



Housing Health and  
Safety Rating System  
(HHSRS)

Case Studies

Group B  
Physiological  
Requirements

Hazard B9  
Excess Cold

Example B9.7  
Pre-1920  
Terraced House  
(Non-HMO)

Vulnerable Group  
All persons aged  
65 years and over

Multiple Locations  
Yes

Related Hazard B11  
Damp and  
Mould Growth



# Dwelling

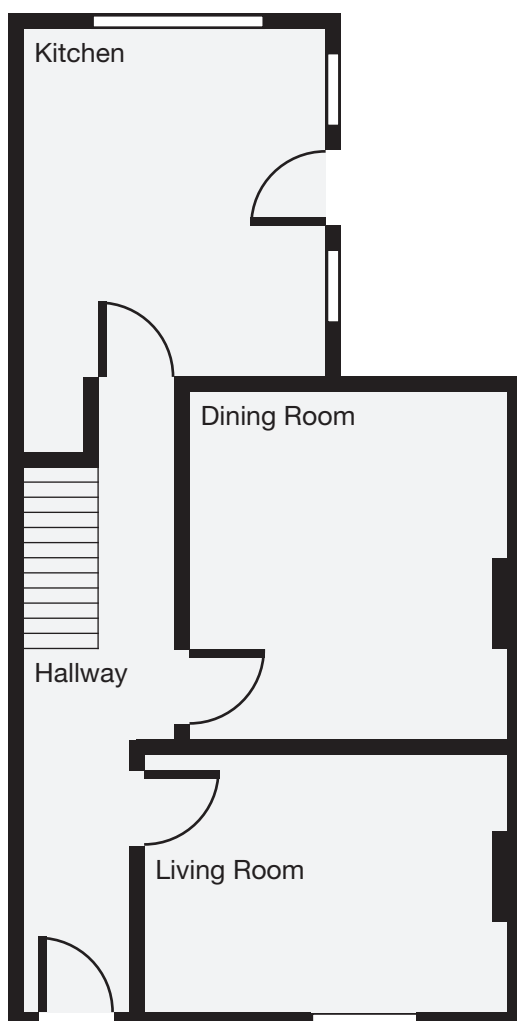
## Description of Dwelling

This is a traditionally constructed house of pennant stone walls under a clay tiled roof, located in a conservation area. It is currently rented out to a family and is in a good state of repair and free of any significant dampness. There is mechanical extract ventilation to the bathroom and kitchen. The property comprises two reception rooms, a dining kitchen on the ground floor and three bedrooms and a bathroom on the first floor. The property is in an urban area and is east facing.

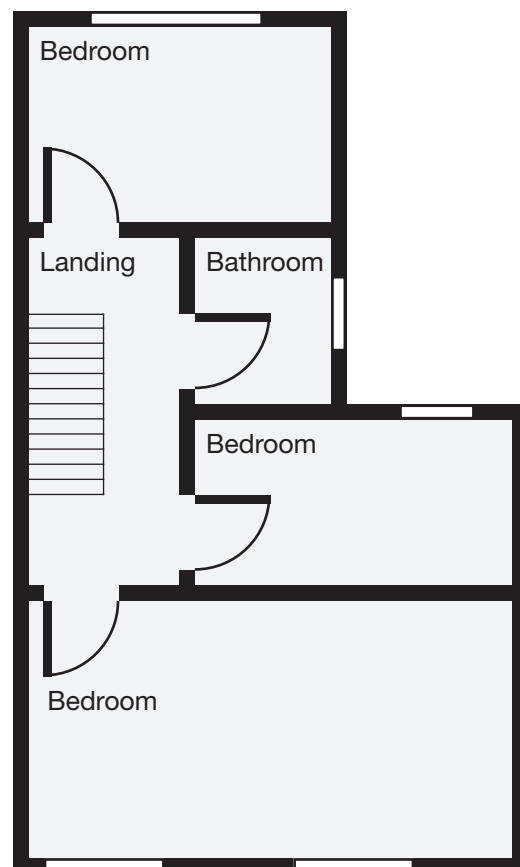
The EPC rating just attains an E at 39 points, and the electrical installation is satisfactory.



