



Housing Health and Safety Rating System (HHSRS)

Case Studies

Group A
Protection Against
Accidents

Hazard A6
Collisions, Entrapment
and Ergonomics

Example A6.3
1920–1945
Third-floor Flat
(Non-HMO)

Vulnerable Group
Persons of all ages

Multiple Locations
No

Related Hazard A3
Falling Between
Levels



Dwelling

Description

This is a flat in a five-storey, late-Edwardian mansion block that has balcony access at the rear. The living room of this third-floor flat, also located at the rear, still retains its two original vertical-sliding box-sash windows. Both of these have low sills (under 700mm high).



1
Front view of building



2
Rear view of building



3
Close up of single glazed
sash window in living room

Deficiencies

Description

Living room windows: In each window, the two large sliding sashes comprise a thin frame, each carrying two large panes of single glazing. All the sash cords are threadbare, and in one window the cord holding one side of the lower opening light has snapped. This window can still be opened and will remain open due to the one remaining counterweight and the friction resulting from the consequent tilting of the frame. In summer, both windows are regularly left open as the living room faces due south and is prone to overheating. The glass is not safety glass, and there is no form of restrictor to the window.



4
Snapped sash window
cord

Relevant Baseline Indicators

0

Satisfactory
or N/A

1

Not
Satisfactory

2

Defective

3

Seriously
Defective

Subject	Score	BI	Baseline Indicator
1 Structural Condition	0 1 2 3	1.1	Externally, every foundation, roof, ridge line, flashing, fascia, soffit and barge board, exterior staircase, exterior wall/fence shall be safe to use and capable of supporting the intended design loads and load effects and shall be in a proper state of structural repair. Internally, every wall, floor, ceiling, inside stair, porch, accessory structure, door, window and window glass shall be safe to use and capable of supporting the intended design loads and load effects, and shall be in a proper state of structural repair.
7 Space	0 1 2 3	7.3	The floor area of any room in the dwelling used as sleeping accommodation by one person aged 10 years or over must not be less than 6.51m ² . The floor area of any room in the dwelling used as sleeping accommodation by two persons must not be less than 10.22m ² . The floor area of any room in the dwelling used as sleeping accommodation by one person aged under 10 years must not be less than 4.64m ² . Any room in the dwelling with a floor area of less than 4.64m ² must not be used as sleeping accommodation. Depending on the gender of household members, their relationship, and the size of rooms, a dwelling containing one bedroom is considered suitable for up to two persons, irrespective of age. A dwelling containing two bedrooms is suitable for up to four persons. One containing three bedrooms is suitable for up to six persons and one containing four bedrooms suitable for up to seven persons.
	0 1 2 3	7.4	The ceiling height of any habitable room shall be at least 2100mm. In a habitable room with a sloping ceiling, at least one-half of the floor area shall have a ceiling height of at least 2100mm. If any part of a habitable room has a ceiling height lower than 1500mm, its floor area shall be excluded when calculating the floor area. For the purposes of this requirement basement or subfloor rooms are excluded.
8 Internal Doors	0 1 2 3	8.1	Internal doors leading between areas of a single dwelling must provide a sufficient barrier to the spread of smoke and fire (where appropriate), any glazing in doors must respond safely to collision, and must be designed for functionality to avoid strains or entrapment when in use, and must be maintained in good repair. All bathrooms and WC doors must be fitted with a suitable lock and must not contain clear glass.

Relevant Baseline
Indicators

0

Satisfactory
or N/A

1

Not
Satisfactory

2

Defective

3

Seriously
Defective

Subject		Score				BI	Baseline Indicator
11	Security	0	1	2	3	11.5	All door and window frames and furniture shall operate properly and be in a good state of repair, with no open joints or compromised seals between the windows/ doors and adjacent walls.
13	Guards	0	1	2	3	13.1	Every stairway, porch, patio, landing, balcony walkway, terrace, landing and hall located more than 600mm above an adjacent area shall have a structurally sound guard, between 900mm and 1100mm high, measured vertically from the floor. The guard shall be firmly fastened, capable of supporting normally imposed loads and in good condition. Balusters with a minimum thickness of 10mm shall be placed at intervals that do not allow passage of a sphere greater than 100mm in diameter. There shall be no climbable cross-pieces.
		0	1	2	3	13.2	All windows with an opening section greater than 100mm, through which a person may fall a single storey or more, shall have a fall prevention device that restricts opening to less than 100mm. It must be possible to overcome this restriction easily when the windows in question are required to be escape windows, under the building regulations.
14	Lighting and Services	0	1	2	3	14.1	Every habitable room shall have adequate natural lighting.
16	Ventilation	0	1	2	3	16.4	All means of ventilation shall be maintained in good repair and working order.

