Fibershield H

Integrity only horizontal type fire curtain specification (with cables)

PERFORMANCE REQUIREMENT:

The horizontal fire curtains shall be supplied and installed in accordance with AS1905.2:2005 except that the primary means of activation is to be from an AS1670.1:2018 smoke detection system and no gaps between the leading edge/bottom bar are permitted. When fire tested in accordance with Clause 3 Determination of Fire Resistance they shall provide a minimum Fire Resistance Rating (FRR) of -/120/- . The fabric barrier shall have fire hazard properties of a Group 1 rating when tested in accordance with NCC Specification C1.10 Clause 4 Wall and Ceiling linings.

The fire curtains shall resist a pressure differential of no more than 40 Pa when fully deployed.

PRODUCT SPECIFIED

Fibershield – H horizontal fire curtain by Smoke Control T: 09 300 1980; info@smokecontrol.co.nz or approved equivalent.

System parameters;

a) -/120/- FRR AS1530.4:2005
b) Smoke leakage (fabric only) : ≤ 25m3/hour EN12101-1 (fabric permeability)
c) Maximum size;
    i) 24m W x 5m Deployment – Stored energy closing
    ii) 24m W x 8m Deployment – Motor closing
d) Deployment speed;
    i) Sizes up to 20m W x 6m H- nominally 150mm/s
    ii) Sizes up to 30m W x 10m H – nominally 90mm/s
e) Dimensions
    i) Headbox;
        i. System size up to 4.5m W x 2.9m Deploy; 190mm H x 190mm W
        ii. System size up to 24m W x <5m Deploy; 235mm H x 320mm W
        iii. System size up to 24m W x 5 to 8m Deploy; 274mm H x 355mm W
    ii) Side Guide;
        i. System size up to 4.5m W x 2.9m Deploy; 190mm H x 120mm W
        ii. System size up to 24m W x <5m Deploy; 235mm H x 150mm W
        iii. System size up to 24m W x 5 to 8m Deploy; 274mm H x 160mm W
    iii) Footbox;
        i. System size up to 4.5m W x 2.9m Deploy; 190mm H x 190mm W
        ii. System size up to 24m W x <5m Deploy; 235mm H x 225mm W
        iii. System size up to 24m W x 5 to 8m Deploy; 80mm H x 355mm W

f) Power requirements;
    i) Sizes up to 10m W, 1 of 240v 10amp GPO, peak current draw 2.1A
    ii) Sizes up to 15m W, 2 of 240v 10amp GPO, peak current draw 2.1A per controller
    iii) Sizes over 15m W, contact Smoke Control technical department
g) Pressure resistance maximum;
    i) Deploying – 0Pa
    ii) Deployed;
        i. 40Pa for up to 50m2
        ii. >50m2 contact Smoke Control Technical Department
h) System weight/loading;
    i) Please contact Technical Department (T: 09 300 1980)

Note: for applications where pressure differentials are expected consideration should be given to the induced loading on the surrounding structure of this pressure to ensure appropriate restraint of the system.

Consideration when designing a performance solution for this system should be given to the additional structural loadings potentially applied to surrounding structure by the presence of sprinklers. Water leakage rate is approx. 100L/min/m2 of fabric. Based on an ordinary hazard sprinkler system, sufficient leakage should be available to prevent water pooling, but this should be confirmed on a project specific basis.

a) Supporting construction type;
    i) Masonry
    ii) Concrete
    iii) Fire rated plasterboard with steel or timber stud.
b) Approved installation configuration;
    i) Headbox/footbox;
        i. Face fixed to side of slab
        ii. Top fixed to bottom of slab
    ii) Side guides;
        i. Face fixed to side of slab
        ii. Top fixed to bottom of slab

