



Housing Health and Safety Rating System (HHSRS)

Case Studies

Group A
Protection Against
Accidents

Hazard A2
Falling on
Stairs etc.

Example A2.2
1920–45
Semi-detached House

Vulnerable Group
All persons aged
60 years and over

Multiple Locations
Yes

Related Hazard A6
Collisions, Entrapment
and Ergonomics

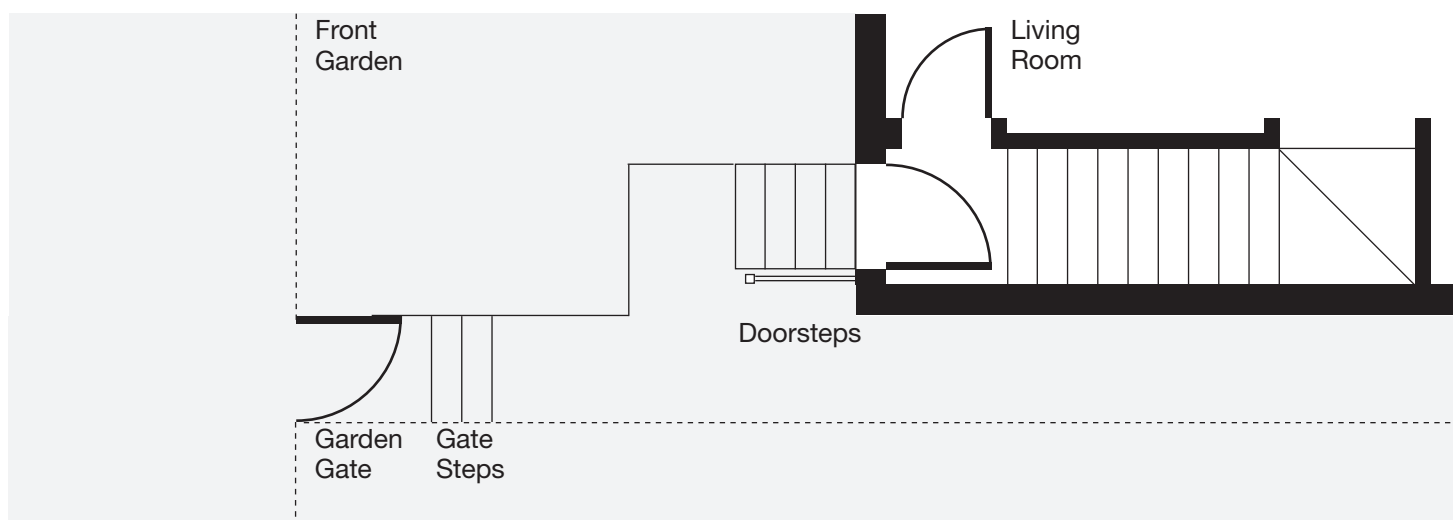
Related Hazard D21
Lighting



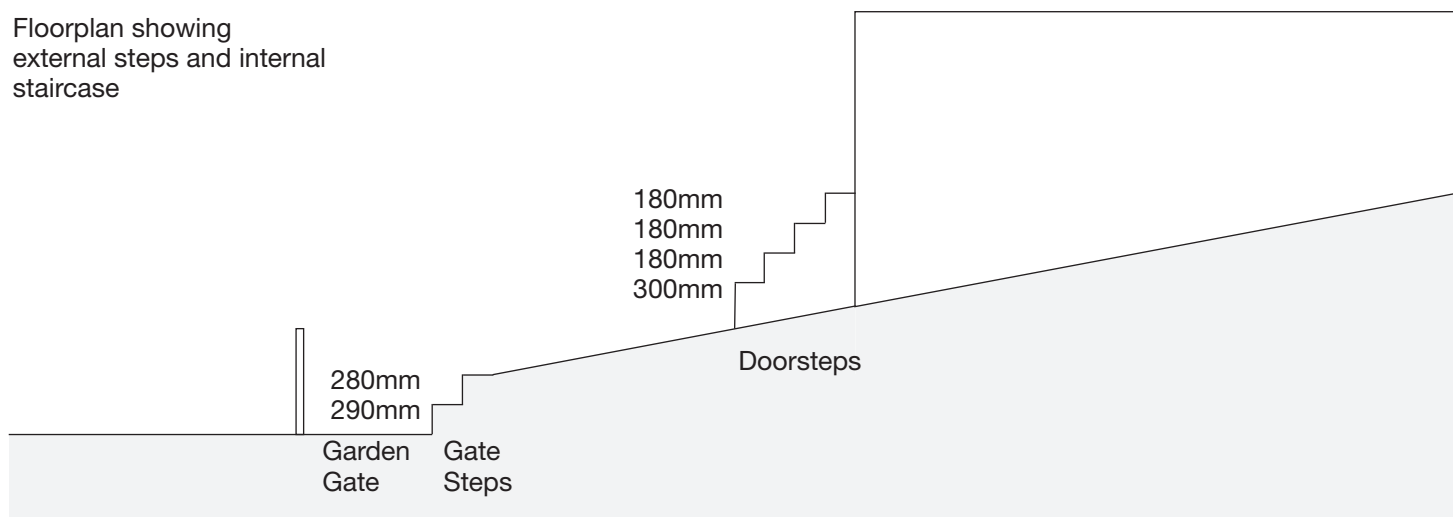
Dwelling

Description

This property is a three-bedroomed semi-detached house, built in the 1930s. The property is in reasonable repair for its age. There are no leaks from the gutters or downpipes. The electrical installation is satisfactory, and the EPC rating is D. There are battery-powered smoke alarms on the landing and hall ceilings.



