

LABSS INFORMATION PAPER INFOP24 - 2019 Version 1 – October 2019**Decentralised/Centralised Mechanical Extract Ventilation (DMEV/MEV)****Installation in a flat with a protected enclosure****BACKGROUND**

The use of continuous mechanical ventilation systems in dwellings is becoming more common. This is generally in the form of decentralised/centralised mechanical extract ventilation systems (DMEV/MEV).

The principle of continuous mechanical ventilation is the provision of a single room mechanical ventilator that operates continuously at a low extraction rate, with a humidity controlled and/or manual boost facility, it's normally located in a wet room such as a bathroom, shower room, kitchen or utility room.

The continuous nature of this type of ventilation system requires specific trickle ventilation provision to provide replacement air to the wet rooms. Where fresh air from the trickle ventilator(s) will be short-circuited by the fan unit, the wet area should not be fitted with trickle ventilators. Instead, background ventilation should be made available by providing a nominal gap to the base of apartment doors to allow air to flow to the wet areas.

It is the implication of providing this nominal gap that is the subject of this information note.

AIM AND PURPOSE

The aim and purpose of this note is to provide information to verifiers to allow for a robust, quick and consistent approach to the assessment of DMEV/MEV installations in flats with a protected enclosure.

ASSESSMENT OF FIRE DOOR PERFORMANCE

Fire door performance is assessed in terms of integrity in accordance with BS EN 1634-1: 2008 or BS 476-22: 1987.

In terms of smoke transfer, the relevant guidance is provided in BS 8214: 2016

FIRE DOOR INSTALLATION

A fire door must not be altered in any way in order to provide the required gap at sill level, for example by cutting. Instead, the door should be suitably sized and positioned at a level that will provide the gap necessary to provide sufficient replacement air. This gap is specific to each ventilation system supplier and is in the region of 8-10mm.

Manufacturers of door sets will specify a nominal sill gap range; with certain doors sets this may not be sufficient for the ventilation system, therefore to allow for the necessary air gap, an alternative approach is required.

COMPENSATORY FEATURES OF ALTERNATIVE APPROACH

Given that DMEV/MEV systems requires air transfer to take place under doors between adjoining rooms and circulation areas, and that such gaps under fire doors could allow smoke transfer and lead to the route of escape within the dwelling being compromised, additional features need to be installed to limit the potential pull of smoke and provide the opportunity to escape.

The guidance supporting standard 2.11 recommends that a fire detection and fire alarm system covers the principal room, the kitchen and the circulation area. Within flats, with a protected enclosure, it is proposed that a more comprehensive system to BS 5839: Part 6: 2019, Grade D, Category LD1 system is installed, with detectors being provided in all apartments and rooms giving access to the protected enclosure. This will provide the occupants of the dwellings with early warning of an outbreak of fire anywhere in the flat.

To limit the potential for the ventilation system drawing smoke underneath doors it is proposed all apartments have a hardwired, interlinked smoke alarm that is connected to the DMEV/MEV system. On activation of any smoke alarm within the dwelling, the DMEV/MEV system will shut down automatically and stop the forced recirculation of air. This will inhibit the rapid spread of smoke beyond the room of fire origin and provide the occupants of the dwelling with the opportunity to escape before being overcome by fire and smoke.

SCOPE AND LIMITATIONS

This information note relates to the requirements of mandatory standard 2.9 and clause 2.9.5 Escape within dwellings – protected enclosure. This note does not cover requirements under mandatory standard 3.14.

Reference to ‘apartments and rooms’ should be read in the context of the coverage of a Category LD1 system, this being:

‘a system installed throughout the premises, incorporating detectors in all circulation areas that form part of the escape routes from the premises, and in all rooms and areas, other than those with negligible sources of ignition, such as toilets, bathrooms and shower rooms’.

While the context of this note relates to flats, the principals can apply to a house with a storey over 4.5m.