



**CROSS Safety Alert**

RED

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# Smoke vents rendered inoperable by building work

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Figure 1: internal view of an AOV

## Who should read this alert?

Those responsible for the management of fire safety in buildings, Principal Accountable Persons (PAPs) and Accountable Persons (APs) as defined in England, designers, principal designers, contractors, principal contractors, fire risk assessors, and those working in or on occupied buildings with Automatic Opening Vents, including those designing and erecting scaffolding.

## Overview

This Alert draws attention to the safety risks associated with preventing the operation of smoke vents, in particular Automatic Opening Vents (AOVs), by construction works on existing buildings. It draws on confidential reporting experience from the UK but is also relevant to other regions.

AOVs are provided as part of a fire safety smoke control system. In the event of a fire, an inoperable smoke vent poses a significant hazard. If smoke cannot be released from the building, it could hamper the escape of occupants and the ability of the fire and rescue service to fight the fire.

This Safety Alert highlights that, in many cases, AOVs can be indistinguishable from standard windows. This may lead to their inadvertent obstruction.

## Introduction

CROSS has received several reports of AOVs being made inoperable by building work, including when façade materials are being replaced.

AOVs are often designed to resemble regular windows for visual reasons. This may lead contractors to overlook their critical function. Even if the windows are recognised as being different from the standard, their important role in the fire safety strategy may not be perceived. Figure 2 shows a building elevation and illustrates the issue - some of the windows are AOVs but they are not easily identifiable.

**CROSS Safety Report 1347, Automatic Opening Vents not functional after two cladding remediations**> describes two events where AOVs (styled to look like windows) were rendered inoperable for months after a cladding remediation. In the first case, contractors improperly disconnected the AOVs from their electrical components. In the second case, new cladding was screwed into the frame of the existing AOVs.

**CROSS Safety Report 1380, Automatic Opening Vent covered during remediation works**> involved a subcontractor being engaged to apply render as the final finish of the facade after remediation. Working on the exterior of the building, from scaffolding, the subcontractor's operatives took measures to protect the AOVs from the render that was to be applied. There may have been no sign or indication that the AOVs were not standard windows. The applied masking would have prevented the vents from opening in the event of a fire.



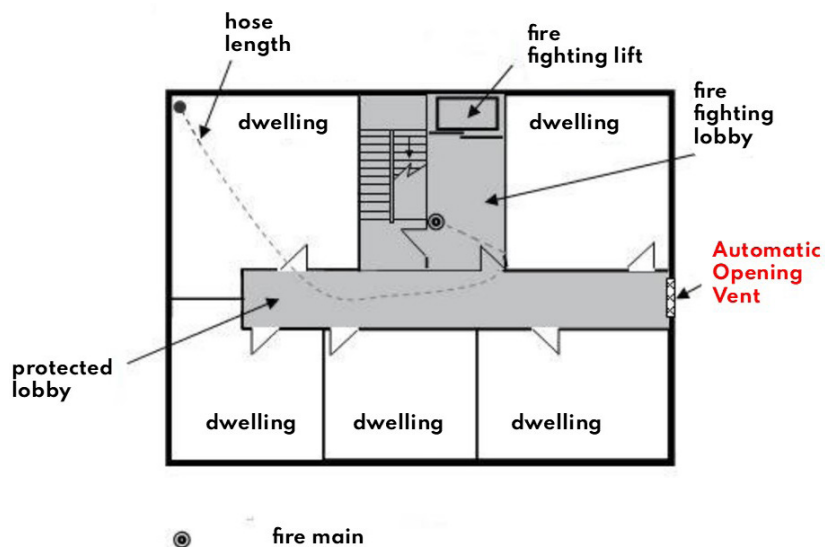
**Figure 2: elevation of a residential building with AOVs – the AOVs are indistinguishable from standard windows**

## Summary

Persons responsible for fire safety should ensure that the fire risk assessment is reviewed to reflect changes to risk created by building work. During building work there is an increased likelihood of fire, particularly if combustible materials are exposed. Elements of a building's fire safety system may not be recognised as critical by other trades or professions. Where such safety systems will be impacted by building work, a thorough review of the fire risk assessment and fire strategy must be undertaken, focussing on the current evacuation strategy. For instance, a stay-put approach may need to be reviewed.

Consideration should be given to interim control measures to mitigate any identified risks. Where mitigation measures remain inadequate to control the risk, consideration should be given as to whether the building remains safe to occupy. This is particularly relevant for buildings with combustible cladding during its removal work.

Contractors should always be aware of the potential for their activity to impact fire safety, both by increasing the likelihood of a fire through the introduction of combustible materials or hot work, and by interfering with the operation of fire safety provisions such as doors, detectors and AOVs. An AOV might easily be rendered inoperable by a scaffold pole, temporary masking, the storage of materials, or adjustments to cladding.



**Figure 3: example of AOV positioning in a residential building**

Adapted from Practical Fire Safety Guidance for Existing High Rise Domestic Buildings from the Scottish Government. Published February 2022. Contains public sector information licensed under the Open Government Licence v3.0.

Where work is being undertaken on an existing building, the principal contractor (in conjunction with the person responsible for the management of the building's fire safety) should identify all AOVs and consideration should be given to providing temporary signage indicating that they are to be kept operable and clear from obstruction.

Consideration should also be given by industry to providing permanent, but discrete, signage on AOVs. This might read '**Automatic Opening Vent – do not obstruct**'. This need not interfere with the building's architecture.

Improved training is recommended for all those in the construction industry who work onsite to raise awareness of the existence of AOVs and their fire safety function.

In England, the Responsible Person under **The Fire Safety (England) Regulations 2022—Regulation 7** is also obligated to report faults in **essential firefighting equipment** for high-rise residential buildings. This includes when equipment is disabled.



Figure 4: AOV in the open position

## Related CROSS content

- [CROSS Safety Report 1237, Responsible person failed to react appropriately to a smoke control system failure](#)>
- [CROSS Safety Report 1222, Combustible cladding material ignited during remediation work](#)>
- [CROSS Safety Report 1347, Automatic Opening Vents not functional after two cladding remediations](#)>
- [CROSS Safety Report 1380. Automatic Opening Vents covered during remediation works](#)>

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