

SPECIFICATION FIREMASTER® MARINE A-0 ACTIVE FIRE CURTAIN BARRIER ASSEMBLIES

In accordance with:

IMO Resolution A.754(18)
IMO Resolution MSC.61(67) Annex 1 Part 1
ISO 1182 (E)
IMO Resolution MSC.61(67) Annex 1 Part 2

Period of Fire Resistance:

60 minutes (1 hour) integrity

Classification:

Class "A-0"

Maximum Dimensions:

Approved for spans 2.4 width (94.488 in), heights up to 2.692 m (105.984 in)

Certification:

The FireMaster® Marine A-0 active fire curtain barrier assembly shall have certification from Lloyd's Register to comply with the International Convention for Safety of Life at Sea (SOLAS) 1974. The manufacturer shall operate and be certified to BS EN ISO 9001 for quality management systems, and BS EN ISO 14001 for environmental management systems.

Product Name and Model:

FireMaster® Marine A-0 active fire curtain barrier assemblies

General description:

An electrically operated FireMaster® Marine A-0 active fire curtain barrier assembly used to form a barrier as a fire separating element.

NOTE For ease of reference the FireMaster® Marine A-0 active fire curtain barrier assembly has been referred to the "barrier assembly -ies" throughout the remainder of this specification.

Barrier assemblies shall be tested for controlled speeds in all modes including fail-safe by gravity on total power failure (must not be reliant on secondary power supplies to provide the 'braking effect' and for fire resistance to IMO Resolution A.754(18) for Class A-0.

Description:

Active fire curtain barrier assemblies shall comprise of a fire resistant fabric which is wound on to a steel roller, with 1:600 deflection performance to BS 6323-5, which is powered by an internal 24Vdc electric motor. They are enclosed within a 1.2 mm (0.047 in) galvanized mild 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 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 24Vdc 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 not drift upward or downward.

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The barrier assemblies shall operate with fail-safe by gravity, using patented true TOTAL (TGFS) 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 with a minimum standard weight of 3 kg/m (2.015 lbs/ft) with the facility to increase this weight to 10 kg/m (6.719 lbs/ft) to ensure positive operation when subjected to pressure. The Engineer shall declare to the manufacturer such pressures, or wind loads in advance to ensure operational conformity.

The barrier assemblies must show the ability to operate with the barrier retained in side channels to resist pressure (as standard 20 Pa (0.08 in water)).

Operation:

The barrier assemblies shall move to their fire operational position in a controlled manner when all consumable primary and auxiliary power sources are removed, in the event the 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 back-up power supply for a pre-determined period (nominally 30 minutes). If signalled to descend during this period they shall fail-safe by gravity in a controlled manner to their fire operational position. At the end of the pre-determined time delay they shall fail-safe by gravity in a controlled manner. 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 with site specific adjustable and synchronised velocities within the range of 0,06 m/s to 0,15 m/s (2.362 in/s to 5.905 in/s) using the unique 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.

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 SLATS™ ceiling interface can be provided. Any combination of the alarm/control signal provided by the Electrical Subcontractor, and/or the specified fail-safe functions shall activate the system.

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Fabric:

The fabric material shall be tested as part of the complete assembly in the orientation and standard use of the application and installed in accordance with the fire resistance test in accordance IMO Resolution A.754(18).

The fabric material shall be tested independently non-combustibility to IMO Resolution MSC.61(67) Annex 1 Part 1 when testing to ISO 1182(E) and for smoke and toxicity to IMO Resolution MSC.61(67) Annex 1 Part 2.

Fabric type is EFP™ Marine a glass fibre, stainless steel wire reinforced, fabric coated with a micronised aluminium fire retardant metal coating 780 g/m² (0.159 lbs/ft²) –5% +10%.

Optional Extras:

- Voice warning:
Audio or spoken multi message facility when mains or emergency power is available.
- 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 when mains or emergency power is available.
- Visual alert system:
Light warning system when mains or emergency power is available.
- Split drop delay:
To partially deploy to pre-determined level to permit escape, and initial smoke containment. After delay fully deploys to its fire operational position when mains, or emergency power is available.
- Emergency retract:
Touch button retract facility for multi-escape and emergency service ingress/egress when mains or emergency power is available.

Manufacturers:

Subject to compliance with all requirements set out in this specification, manufacturers offering products may be incorporated into the work are limited to the following:

Coopers Fire Limited, Edward House, Penner Road, Havant Hampshire, PO9 1QZ, United Kingdom. Tel +44 (0)23 9245 4405, Fax: +44 (0)23 9249 2732, Email: sales@coopersfire.com, Web: <http://www.coopersfire.com>

Warranty:

The manufacturer shall submit a written warranty for a period of one (1) year. If any part of the works of this section, including design, fabrication or installation are sublet to any party, such party shall provide a collateral warranty equivalent to the warranty.

Product certification, performance and/ or testing:

- Complete barrier assemblies are certified with an independent accredited certification body
- Complete barrier assemblies shall be tested for fire resistance to IMO Resolution A.754(18)
- The fabric used within the barrier assemblies shall be tested to IMO Resolution MSC.61(67) Annex 1 Part 1
- The fabric used within the barrier assemblies shall be tested to ISO 1182

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- The fabric used within the barrier assemblies shall be tested to IMO Resolution MSC.61(67) Annex 1 Part 2

Approving standards:

The following standards apply to this product:

- IMO Resolution A.754(18):1993; Recommendation on Fire Resistance Tests for “A”, “B”, and “F” Class Divisions
- ISO 1182:1990 (E), Reaction to fire tests for building products. Non-combustibility test
- IMO Resolution MSC.61(67) Annex 1 Part 1:1996, International code for application of fire test procedures: Non-combustibility test
- IMO Resolution MSC.61(67) Annex 1 Part 2:1996, International code for application of fire test procedures: Smoke and toxicity test
- 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
- BS EN ISO 9001:2008, Quality management system
- BS EN ISO 14001:2004, Environmental management system