

COMPLETE HEAT LOSS REPORT

Demo House Project

PROJECT INFORMATION

Address	No address set	Created	12 Aug 2026
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KEY METRICS

TOTAL AREA 130.38 m²	HEATING DEMAND 10.22 kW	AVG U-VALUE 0.359 W/m²K	ROOMS 8
VOLUME 435.67 m³	DEMAND/M2 78 W/m²	HEAT LOSS RATE 357.2 W/K	RADIATOR COVERAGE 48%

PERFORMANCE SUMMARY

Thermal efficiency	Good	GOOD
System sizing	Under-sized	CHECK
Heat loss rate	357.2 W/K	FAIR
Radiator coverage	48%	CHECK

DESIGN CRITERIA

Outdoor design temperature	-15.0°C	Ground temperature	10.0°C
Unheated space temperature	14.0°C	Average target room temperature	20.1°C

FLOOR SUMMARY

FLOOR	ROOMS	FLOOR AREA	HEATING DEMAND	DEMAND/M²
Floor 2	3	47.10 m²	3.37 kW	71 W/m²
Floor 1	5	83.28 m²	6.86 kW	82 W/m²

HEATING SYSTEM

Total radiator capacity	4.88 kW	System margin	-52%
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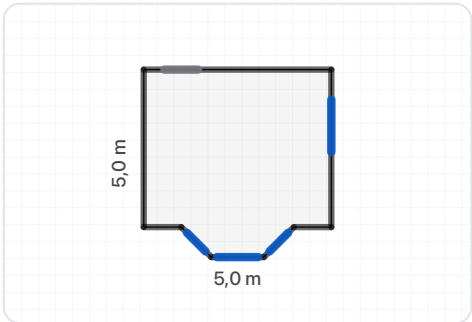
ROOM ANALYSIS

ROOM	AREA	HEATING DEMAND	DEMAND/M²	RADIATOR
Demo Dining Room	22,8 m²	1,8 kW	81 W/m²	Undersized
Demo Guest Room	15,7 m²	1,0 kW	61 W/m²	Undersized
Demo Hallway	8,7 m²	0,6 kW	65 W/m²	Undersized
Demo Bathroom	6,7 m²	0,4 kW	66 W/m²	Adequate
Demo Home Office	12,5 m²	1,1 kW	85 W/m²	Undersized
Demo Kitchen	15,1 m²	1,0 kW	68 W/m²	Undersized
Demo Living Room	29,8 m²	2,8 kW	95 W/m²	Undersized
Demo Master Bedroom	19,2 m²	1,5 kW	78 W/m²	Undersized

ROOM DETAIL

Demo Dining Room FLOOR 2

EMITTER CAPACITY BELOW DEMAND



AREA

22.76 m²

VOLUME

84.44 m³

AVG HEIGHT

3.71 m

TARGET TEMP.

20.5°C

ACH

1.0

HEAT DEMAND

1.84 kW

DEMAND/M2

81 W/m²

RADIATOR POWER

0 W

ENVELOPE ELEMENTS

ELEMENT	DIMENSIONS	AREA	MATERIAL / ASSEMBLY	BOUNDARY	U	W/K
Door 7665	0.90 m x 2.05 m	1.84 m²	Indoor Interior Door	Adjacent Room	0.800 W/m²K	1.5 W/K
Floor B860	5.00 m x 5.00 m plan	22.76 m²	Outdoor Insulated Concrete Floor - Concrete Suspended + 8 cm PU Rigid Foam	Ground	0.283 W/m²K	6.4 W/K
Roof 117F	5.00 m x 5.00 m plan, sloped area	24.22 m²	Outdoor Well Insulated Roof - Wood Joist / Rafter + 20 cm Mineral Wool	External	0.177 W/m²K	4.3 W/K
Wall 07D2	4.20 m x 4.62 m – 1.68 m² openings	17.72 m²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m²K	4.7 W/K
Wall 0D8F	4.20 m x 2.80 m	11.76	Indoor Interior Partition Wall	Adjacent	0.300	3.5

