Windowhalt Motorised -/120/- Fire Shutter Specification

Integrity Only | Single Coil | Small span

Performance Requirement

The Windowhalt -/120/- Fire Shutter 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.

When fire tested in accordance with AS1905.2:2005 *Clause 3 Determination of Fire Resistance* it shall provide a minimum Fire Resistance Level (FRL) of -/120/- and a radiant heat flux of no more than 15kW/m^2 at 365mm from the unexposed face of the shutter, 30 minutes into the Standard Fire Test.

The fabric barrier shall have fire hazard properties of a Group 1 rating when tested in accordance with NCC2022 S7C4 (NCC2019 Spec C1.10: 4).

Product Specified

Proprietary System: Windowhalt Motorised -/120/- Fire Shutter by Smoke Control T: 1300 665 471; info@smokecontrol.com.au or approved equivalent.

System Parameters

1) Fire performance (AS1530.4:2014) – -/120/- (or E120)
2) Air leakage performance (AS1530.7:2007) – 0.115 m^3/min/m^2 @ 200^{o}C, 25Pa (fabric only)
3) Maximum size – 8000m(W) x 3000mm(H) or 6000mm(W) x 4000mm(H) (24m^2)
4) Component dimensions
    a) Headbox – 165mm(H) x 165mm(D)
    b) Side Guides – 100mm(W) x 50mm(D)
5) Deployment speed – nominally 150mm/s
6) Power requirements – 240V 10amp GPO, peak current draw 2.1amps per motor
7) Maximum cable run between controller and shutter motor:
    a) Cable run up to 14000mm(L) – 1.5mm^2 2 core cable
    b) Cable run up to 25000mm(L) – 2.5mm^2 2 core cable
8) Alarm input – 0V nominally closed contacts
9) Maximum pressure resistance:
    a) Deploying – 0Pa
    b) Deployed – 20Pa
10) System weight:
    a) System sizes up to 3000mm(H) – 20kg per metre width
    b) System sizes up to 4000mm(H) – 25kg per metre width
11) Approved supporting construction:
    a) Masonry
    b) Concrete
    c) Fire rated plasterboard with steel or timber stud

12) Approved installation configurations:
    a) Headbox:
        i) Face fixed to the wall
        ii) Fixed under the slab/into the wall
    b) Side Guides:
        i) Face fixed to the wall
        ii) Fixed in the opening

Required Ancillary Items

1) 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-tilt* system to prevent uneven rewinding of the product and subsequent self-destruction.
2) Staged deployment: Staged deployment shall allow the fire shutter to deploy to 2m above the finished floor level, pause for 30 seconds and then deploy to the floor.
3) Battery back-up: Shall be installed to reduce the likelihood of nuisance deployments. Standard battery time is 4 hours, extended periods available on request.
4) Rewind switches (operating ΔPa = 0): Shall be installed on both sides/one side of the nominated smoke containment screens. They shall allow the system to rewind no more than 2.1m and redeploy within 20 seconds.
5) Exclusion zone sensors: IRS36 shall be installed in accordance with Smoke Control's recommendations to protect each fire shutter asset during normal building use and significantly increase the likelihood of full deployment when in fire mode.
6) Sounders and strobes: Shall be installed on both sides/on the same side as the egress path and operate on a signal from the FIP.
7) Fire-rated bulkhead: Shall be installed to provide an FRL 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.
8) Fire-rated corner posts: shall be installed at fire shutter junctions in strict accordance with the manufacturer's approvals.
9) 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.
10) Maintenance: All fire shutters shall be listed on the Essential Services Register and shall be maintained by competent technicians in accordance with AS1851 and the manufacturer's recommendations.

Applications

- Protection of openings from SOU on to common corridor NCC2022 C4D12 (NCC2019 C3.11)
- Protection of openings in external walls NCC2022 C4D5 (NCC2019 C3.4)
- Protection of openings in fire compartment walls NCC2022 C4D6 (NCC2019 C3.5)
- Non-required stairways, ramps and escalators NCC2022 D2D17 & Specification 14 (NCC2019 D1.12 & Spec D1.12)
- Construction of proscenium walls NCC2022 Specification 32 (NCC2019 Spec H1.3)
- Separation of fire compartment where it exceeds maximum size or volume NCC2022 Part C3 (NCC2019 Part C2)

- Servery openings in smoke-proof walls healthcare and residential care buildings NCC2022 C3D6 & Specification 11 (NCC2019 C2.5 & Spec C2.5)

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

Installation

Fire Shutters

The fire shutters shall be installed, certified, commissioned and tagged in accordance with AS1905.2:2005 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 regarding the expected fire resistance level of fire shutters, they do not discuss nor provide a warranty regarding their reliability. Experience shows that some manufacturer designs of fire shutters do not operate reliably once installed and attract extraordinarily high maintenance costs. For this reason, multiple barrel, overlapped fire shutters are deemed not equivalent to this specification on this project and shall not be substituted for a single barrel continuous span system.

Threshold

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

Fire Rated Bulkheads

The fire rated bulkhead shall be installed as a 3-sided bulkhead (the fourth side is provided by the concrete slab) to provide a minimum of -/120/120 fire resistance level 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.

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 shutters 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 shutter. The fire shutters 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 shutter. A time delay of 60 seconds shall be incorporated into the smoke management system before it operates to allow the fire shutter 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 shutter.

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

Certificates of Compliance shall be issued by the sub-contractor in accordance with NCC2022 A5G3 & A5G4 (NCC2019 A5.2 & A5.3) and AS1905.2:2005 *Clause 7 Certification*.

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