1  
Front view of property  
Photo: Alena Veasey  
Shutterstock.com



2  
Ground Floor Plan



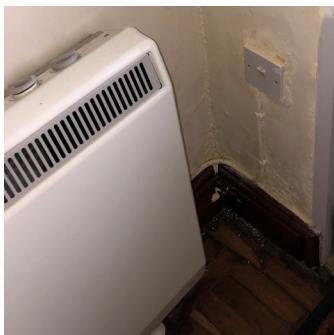
3  
First Floor Plan

# Deficiencies

## Description of Deficiencies

Heating is provided to all rooms, including the kitchen and ground-floor hallway, by electric night storage heating run off an economy tariff. The storage heaters are around 45–50 years old and in good working order but do not have an additional ‘convector boost’ (dual heat facility), time clocks or room thermostats. The current occupant has identified that they produce little heat in the evenings and none at night, even if they are set to low output during the day.

All windows are single glazed (the majority are double-hung, sliding sashes) but are in good repair and not excessively draughty. The loft space is insulated with 200 mm of glass fibre quilt.



4  
Storage heater in ground  
floor hallway



5  
Storage heater in front  
bedroom

## Relevant Baseline Indicators

0

Satisfactory  
or N/A

1

Not  
Satisfactory

2

Defective

3

Seriously  
Defective

Subject	Score	BI	Baseline Indicator
4 Sanitary Facilities: Bathroom	0 1 2 3	4.8	Ventilation for the bathroom must be provided by mechanical extraction that is ducted to the outside of the building, in line with Baseline Indicator 16.1.
5 Sanitary Facilities: Kitchen	0 1 2 3	5.6	Suitable facilities for the effective and safe removal of fumes and moisture-laden air to the external air by means of a cooker hood or extractor fan; a cooker hood that only recycles the odour through an active carbon filter would not be acceptable, it must vent to outside. A mechanical extractor would be the normal mechanism for this function, in line with Baseline Indicator 16.1.
14 Lighting and Services	0 1 2 3	14.4	All electrical installations, including fixtures and fittings, must be maintained in good repair.
	0 1 2 3	14.5	Gas appliances and flues provided for occupants are safe for continued use.
15 Heating and Insulation	0 1 2 3	15.1	Structural thermal insulation shall be provided to minimise heat loss. Where there is a loft space, insulation shall be provided as detailed: a minimum 250mm of loft insulation (assumed to be mineral wool or similar).
	0 1 2 3	15.3	If the walls are of cavity wall construction, they must be insulated unless professional examination confirms to do so is technically unfeasible, due to either their condition or location in terms of wind-driven rain, or the width of the cavity being less than 40mm.
	0 1 2 3	15.4	Every dwelling shall have a properly installed heating system in good and safe working condition that is capable of safely and adequately heating all habitable rooms, bathrooms and WC rooms. The system must be capable of heating the main living area to 21°C and the remaining habitable rooms to a temperature of 18°C when the external temperature is minus 1°C, and the system should not allow the temperature to exceed 25°C in any room during the heating season.
	0 1 2 3	15.5	Heating and hot water must be capable of being controlled effectively and timed to operate by the occupiers.

Relevant Baseline Indicators  
(continued)

0

Satisfactory  
or N/A

1

Not  
Satisfactory

2

Defective

3

Seriously  
Defective

Subject	Score	BI	Baseline Indicator
16 Ventilation	0 1 2 3	16.1	The air exhausted from a bathroom, WC room, kitchen, clothes dryer or basement must be provided by mechanical ventilation or by a correctly designed and installed natural ventilation system, as required by Part F of the Building Regulations. In addition, it shall not be vented into any other parts of the building's habitable space or an attic; such air shall discharge directly to the outdoors but not near any intake on the building exterior.
	0 1 2 3	16.4	All means of ventilation shall be maintained in good repair and working order.
17 Moisture and Contaminant Control	0 1 2 3	17.3	No single room in any of the property shall have an observable level of damp or mould growth or deterioration of internal finishes that exceeds 5% of the wall and/or ceiling surface.

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	Thermostatic radiator valves
0	1	2	3	Insulation settling
0	1	2	3	Ventilation quantity
0	1	2	3	Ventilation control
0	1	2	3	Draught proofing

Score

Matters affecting  
Harm Outcomes

0	1	2	3	Thermostatic radiator valves
0	1	2	3	Insulation settling
0	1	2	3	Ventilation quantity
0	1	2	3	Ventilation control
0	1	2	3	Draught proofing

# 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
		1 in 30
	Example Dwelling	1 in 50
Unlikely		1 in 100
		1 in 200
		1 in 300
		1 in 500
Very Unlikely	National Average	1 in 1,000
		1 in 2,000
		1 in 3,000
		1 in 5,000

Score

1 in 50

Justification of Scoring

Likelihood of Harm

The old storage heaters lack sufficient controls to adequately manage heating of the property. The large single-glazed windows and solid walls are likely to result in significant heat loss. Given the inability to keep the property warm during cold winter weather, particularly in the evenings and overnight, combined with lack of heating controls and considerable heat loss, persons aged 65 years or older will be placed at increased risk of cardiovascular or respiratory disease. These factors therefore justify the likelihood of harm being significantly higher than the average for this age of property.