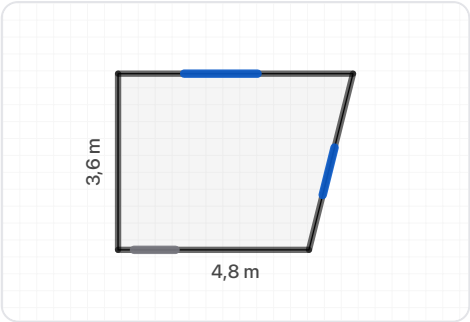
		m ²		Room	W/m ² K	W/K
Wall 153D	1.40 m x 3.71 m – 1.43 m ² openings	3.76 m ²	Outdoor Insulated Exterior Wall – Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	1.0 W/K
Wall 2B25	1.13 m x 3.31 m – 0.91 m ² openings	2.83 m ²	Outdoor Insulated Exterior Wall – Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	0.8 W/K
Wall 3B06	1.00 m x 2.98 m	2.98 m ²	Outdoor Insulated Exterior Wall – Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	0.8 W/K
Wall 4A8E	5.00 m x 3.71 m – 1.84 m ² openings	16.70 m ²	Indoor Interior Partition Wall	Adjacent Room	0.300 W/m ² K	5.0 W/K
Wall BFD7	1.00 m x 4.44 m	4.44 m ²	Outdoor Insulated Exterior Wall – Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	1.2 W/K
Wall DFAA	1.13 m x 4.11 m – 0.91 m ² openings	3.74 m ²	Outdoor Insulated Exterior Wall – Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	1.0 W/K
Window 25D0	1.40 m x 1.20 m	1.68 m ²	Outdoor Double Glazed Window	External	1.500 W/m ² K	2.5 W/K
Window 6010	0.70 m x 1.30 m	0.91 m ²	Outdoor Double Glazed Window	External	1.500 W/m ² K	1.4 W/K
Window C9D8	0.70 m x 1.30 m	0.91 m ²	Outdoor Double Glazed Window	External	1.500 W/m ² K	1.4 W/K
Window CCE3	1.10 m x 1.30 m	1.43 m ²	Outdoor Double Glazed Window	External	1.500 W/m ² K	2.1 W/K

HEATING EMITTERS

No radiators or underfloor emitters are assigned to this room.

Demo Guest Room FLOOR 2

EMITTER CAPACITY BELOW DEMAND



AREA

15.66 m²

VOLUME

42.28 m³

AVG HEIGHT

2.70 m

TARGET TEMP.

19.0°C

ACH

1.0

HEAT DEMAND

0.96 kW

DEMAND/M2

61 W/m²

RADIATOR POWER

0 W

ENVELOPE ELEMENTS

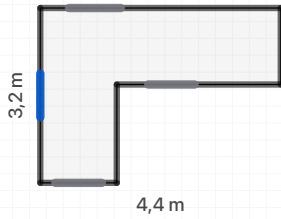
ELEMENT	DIMENSIONS	AREA	MATERIAL / ASSEMBLY	BOUNDARY	U	W/K
Door 4A85	0.85 m x 2.05 m	1.74 m²	Indoor Interior Door	Adjacent Room	0.800 W/m²K	1.4 W/K
Floor 7534	4.80 m x 3.60 m plan	15.66 m²	Outdoor Insulated Concrete Floor - Concrete Suspended + 8 cm PU Rigid Foam	Ground	0.283 W/m²K	4.4 W/K
Roof 8725	4.80 m x 3.60 m plan	15.66 m²	Outdoor Well Insulated Roof - Wood Joist / Rafter + 20 cm Mineral Wool	External	0.177 W/m²K	2.8 W/K
Wall 00EE	3.90 m x 2.70 m – 1.74 m² openings	8.79 m²	Indoor Interior Partition Wall	Adjacent Room	0.300 W/m²K	2.6 W/K
Wall 6A6C	3.60 m x 2.70 m	9.72 m²	Indoor Interior Partition Wall	Adjacent Room	0.300 W/m²K	2.9 W/K
Wall 7C7E	3.71 m x 2.70 m – 1.10 m² openings	8.92 m²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m²K	2.4 W/K
Wall CF25	4.80 m x 2.70 m – 1.80 m² openings	11.16 m²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m²K	3.0 W/K
Window 47E1	1.50 m x 1.20 m	1.80 m²	Outdoor Double Glazed Window	External	1.500 W/m²K	2.7 W/K
Window 57C9	1.00 m x 1.10 m	1.10 m²	Outdoor Double Glazed Window	External	1.500 W/m²K	1.7 W/K

