to prolong motor life. Barrier assemblies that require multiple overlapping barriers shall have a continuous bottom bar system conjoining the run with mutual operation, i.e. one down - all down (handshaking).

The barrier assemblies shall have a 'soft ascent facility' to ensure no damage to the surrounding ceiling interface when retracting. The barrier assemblies shall have a built-in protection in the event that they are prevented from ascending to their retracted position, or descending to their fire operational position. This ensures they are always in their required position and avoids damage to the barrier assemblies' mechanism and surrounding ceiling finishes. In sensitive ceiling aesthetic areas, a unique patented SLAT® ceiling interface can be provided. Any combination of the alarm/ control system provided by the electrical subcontractor, and/ or the specified fail-safe functions shall activate the system.

The barrier assemblies must prove the ability to operate within edge gaps between 20, 40 and 60 mm, height dependent, in all other situations unless the fabric edge interfaces with a retention system, i.e. side guides to resist pressure (as standard 25 Pa).

If side guides are provided they shall have formed part of the complete system test in accordance with BS EN 12101-1:2005+A1:2006.

Fabric:

The fabric material shall be tested as part of the complete assembly complete with overlapping barrier panels in the orientation and standard use of the application and installed in accordance with the fire resistance test in BS EN 1363-1, as required by BS EN 12101-1:2005+A1:2006.

The fabric material (part of the original test specimen) shall be tested for permeability to BS EN 1634-3 with a rate < 25 m³/h/m² at ambient temperature at 25 Pa.

The fabric material shall be tested independently to reaction to fire tests in accordance with BS EN ISO 1716 and BS EN 13823 to achieve an A2-s1, d0 classification in accordance with BS EN 13501-1+A1 in accordance with A11 of Approved Document B (Volumes 1 and 2) 2006 Edition 'Fire Safety' to England and Wales Building Regulations 2000.

The fabric material shall be tested independently for fire propagation to BS



476-6+A1, and for surface spread of flame to BS 476-7 to achieve National Class 0 in accordance with A13(b) of Approved Document B (Volumes 1 & 2) 2006 Edition 'Fire Safety' to England and Wales Building Regulations 2000.

Fabric type is EFP™ 2/A2 a glass fibre fabric coated with a micronized aluminium filled fire retardant polyurethane 455 g/m² -5% +10%.

Product guidance - As Standard

Period of fire resistance:

60 minutes integrity.

Classification:

DH60, A2-s1, d0, Class 0.

Standards, certification and testing:

Complete barrier assemblies are CE marked in accordance with the EU Construction Products Directive (89/106/EEC).

- BS EN 12101-1:2005+A1:2006, Smoke and heat control systems - Part 1: Specification for smoke barriers.
- BS EN 1363-1:1999, Fire resistance tests - Part 1: General requirements.
- BS EN 1634-3, Fire resistance tests for door and shutter assemblies - Part 3: Smoke control doors and shutters.
- BS EN 13501-4:2007+A1:2009, Fire classification of construction products and building elements. Classification using data from fire resistance tests on components of smoke control systems.
- BS EN ISO 1716:2010, Reaction to fire tests for products. Determination of the gross heat of combustion. (Calorific value).
- BS EN 13823:2010, Reaction to fire tests for building products. Building products excluding floorings exposed to the thermal attack by a single burning item.
- BS EN 13501-1:2007+A1:2009, Fire classification of construction products and building elements. Classification using test data from reaction to fire tests.
- BS 476-6:1989+A1:2009, Fire tests on building materials and structures. Method of test for fire propagation for products.
- BS 476-7:1997, Fire tests on building materials and structures. Method of test to determine the classification of the surface spread of flame of products.
- BS 6323-5:1982, Specification for seamless and welded steel tubes for automobile, mechanical and general engineering purposes. Specific requirements for electric resistance welded (including induction welded) steel tubes.

Warranty:

One year.

Options

Coopers Fire Ltd



Size:

Approved for spans unlimited in width, heights up to 10.5 m, minimum panel overlap 400 mm.

Product specification

Manufacturer

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Product reference SmokeStop® DH60

Size []

Extras None
Beam protection and obstruction warning
Emergency retract
Split drop delay
Visual alert system
Voice warning