Floorplan showing external steps and internal staircase



1
Elevation showing riser heights of external steps

Deficiencies

Description

External steps at gate

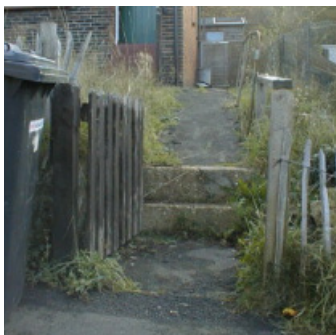
These two steps close to the front gate are of rough spalling concrete. They have high, uneven risers and a narrow tread. The lower riser is 290mm and the higher riser 280mm. There is a crude, rotten timber handrail but no guarding. The front garden from the front of the house to the pavement is on a slope, which makes the external steps a necessity.

Front external doorsteps

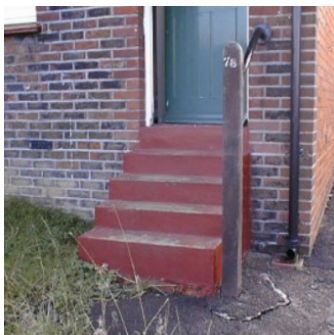
These are narrow in width, of smooth, painted concrete and have no top 'landing'. The bottom riser is high and uneven (300mm max). The tread lengths are 750mm and riser heights 180mm. There is a wobbly tubular steel handrail on one side but no guarding at all. There is no external porch light, and the street lighting is 40 metres away from the house.

Main internal stairs

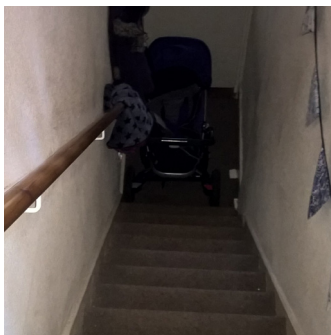
The main internal stairs have two winders at the top and are moderately steep, with tread lengths of 220mm, riser heights of 220mm and nosing of 20mm. There is a handrail along the outside wall but for the straight flight only. In the small hall is a radiator that projects into the space, and the front door close to the foot of the stairs has some glass in it. There is a light above the turn in the stairs, with conveniently located switches on the landing and in the hall/entrance lobby. The stair carpet is worn but intact on the edges of the steps.



2
Front view of house
showing external steps
at the gate



3
Steps to the front door



4
Main internal staircase
looking up from ground
floor hallway

Relevant Baseline Indicators

0

Satisfactory
or N/A

1

Not
Satisfactory

2

Defective

3

Seriously
Defective

Subject	Score				BI	Baseline Indicator
9 External Space	0	1	2	3	9.1	External yards, paths, steps, access ways and surrounds within the curtilage of the dwelling shall be in good repair, even and well drained. Accessways must be suitable non-slip surfaces, have adequate lighting and should not have slopes of sufficient gradient to present a falls risk. This includes consideration to unevenness, trip risks and poor slip resistance, to any steps or surfaces within external space that is provided, to the front door, yard and garden. Where there are drops of more than 300mm from paths, patios, steps, terraces or garden areas, guarding will be necessary where there are high risks of falling. All boundaries should be clearly defined and enclosed by well-maintained and suitable walls or fences. This also applies to structure, accessways, security doors and lifts.
11 Security	0	1	2	3	11.1	Adequate external lighting shall be provided to all means of access, including entrances and external refuse stores, providing good visibility when there is no daylight.
12 Walking Surfaces	0	1	2	3	12.1	Every interior and exterior stairway, ramp, deck, porch, balcony walkway, terrace, landing and hall shall be maintained structurally sound, in good repair, properly anchored and capable of supporting the imposed loads.
	0	1	2	3	12.2	Internal and external stairs must be safe, secure, in sound condition, free from defects and projections and well maintained. External stairs must be designed to allow water to drain away from the steps.
	0	1	2	3	12.3	Stair coverings must be securely and safely fastened. Treads on exterior stairways shall have non-slip surfaces, be firmly fixed and cover at least 75% of each tread.
	0	1	2	3	12.4	Every interior and exterior stairway with four or more risers shall have at least one structurally sound continuous handrail installed, between 900mm and 1000mm high, measured from the pitch line to the top of the handrail. The handrail shall be firmly fastened, capable of supporting a load of 140kg and be in good condition.
	0	1	2	3	12.5	Minimum headroom on a staircase shall be 1900mm.
	0	1	2	3	12.6	There shall be landings at the top and bottom of all internal and external flights of stairs, with a minimum width of 750mm and length of 500mm.