HEATING EMITTERS

No radiators or underfloor emitters are assigned to this room.

Demo Hallway FLOOR 2

EMITTER CAPACITY BELOW DEMAND



AREA

8.68 m²

VOLUME

22.57 m³

AVG HEIGHT

2.60 m

TARGET TEMP.

18.0°C

ACH

1.0

HEAT DEMAND

0.56 kW

DEMAND/M2

65 W/m²

RADIATOR POWER

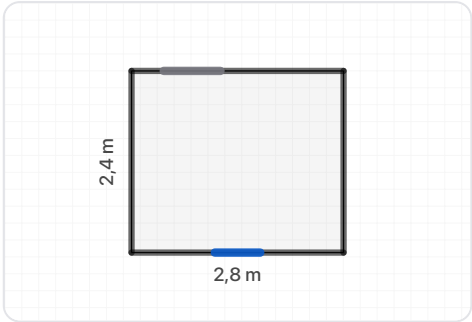
0 W

ENVELOPE ELEMENTS

ELEMENT	DIMENSIONS	AREA	MATERIAL / ASSEMBLY	BOUNDARY	U	W/K
Door 1508	0.85 m x 2.05 m	1.74 m ²	Indoor Interior Door	Adjacent Room	0.800 W/m ² K	1.4 W/K
Door 6D6A	0.85 m x 2.05 m	1.74 m ²	Indoor Interior Door	Adjacent Room	0.800 W/m ² K	1.4 W/K
Door BE62	0.95 m x 2.10 m	1.99 m ²	Outdoor Insulated Entrance Door	External	0.800 W/m ² K	1.6 W/K
Floor 195D	4.40 m x 3.20 m plan	8.68 m ²	Outdoor Insulated Concrete Floor - Concrete Suspended + 8 cm PU Rigid Foam	Ground	0.283 W/m ² K	2.5 W/K
Roof 61E0	4.40 m x 3.20 m plan	8.68 m ²	Outdoor Well Insulated Roof - Wood Joist / Rafter + 20 cm Mineral Wool	External	0.177 W/m ² K	1.5 W/K
Wall 11D5	1.40 m x 2.60 m – 1.74 m ² openings	1.90 m ²	Indoor Interior Partition Wall	Adjacent Room	0.300 W/m ² K	0.6 W/K
Wall 1861	4.40 m x 2.60 m – 1.99 m ² openings	9.44 m ²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	2.5 W/K
Wall 644A	1.80 m x 2.60 m	4.68 m ²	Indoor Interior Partition Wall	Adjacent Room	0.300 W/m ² K	1.4 W/K
Wall 8002	1.40 m x 2.60 m	3.64 m ²	Indoor Interior Partition Wall	Adjacent Room	0.300 W/m ² K	1.1 W/K
Wall C4D3	3.00 m x 2.60 m – 1.74 m ² openings	6.06 m ²	Indoor Interior Partition Wall	Adjacent Room	0.300 W/m ² K	1.8 W/K
Wall CA74	3.20 m x 2.60 m – 0.48 m ² openings	7.84 m ²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	2.1 W/K
Window 9D57	0.80 m x 0.60 m	0.48 m ²	Outdoor Double Glazed Window	External	1.500 W/m ² K	0.7 W/K

HEATING EMITTERS

No radiators or underfloor emitters are assigned to this room.