Ancillary items required; (delete not applicable)

i) Control system: Shall allow fail safe operation on receipt of a general building alarm signal and automatic rewind on reset of the alarm from the Fire Indicator Panel (FIP) without the assistance of a technician. The Control system shall also provide an *anti-foul* system to prevent uneven rewinding of the product and subsequent self-destruction.
ii) Battery back up; Shall be installed to reduce the likelihood of nuisance deployments and allow 5 complete open-close cycles.
iii) Fire Rated Bulkhead; shall be installed to provide an FRR of -/120/120 when fire tested in accordance with AS1530.4 and shall facilitate any service penetrations to be installed and certified in accordance with AS4072.1:2005
iv) Maintenance: All fire curtains shall be listed on the Essential Services Register and shall be maintained by competent technicians in accordance with AS1851 and the manufacturers recommendations

a) Third Party Product Listing: The product shall be manufactured under the Third Party Product Listing scheme known as the Warnock Hersey Mark and shall bear the Warnock Hersey Certification Mark.

APPLICATIONS

- Atrium separation in leu of bounding walls in accordance with clauses NCC G3.3 and G3.4.
- Non-required stairways, ramps and escalators (NCC D1.12 & Spec D1.12)
- Voids/openings in floors requiring an FRL in accordance with NCC Specification C1.1

Note: Some applications listed above may require a Performance Solution to be compliant. Please check with your Certifier prior to specifying this product.

Note: If system is being installed into void containing escalators or stair, consideration should be given to the termination between the curtain system and the structure.

INSTALLATION

Fire Shutters

The fire shutters shall be installed, certified, commissioned and tagged in accordance with AS1905.2 -2005 and this Fire Engineering Report by an ISO9001 Quality, ISO18001 WHS and ISO14001 Environment Accredited manufacturer.

When installed the system shall consist of a single overhead barrel for the full width of the opening. While some Registered Testing Authorities provide Formal Opinions in regards to the expected fire resistance level of fire shutters, they do not discuss nor provide a warranty in regards to their reliability.

Threshold

Unless addressed as part of an appropriate performance solution the curtain must deploy onto a fire rated or non-combustible threshold as per requirements of AS1905.2:2005 and AS1530.4:2014. Maximum gap permitted at threshold 25mm.

Fire Rated Bulkheads

Installation of the fire shutters suspended below the concrete slab shall only be permitted if the system has been fire tested in this configuration and approved by a Registered Testing Authority for the sizes required in this project. That is; the suspension system fully exposed to fire from both directions without protection of a fire rated wall/bulkhead. If the system has not been fire tested in this configuration, a fire rated bulkhead shall be installed to support the fire shutter system. For clarity, the fixing of the fire shutter head box shall be directly to the fire rated bulkhead as per the fire tested prototype.

The fire rated bulkhead shall be installed as a 3-sided bulkhead (the forth side is provided by the concrete slab) to provide a minimum of -/120/120 fire resistance rating when tested in accordance with AS1530.4 and provide complete encasement of the fire shutter suspension system. This configuration will allow for certification of any service penetrations which will also be required to be certified in accordance with AS4072.1:2005

COMMISSIONING

Once installed it shall be demonstrated that the system shall fail safe close on loss of power using mains power in combination with battery backup and on the receipt of an alarm signal. On reset of power and the alarm signal the system shall automatically rewind to its standby position without the assistance of an occupant or technician.

The fire curtains shall also be commissioned in conjunction with the building's smoke management system. The smoke management system shall be balanced to operate without adverse effects to the fire curtain. The fire curtains must be tested a minimum of 3 consecutive times on general building alarm without failure.

The building's smoke management system shall not impede the operation of the fire curtain. A time delay of 60 seconds shall be incorporated into the smoke management system before it operates to allow the fire curtain to deploy to its fire mode position without interference. This shall be programmed within the Fire Indicator Panel. Consideration shall be made for the staged deployment of the fire curtain.

Similarly, a time delay of 60 seconds shall be incorporated into the reset of the alarm signal to fire curtain to ensure the smoke management system has ceased operation and the effects of pressure differentials have been dispersed prior to rewind of the curtain.

Certificates of Compliance shall be issued by the sub-contractor in accordance with National Construction Code A2.2 and A2.3 Evidence of Suitability and AS1905.2:2005 Clause 7 Certification.

All details and approvals are current as of the date displayed. This document supersedes all previous versions.