

Determination of the fire resistance of uninsulated doorsteps and shutter assemblies

LOSS PREVENTION COUNCIL TESTING BS 476 Part 22 1987 Clause 8

Introduction

FireMaster fire curtains, the latest revolution in active fire compartmentation, meet and exceed the strictly defined FR requirements for fire shutters, but without the problems of limited sizes, large heavy constructions, columns and outdated drive and control methods.

Advanced fabric technology can now achieve a full 4 hr fire resistance and with the unique, heavy duty VarioSpeed gravity fail safe drive system, FireMaster saves constructions costs and allows more flexible, more user friendly fire safety engineering.

Housings are as small as 150 mm x 150 mm for units 6 metres wide x 5 metres high. The largest span of 54 metres x 5 metres only uses a 150 mm x 250 mm housing. 8 metre drops are possible.

Loss Prevention Council testing of FireMaster shows a progressive development and testing regime, building on original Warrington testing. The result is a full 4 hour FR 'fire curtain shutter assembly' performance to BS476 : Part 22 : 1987 Clause 8.

FireMaster fire curtains are extensively tested for all aspects of fire shutter performance and, unlike fire shutters, FireMaster fire curtains are also specifically for use as automatic smoke barriers (Curtains) BS7346 Part 3 1990. The unique VarioSpeed gravity fail safe drive system is specifically tested to 4 hr FR therefore FireMaster fire curtains resist fire for 4 hours from either direction

BS 476 Part 22 1987 Clause 8

TE92659 June 1999
A Coopers Blinds Ltd uninsulated fire curtain shutter was submitted to a fire resistance test in accordance with BS 476 Part 22 : 1987 Clause 8 for 240 min on April 20 1999. An assessment of the fire performance of the fire curtain, LPC reference CC 92822 is included as an addendum to this report.

CC92822 June 1999
This assessment report covers the fire resistance of an uninsulated fire curtain assembly, for up to 4 hours in terms of the integrity criterion of BS 476 Part 22 1987 when exposed to fire from either direction

Conclusions: Therefore it is our opinion that the uninsulated fire curtain assembly, as described in section 4 of this report, is suitable where a fire resistance of up to 240 minutes is specified in accordance with the integrity criterion of BS 476 : Part 22 : 1987, for fire exposure from either direction.

Safety In Use: Warrington Fire Research WARRES C1022 for gravity fail safe, which moves to the fire operational position when all consumable power sources are removed, and/or in the event of any wiring or system corruption.

Range of Sizes

CC92945 Range of sizes June 1999
54mtr span x 5mtr height
30mtr span x 8mtr height

Conclusions: Therefore it is our opinion that the multi-barrel and single barrel uninsulated fire curtain shutter assemblies and fixing configurations, as described in section 4 of this report, are suitable where a fire resistance of up to 240 minutes is specified in accordance with the integrity criterion of BS 476 : Part 22 : 1987, for fire exposure from either direction.'

Oversized multi-barrel fire curtain:
The proposed multi-barrel fire curtain arrangement is similar to that tested in TE92659, comprising up to ten barrels with each barrel up to 6 mtr long, overlapping each other by 600mm and with a maximum overall EFP 4/1000 fabric curtain height of 5mtr

Oversized single barrel fire curtain:
The proposed single barrel fire curtain arrangement is similar to that tested in Warres No. 104732, except with a barrel length of 30mtr, made up of 6mtr barrels joined together and with a maximum overall



EFP 4/1000 fabric curtain height of 8mtr.

Installation and drive system

TE92017 Installation August 1999

Conclusions: Therefore it is our opinion that the multi-barrel and single barrel uninsulated fire curtain shutter assemblies and fixing configurations, as described in section 4 of this report, are suitable where a fire resistance of up to 240 minutes is specified in accordance with the integrity criterion of BS 476 : Part 22 : 1987, for fire exposure from either direction, given the requirements and limitations of this report.

CC 93386 Drive Motor August 1999

This assessment report covers the fire resistance of the steel cap tubular motor within an uninsulated fire curtain shutter assembly, for up to 4 hours in terms of the integrity criterion of BS 476 Part 22 1987.

Conclusions: Therefore it is our opinion that the Becker Drives Ltd R6G steel capped tubular motors when fitted in a Coopers Blinds Ltd fire curtain shutter assembly are suitable for use where a fire resistance of up to 240 minutes is specified in accordance with the integrity criterion of BS 476 Part 22 1987 for fire exposure from either direction.