Relevant Baseline
Indicators

0

Satisfactory
or N/A

1

Not
Satisfactory

2

Defective

3

Seriously
Defective

Subject	Score				Baseline Indicator
13 Guards	0	1	2	3	13.1 Every stairway, porch, patio, landing, balcony walkway, terrace, landing and hall located more than 600 mm 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 100 mm in diameter. There shall be no climbable cross-pieces.
14 Lighting and Services	0	1	2	3	14.2 Every hall, stairs and landing within the house, and every room used, or intended for use, by the occupant of the house shall have a suitable and adequate means of artificial lighting that is controllable and accessible which can allow lighting to be turned on and off and bulbs/fixtures to be changed and maintained safely. Two-way or PIR-activated lighting shall be provided to any internal staircase.

Other 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		Tread lengths
0	1	2	3		Riser heights
0	1	2	3		Tread and riser variation
0	1	2	3		Nosing length
0	1	2	3		Nosing differentiation
0	1	2	3		Handrails
0	1	2	3		Handrail grip
0	1	2	3		Guarding
0	1	2	3		Flight length
0	1	2	3		Lighting
0	1	2	3		Doors onto stairs

Score					Matters affecting Harm Outcomes
0	1	2	3		Flight length
0	1	2	3		Stair pitch
0	1	2	3		Projections
0	1	2	3		Surface hardness

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
	Example Dwelling 1 in 20
	1 in 30
	1 in 50
Unlikely	1 in 100
	National Average 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 20	

Justification of Scoring
Likelihood of Harm

The external steps from the pavement are narrow, in disrepair, have high and uneven risers and lack adequate handrailing and guarding. They are also on a slope.

The steps to the front door have a smooth surface, lack guarding, and the handrail is loose and of smooth metal. The risers are uneven in height. There is no landing, meaning someone using the front door has to do so from a low step and reach forwards and upwards.

There is a lack of external lighting for either set of external steps.

The internal staircase does not have a handrail along the entire length, but it is not considered worse than average for this age of dwelling.

The three sets of steps/stairs together present an increased likelihood of injury, with the outside steps being affected by disrepair, unevenness, poor lighting, lack of handrails and also adverse weather conditions.

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	65.0
	30.0		30.0		30.0		National Average
	20.0		20.0				73.0
Likely	10.0	Example Dwelling	10.0	Example Dwelling + National Average	20.0	These scores are simply calculated as the sum of the other three harm outcomes subtracted from 100%	
	5.0				10.0		
					5.0		
National Average	2.0	National Average	5.0		2.0		
			2.0				
	1.0				1.0		
	0.5	Unlikely	1.0	Unlikely	1.0		
	0.2		0.5		0.5		
			0.2		0.2		
Very Unlikely	0.1	Very Unlikely	0.1	Very Unlikely	0.1		
	0.0		0.0		0.0		
Score		Score		Score		Score	
5.0%		10.0%		20.0%		65.0%	

Justification of Scoring

Harm Outcomes

The projecting radiator to the main flight of stairs and glazed door at the foot of the stairs would give rise to a higher chance of severe harm such as a major fracture. The hard surfaces surrounding the external steps and the slope of the ground also increase the likelihood of serious injuries, particularly in cold weather or at night.

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 20

Extreme 5.0%	Severe 10.0%	Serious 20.0%	Moderate 65.0%
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Category	Band	Score
1 Legal duty to take action	High	10,000
Example Dwelling		3,333
2 Discretion to take action	Medium	1,000
National Average		159
	Low	100

Score
3,333

Scenario 2

After works meeting baseline indicators

Likelihood of Harm
1 in 200

Extreme	Severe	Serious	Moderate
2.0%	10.0%	20.0%	68.0%

Category	Band	Score
1 Legal duty to take action	High	10,000
2 Discretion to take action	Medium	1,000
Example		183
National Average	Low	159
		100

Score

183

Scenario 3

After further improvements

Likelihood of Harm
1 in 200

Extreme	Severe	Serious	Moderate
2.0%	5.0%	20.0%	73.0%

Category	Band	Score
1 Legal duty to take action	High	10,000
2 Discretion to take action	Medium	1,000
Example Dwelling+		159
National Average	Low	100

Score

159

Justification of Scoring

After works meeting baseline indicators

Baseline indicators would see the steps made even, the front doorsteps rebuilt, with a landing, guarding and handrailing provided. All steps would be in good repair with non-slip surfaces applied. External lighting would also be required.

Justification of Scoring

After further improvements

Further works would involve replacing the glazed area in the front door with safety glass, or completely remove glazing. An alternative location should be identified for the projecting radiator. The handrail to the garden-gate steps should also be replaced (This would not be required under BIs as there are fewer than four steps). This would reduce the harm outcomes to the national average.

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.