# 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	<div>Example Dwelling45.0</div> <div>National Average45.0</div> <div>These scores are simply calculated as the sum of the other three harm outcomes subtracted from 100%</div>		
Example Dwelling + National Average	30.0		30.0		30.0			
	20.0		20.0	Example Dwelling + National Average	20.0			
	Likely	10.0	Likely		10.0			10.0
5.0		Example Dwelling + National Average	5.0		5.0			
2.0					2.0			
Unlikely	1.0	Unlikely	1.0	Unlikely	1.0			
	0.5		0.5		0.5			
	0.2		0.2		0.2			
Very Unlikely	0.1	Very Unlikely	0.1	Very Unlikely	0.1			
	0.0		0.0		0.0			
Score30.0%		Score5.0%		Score20.0%		Score45.0%		

**Justification of Scoring**  
Harm Outcomes

There is no reason to think the spread of harm outcomes will be any different from the national average, which is the same for all ages and types of property.



# 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 50			Extreme 30.0%	Severe 5.0%	Serious 20.0%	Moderate 45.0%
Category	Band	Score				
1 Legal duty to take action	High	10,000				
	Example Dwelling	6,229				
2 Discretion to take action	Medium	1,000				
	National Average	311				
	Low	100				

Score  
6,229

Scenario 2

After works meeting baseline indicators

Likelihood of Harm

1 in 1,000

Extreme  
30.0%

Severe  
5.0%

Serious  
20.0%

Moderate  
45.0%

Category	Band	Score
1 Legal duty to take action	High	10,000
2 Discretion to take action	Medium	1,000
Example Dwelling + National Average		311
	Low	100

Score

311

Justification of Scoring

After works meeting baseline indicators

Additional loft insulation required by BI 15.1 together with a controllable system capable of heating the property to the required temperatures required by BI 15.5 will return the likelihood of harm to the national average.

Scenario 3

After further improvements

Likelihood of Harm

1 in 2,000

Extreme  
30.0%

Severe  
5.0%

Serious  
20.0%

Moderate  
45.0%

Category	Band	Score
1 Legal duty to take action	High	10,000
2 Discretion to take action	Medium	1,000
Average		311
Example Dwelling	Low	156

Score

156

Justification of Scoring

After further improvements

Given the large glazed areas in comparison to the exposed stone walls in the main part of the house, it seems likely that double or secondary glazing (subject to conservation area approval) will have a significant effect. This, combined with wall insulation (likely to be fitted internally to the front of the dwelling, along with either internal or external insulation to the rear of the dwelling (subject to conservation area requirements)) would ensure the property scores better than the national average for its age category.

## Other Relevant Legislation and Guidance

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### Building/area status

The assessment of risk and the calculation of the hazard rating score should be unaffected by a property being a listed building or located in a conservation area. However, advice is likely to be needed from the conservation officer within the local authority planning team as to whether planning permission/listed building consent is needed for certain works. All external works are likely to need planning permission in a conservation area. A listed building is likely to need consent for any works that alter the character of the building, which may include internal works where there are specific characteristics. The listed building/conservation area status has to be taken into account when determining the most appropriate course of enforcement action and what reasonably practicable improvements can be made to the property, whilst retaining its character and appearance.

### Minimum Energy Efficiency Standard

The Energy Efficiency (Private Rented Property) (England and Wales) Regulations 2015 (often referred to as the Minimum Energy Efficiency standards/MEES) set a minimum energy efficiency level for domestic private rented properties. Since 1 April 2020, property owners can no longer let or continue to let properties covered by the MEES Regulations if they have an EPC rating below E unless they have a valid exemption in place. The Government has since proposed that all rental properties will need an EPC rating of 'C' or above in the future (which remains a proposal at the time of writing), and it will be in a property owner's interest to consider this when making decisions around conducting works, as it may be more economically efficient to improve a property straight to Band C rather than carrying out graduated works over a period of time.

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### 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.