

This certificate is valid for Building Regulations & associated technical guidance in force on the date of registration and for the regulations in the countries indicated

Fläkt Woods Limited: Smoke Shaft Vent System

Description of Product

This is an assessment of Fläkt Woods Smoke Shaft Vent system. The system is designed for use mainly in residential buildings and is a comprehensive solution for mechanical extract from residential and commercial corridors / lobbies. It uses standardised configurable components designed to ensure common escape routes inside buildings remain tenable for escape and firefighting purposes.

The components of the system include extract fan units, lobby ventilators, stairwell ventilators, door openers, main and zone control panels, smoke detectors, manual switches and a touch screen interface panel. Electrical wiring and a builders work smoke shaft is required and is provided by others.



Key Factors Assessed

- Mechanical Resistance & Stability
- Safety in case of Fire
- Health, Hygiene and Environmental
- Safety in Use
- Durability serviceability and identification

Validity

This certificate was first issued on 16th March 2016 and is valid until 16th March 2020.

Issue Dated 18th April 2017

Scope of Registration

The system will protect common escape routes in residential buildings by maintaining tenable conditions allowing escape and firefighting access. This gives additional flexibility to designers as single direction travel distances in protected residential corridors can be extended significantly beyond the limitations in Part 'B' Fire Safety Volume 2 'Buildings Other Than Dwelling Houses'. It also ensures tenable conditions for firefighting access to common corridors.

Tenable conditions are based on the following criteria:

Clearance of smoke in a common corridor within 120 seconds from the apartment door closing, fire originating from an apartment fire.

A minimum of 10m visibility within the corridor within 120 seconds of the apartment door closing

A temperature of less than 120 degrees centigrade

Air velocities less than 5m/s

The stair is kept free of smoke during fire fighting

Components of the Smoke Shaft System

The specific individual components are designed and specified by Fläkt Woods Ltd also facilitated by the use of an online product selection tool.

- Individual components will include: extract fan units, lobby ventilators, door openers, main control panel, zone control panels, smoke detectors, manual switches and touch screen HMI panels.
- The builders work smoke shaft and electrical cabling is also required although it is not part of this assessment as it is provided by others. The smoke shaft must however comply with the recommendations provided in the Fläkt Woods guidance on Smoke Shafts and issues stated in the limitations section of this document.

Conditions of Certificate

The smoke vent system is designed primarily for typical residential buildings with standard fire compartmentation. The system can accommodate tall buildings and those with extended single direction travel distances. Buildings with atria or breaches in compartmentation may need to be individually assessed using building specific CFD analysis.

Specific design limitations of the system:

- Single shaft system per corridor with inlet air via a ventilator at the head of the stairwell.
- Maximum number of protected lobbies 20
- Maximum number of storeys 20
- Maximum travel distance within protected corridor 15m
- Minimum distance between extract shaft and stair door /inlet source; 2/3 of escape travel distance

Builders Work Shaft:

A suitable vertical builders work smoke shaft is also required. This should have smooth internal surfaces and be free from obstructions, 0.6m² cross sectional area, maximum aspect ratio 2:1 and maximum air leakage 3.85m³/hr at 50pa. This is to be specified within the design and is provided by others.

Design and Commissioning:

The Smoke Vent System is configured so that individual CFD analysis is not required for each installation. This is on the basis that residential buildings are often similar in nature; they will have high levels of fire compartmentation for example fire protected corridors between flat entrances and escape stairs, compartment floors and compartment walls between dwellings.

All systems incorporated into buildings must have a clear statement from the designer stipulating the acceptance criteria detailed in this document. The installed system must be commissioned at completion stage and verified that the system performance is fully compliant with all stated design and acceptance criteria. These criteria are listed above and relate to ensuring corridor tenability in a fire scenario.

LABC consider that, Smoke Shaft Vent System will meet the functional requirements of the Building Regulations (listed below) if the criteria detailed in this certificate are met;



The Building Regulations 2010 (as amended) England & Wales

AD B Fire safety (Volume 2) Buildings other than Dwelling houses

Note: The system is acceptable subject to the Scope of Registration and Conditions of Certificate.



The Building Regulations 2010 (as amended) England

None presently



The Building Regulations 2010 (as amended) Wales

None presently



The Building (Scotland) Regulations 2004 (as amended)

If you would like to discuss a specific use of the product in Scotland it will require an additional assessment under the Scottish Building Regulations and accordingly you should contact the LABSS STAS Administrator at www.labss.org

Non-Regulatory Information



LABC Warranty

The use of the Smoke Shaft Vent System has not been assessed to meet the requirements of the LABC Warranty Technical Manual. If you would like to discuss a specific use please make an enquiry to technical.services@labcwarranty.co.uk

Supporting Documentation

Standards and manufacturers guidance documentation

Bsi Certificate of Registration Flaktwood Quality management System ISO 9001 -2008 (valid 23.8.13 – 11.11.16)

Flaktwood 'Smoke Shaft Control System User Manual'

Flaktwood 'Guidance on Smoke Shafts for Smoke Control'

Flaktwood 'Smoke Shafts a Practical Guide'

Flaktwood 'Product selection Guide'

Computational Fluid Dynamics (CFD) Analysis for the following buildings:

Pembury Circus Blocks A, B, B1, D

375 Kensington High Street Block A

20 Storey Generic Residential Block

Standard Long (18m) and Short (5.9m) corridor scenarios

Midway Re generation Block E

New River House Block A and C

Ravensborne Residential Block

Brentford Lock Block G

Griffin Wharf Ipswich

Relevant standards for System Components

Fan Units BS EN 12101-3

Main Control Panel BS ISO 21927-9

Automatic Transfer Switch BS EN 60947-6-1

Lobby Ventilator BS EN 1634-1

Lobby Ventilator actuator BS EN 12101-2

Door Opener BS EN 12101-2

Stairwell Ventilator BS EN 12101-2

Zone control panel BS ISO 21927-9

Smoke Detector BS EN 54-7

Override switch BS ISO 21927-9

User interface panel BS ISO 21927-9

Contact Information

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