Relevant Matters

0

Satisfactory
or N/A

1

Not
Satisfactory

2

Defective

3

Seriously
Defective

Score					Matters affecting Likelihood of Harm
0	1	2	3		Door-closers
0	1	2	3		Door location
0	1	2	3		Door headroom
0	1	2	3		Window design
0	1	2	3		Window location
0	1	2	3		Headroom or projections
0	1	2	3		Amenity position
0	1	2	3		Amenity space
0	1	2	3		Kitchen worktops
0	1	2	3		High-level storage
0	1	2	3		Electric switches
0	1	2	3		Electric sockets
0	1	2	3		Light fittings

Score					Matters affecting Harm Outcomes
0	1	2	3		Door-closers
0	1	2	3		Door location
0	1	2	3		Door headroom
0	1	2	3		Window design
0	1	2	3		Window location
0	1	2	3		Headroom or projections
0	1	2	3		Amenity position
0	1	2	3		Amenity space
0	1	2	3		Kitchen worktops
0	1	2	3		High-level storage
0	1	2	3		Electric switches
0	1	2	3		Electric sockets
0	1	2	3		Light fittings

Likelihood of Harm

Scale Points

Likelihood of harm from this hazard over the next twelve months

Very Likely	1 in 1
	1 in 2
	1 in 3
	1 in 5
Likely	1 in 10
	1 in 20
	<div>Example Dwelling</div> 1 in 30
	<div>National Average</div> 1 in 50
Unlikely	1 in 100
	1 in 200
	1 in 300
	1 in 500
Very Unlikely	1 in 1,000
	1 in 2,000
	1 in 3,000
	1 in 5,000

Score

1 in 30

Justification of Scoring

Likelihood of Harm

The sash cords supporting the weight of both windows are threadbare and one cord has already snapped, placing increasing strain on the other. With both windows often open due to the south-facing elevation, extra strain will be placed on the remaining sash cords, increasing the likelihood of failure in the next 12 months. If other sash cords fail, the heavy windows would drop suddenly, potentially trapping hands or fingers and causing fractured bones, crushing or severe bruising. The glass could also shatter, causing lacerations. The low sill-height increases the risk of harm to a young child as they could reach through the open window more easily, and would therefore be more likely to have a propped window fall onto them.

The risk of harm is not restricted to a single point in time as once sash cords have failed, then unless immediately remedied, there will be a tendency to prop windows open. Any unintentional dislodging of the prop, or the process of opening or closing the window using a prop, has an elevated risk of injury. However, consideration has also been given to the fact that the upper opening light may also be used, which may reduce the likelihood as there is an alternative to opening the lower-opening light of the sash windows.

The likelihood of harm is assessed as higher than the national average over the next 12 months.

Harm Outcomes

Extreme		Severe		Serious		Moderate		
Death, permanent paralysis, etc.		Heart attack, serious fractures, etc.		Chronic stress, severe concussion, etc.		Broken fingers, moderate cuts, etc.		
Very Likely	50.0	Very Likely	50.0	Very Likely	50.0	Example Dwelling	79.5	
	30.0		30.0		30.0			
	20.0		20.0	Example Dwelling	20.0			
Likely	10.0	Likely	10.0	Likely	10.0	National Average	94.9	
	5.0		5.0		5.0			
	2.0		2.0	2.0				
Unlikely	1.0	Unlikely	1.0	Unlikely	1.0			These scores are simply calculated as the sum of the other three harm outcomes subtracted from 100%
	0.5		Example Dwelling		0.5			
	0.2		0.2		0.2			
Very Unlikely	0.1	National Average	0.1	Very Unlikely	0.1			
			0.0		0.0			
Example Dwelling + National Average	0.0							
Score		Score		Score		Score		
0.0%		0.5%		20.0%		79.5%		

Justification of Scoring

Harm Outcomes

If the large sash windows were to fail when wide open, they could fall a considerable distance, causing more serious fractures or crushing injuries. The fall of a window is likely to result in breakage of glass, increasing the possibility of greater than average 'Severe' and 'Serious' harms from cuts as well as trapping.

Safety Ratings

Scenario 1
As described in this document

Key

Category	Band	Score
1 Legal duty to take action	High	10,000
2 Discretion to take action	Medium	1,000
	Low	100

Likelihood of Harm 1 in 30			
Extreme 0.0%	Severe 0.5%	Serious 20.0%	Moderate 79.5%
Category	Band	Score	
1 Legal duty to take action	High	10,000	
2 Discretion to take action	Medium	1,000	
	Example Dwelling	243	
	Low	100	
	National Average	51	

Score
243

Scenario 2

After works meeting baseline indicators

Likelihood of Harm 1 in 50			
Extreme 0.0%	Severe 0.1%	Serious 5.0%	Moderate 94.9%
Category	Band		Score
1 Legal duty to take action	High		10,000
2 Discretion to take action	Medium		1,000
	Low		100
	Example Dwelling + National Average	51	
Score	51		

Justification of Scoring

After works meeting baseline indicators

National average for likelihood and spread of harms following works to comply with baseline indicators. Compliance with baseline indicators should leave the sash windows in good working order with a restrictor to prevent the sash window being opened more than 100mm without positive action to disengage the restrictor.

Scenario 3

After further improvements

Likelihood of Harm			
Extreme	Severe	Serious	Moderate
Category	Band		Score
1 Legal duty to take action	High		10,000
2 Discretion to take action	Medium		1,000
	Low		100
Score			

Justification of Scoring

After further improvements

N/A

Other Relevant Legislation and Guidance

Updates

Matters for consideration listed in this section were correct at the time of publication. For the most up-to-date legislation and guidance in these areas, please visit the [gov.uk](https://www.gov.uk) website.