AREA

6.72 m²

VOLUME

17.47 m³

AVG HEIGHT

2.60 m

TARGET TEMP.

22.0°C

ACH

1.0

HEAT DEMAND

0.44 kW

DEMAND/M2

66 W/m²

RADIATOR POWER

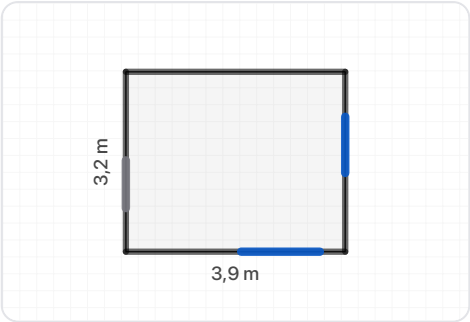
480 W

ENVELOPE ELEMENTS

ELEMENT	DIMENSIONS	AREA	MATERIAL / ASSEMBLY	BOUNDARY	U	W/K
Door 6E67	0.75 m x 2.00 m	1.50 m ²	Indoor Interior Door	Adjacent Room	0.800 W/m ² K	1.2 W/K
Floor CE53	2.80 m x 2.40 m plan	6.72 m ²	Outdoor Insulated Concrete Floor - Concrete Suspended + 8 cm PU Rigid Foam	Ground	0.283 W/m ² K	1.9 W/K
Roof 8C23	2.80 m x 2.40 m plan	6.72 m ²	Outdoor Well Insulated Roof - Wood Joist / Rafter + 20 cm Mineral Wool	External	0.177 W/m ² K	1.2 W/K
Wall 0C82	2.40 m x 2.60 m	6.24 m ²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	1.7 W/K
Wall B797	2.80 m x 2.60 m – 0.36 m ² openings	6.92 m ²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	1.8 W/K
Wall BA25	2.40 m x 2.60 m	6.24 m ²	Indoor Interior Partition Wall	Adjacent Room	0.300 W/m ² K	1.9 W/K
Wall E125	2.80 m x 2.60 m – 1.50 m ² openings	5.78 m ²	Indoor Interior Partition Wall	Adjacent Room	0.300 W/m ² K	1.7 W/K
Window 3C91	0.60 m x 0.60 m	0.36 m ²	Outdoor Double Glazed Window	External	1.500 W/m ² K	0.5 W/K

HEATING EMITTERS

EMITTER	DIMENSIONS	AREA	POWER	COVERAGE	STATUS
Underfloor	2.40 m x 2.00 m	4.80 m ²	480 W	108%	Enabled



AREA

12.48 m²

VOLUME

40.67 m³

AVG HEIGHT

3.26 m

TARGET TEMP.

