

Housing Health and Safety Rating System Case Study – Hazard 24: Fire in an HMO

A three storey, brick-built, mid-terrace house occupied as a bedsit HMO

Age of property = pre-1920

Vulnerable group = all persons 60 yrs or over

Assessment is of top floor front bedsit – (Fire Matrix Level 2)

The ground floor comprises an entrance hallway from the street from which there are doors leading to 2 bedsitting rooms and shared bathroom in rear addition. The first & second floors comprise 3 bedsitting rooms. All rooms are singly occupied and provided with cooking facilities

All partitions and ceilings are found to be of sound lath and plaster construction. The entrance doors to each room are “old-style” purpose built fire doors in good condition but lacking intumescent strips and cold smoke seals.

There is no AFD or Emergency Lighting.

There are water type fire extinguishers on each landing.

The whole HMO is provided with a central heating system serviced and in good condition.

There are two, double, wall mounted electric sockets in each bedsit and two doubles in the kitchen in addition to a cooker point – the installation is recent and in good condition. Ovens are electric and hobs are gas.

Primary	Compounding factors	Ameliorating Factors
Lack of smoke seals or intumescent strips to fire doors	Lack of AFD in common parts or rooms	Short distance of travel and low height of building (2 storey)
Lack of suitable mains wired, interlinked smoke alarms	Lack of smoke seals or intumescent strips in fire doors to flat entrance and lack of fire doors within flats	FFE on each landing Low fire loading to building
Lath and plaster ceilings and partitions – high risk of early failure	Relatively high fire loading to building	

The 'average' situation obtained from the Guidance

Average likelihood of an occurrence in next 12 months is 1: 1681

Converted to Representative Scale Point (RSP) this is 1: 1800

Average range of harm outcomes is:

	Class 1	Class 2	Class 3	Class 4
Guidance	5.6%	0.0%	27.7%	66.7%
RSP	4.6%	0.0%	31.6%	63.8%

This gives an average score of 39, which is band H

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IN THIS CASE

Likelihood converted to representative scale point is: 1: 180

Justification for adjusting likelihood:

Lack of smoke seals or intumescent strips to fire doors - smoke may pass readily into escape route

Lack of fire extinguishers or fire blanket in rooms - small fires in rooms will not be tackled at an early stage and may develop into major fires

The lack of any AFD would mean that no early warning would be given of a developing

Because there are 8 bedsits there would be a much higher fire loading than the equivalent building converted to s/c flats

Range of harm outcomes is:

	Class 1	Class 2	Class 3	Class 4
RSP	21.5%	0.5%	31.6%	46.4%

Justification for adjusting range of harm outcomes:

Class 1 has been increased from 4.6% to 21.5% because of the lack of structural fire precautions within the bedsit, the height of the building and the lack of smoke detection (most average UK bedsits now have battery smoke alarms which work on 55% of occasions).

Class 2 has been increased slightly because there is a possibility of severe burns or fractures in effecting escape from the building.

Hazard score for this case:

Class of harm	Weighting		Likelihood		Spread of Harm		
Class 1	10,000	X	1/180	x	21.6	=	1194.4
Class 2	1,000	X	1/180	x	0.5	=	2.8
Class 3	300	X	1/180	x	31.6	=	52.7
Class 4	10	X	1/180	x	46.4	=	2.6
					Total score & Band (This case)	=	1252.5 (C)

Note If smoke alarms were fitted in the flats we would reduce likelihood to 1/320 but leave the harm outcomes because although there would be slight reduction in harm outcomes for Class 1 it would still give the same RSP of 21.6. We would not accept them in response to enforcement action