20.0°C

ACH

1.0

HEAT DEMAND

1.06 kW

DEMAND/M2

85 W/m²

RADIATOR POWER

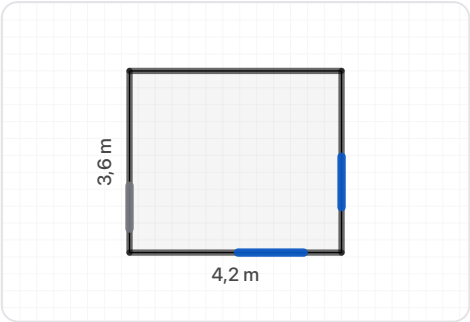
0 W

ENVELOPE ELEMENTS

ELEMENT	DIMENSIONS	AREA	MATERIAL / ASSEMBLY	BOUNDARY	U	W/K
Door 1FFF	0.85 m x 2.05 m	1.74 m ²	Indoor Interior Door	Adjacent Room	0.800 W/m ² K	1.4 W/K
Floor 9154	3.90 m x 3.20 m plan	12.48 m ²	Outdoor Insulated Concrete Floor - Concrete Suspended + 8 cm PU Rigid Foam	Ground	0.283 W/m ² K	3.5 W/K
Roof 7D6A	3.90 m x 3.20 m plan, sloped area	12.98 m ²	Outdoor Well Insulated Roof - Wood Joist / Rafter + 20 cm Mineral Wool	External	0.177 W/m ² K	2.3 W/K
Wall 2E0A	3.90 m x 3.26 m – 1.54 m ² openings	11.17 m ²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	3.0 W/K
Wall 7575	3.20 m x 2.70 m – 1.74 m ² openings	6.90 m ²	Indoor Interior Partition Wall	Adjacent Room	0.300 W/m ² K	2.1 W/K
Wall 812E	3.20 m x 3.82 m – 1.00 m ² openings	11.22 m ²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	3.0 W/K
Wall CAA7	3.90 m x 3.26 m	12.71 m ²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	3.4 W/K
Window 2585	1.40 m x 1.10 m	1.54 m ²	Outdoor Double Glazed Window	External	1.500 W/m ² K	2.3 W/K
Window 4A90	1.00 m x 1.00 m	1.00 m ²	Outdoor Double Glazed Window	External	1.500 W/m ² K	1.5 W/K

HEATING EMITTERS

No radiators or underfloor emitters are assigned to this room.



AREA

15.12 m²

VOLUME

40.82 m³

AVG HEIGHT

2.70 m

TARGET TEMP.

20.0°C

ACH

1.0

HEAT DEMAND

1.03 kW

DEMAND/M2

68 W/m²

RADIATOR POWER

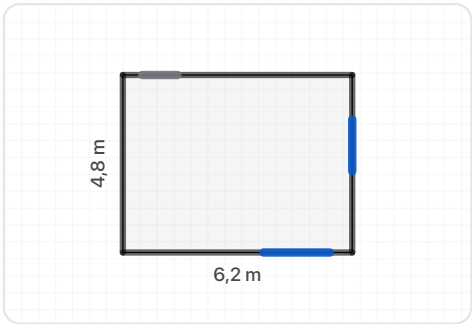
900 W

ENVELOPE ELEMENTS

ELEMENT	DIMENSIONS	AREA	MATERIAL / ASSEMBLY	BOUNDARY	U	W/K
Door E5DA	0.85 m x 2.05 m	1.74 m ²	Indoor Interior Door	Adjacent Room	0.800 W/m ² K	1.4 W/K
Floor 872D	4.20 m x 3.60 m plan	15.12 m ²	Outdoor Insulated Concrete Floor - Concrete Suspended + 8 cm PU Rigid Foam	Ground	0.283 W/m ² K	4.3 W/K
Roof 7FD4	4.20 m x 3.60 m plan	15.12 m ²	Outdoor Well Insulated Roof - Wood Joist / Rafter + 20 cm Mineral Wool	External	0.177 W/m ² K	2.7 W/K
Wall 0E82	4.20 m x 2.70 m	11.34 m ²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	3.0 W/K
Wall 3CF9	4.20 m x 2.70 m – 1.43 m ² openings	9.91 m ²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	2.6 W/K
Wall 5452	3.60 m x 2.70 m – 1.00 m ² openings	8.72 m ²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	2.3 W/K
Wall 8AA7	3.60 m x 2.70 m – 1.74 m ² openings	7.98 m ²	Indoor Interior Partition Wall	Adjacent Room	0.300 W/m ² K	2.4 W/K
Window 06E6	1.00 m x 1.00 m	1.00 m ²	Outdoor Double Glazed Window	External	1.500 W/m ² K	1.5 W/K
Window EDC9	1.30 m x 1.10 m	1.43 m ²	Outdoor Double Glazed Window	External	1.500 W/m ² K	2.1 W/K

HEATING EMITTERS

EMITTER	DIMENSIONS	AREA	POWER	COVERAGE	STATUS
Type 21	1.00 m x 0.50 m	0.50 m ²	900 W	87%	Enabled



AREA

29.76 m²

VOLUME

120.60 m³

AVG HEIGHT

4.05 m

TARGET TEMP.

21.0°C

ACH

1.0

HEAT DEMAND

2.82 kW

DEMAND/M2

95 W/m²

RADIATOR POWER

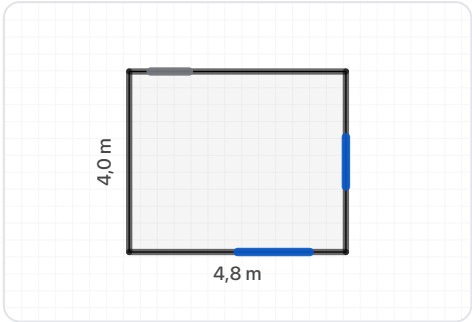
2640 W

ENVELOPE ELEMENTS

ELEMENT	DIMENSIONS	AREA	MATERIAL / ASSEMBLY	BOUNDARY	U	W/K
Door E862	0.95 m x 2.10 m	1.99 m²	Outdoor Insulated Entrance Door	External	0.800 W/m²K	1.6 W/K
Floor 348D	6.20 m x 4.80 m plan	29.76 m²	Outdoor Insulated Concrete Floor - Concrete Suspended + 8 cm PU Rigid Foam	Ground	0.283 W/m²K	8.4 W/K
Roof 7F40	6.20 m x 4.80 m plan, sloped area	32.10 m²	Outdoor Well Insulated Roof - Wood Joist / Rafter + 20 cm Mineral Wool	External	0.177 W/m²K	5.7 W/K
Wall 9796	6.20 m x 4.05 m – 1.99 m² openings	23.13 m²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m²K	6.2 W/K
Wall B148	4.80 m x 5.30 m – 1.68 m² openings	23.78 m²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m²K	6.3 W/K
Wall C70A	4.80 m x 2.80 m	13.44 m²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m²K	3.6 W/K
Wall F763	6.20 m x 4.05 m – 2.25 m² openings	22.88 m²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m²K	6.1 W/K
Window 3A5C	1.80 m x 1.25 m	2.25 m²	Outdoor Double Glazed Window	External	1.500 W/m²K	3.4 W/K
Window D296	1.40 m x 1.20 m	1.68 m²	Outdoor Double Glazed Window	External	1.500 W/m²K	2.5 W/K

HEATING EMITTERS

EMITTER	DIMENSIONS	AREA	POWER	COVERAGE	STATUS
Type 22	1.20 m x 0.60 m	0.72 m²	1584 W	56%	Enabled
Type 22	0.80 m x 0.60 m	0.48 m²	1056 W	37%	Enabled



AREA

19.20 m²

VOLUME

66.81 m³

AVG HEIGHT

3.48 m

TARGET TEMP.

19.5°C

ACH

1.0

HEAT DEMAND

1.50 kW

DEMAND/M2

78 W/m²

RADIATOR POWER

858 W

ENVELOPE ELEMENTS

ELEMENT	DIMENSIONS	AREA	MATERIAL / ASSEMBLY	BOUNDARY	U	W/K
Door BB9B	0.85 m x 2.05 m	1.74 m ²	Indoor Interior Door	Adjacent Room	0.800 W/m ² K	1.4 W/K
Floor B415	4.80 m x 4.00 m plan	19.20 m ²	Outdoor Insulated Concrete Floor - Concrete Suspended + 8 cm PU Rigid Foam	Ground	0.283 W/m ² K	5.4 W/K
Roof A154	4.80 m x 4.00 m plan, sloped area	20.19 m ²	Outdoor Well Insulated Roof - Wood Joist / Rafter + 20 cm Mineral Wool	External	0.177 W/m ² K	3.6 W/K
Wall 4E93	4.80 m x 3.48 m – 1.74 m ² openings	14.96 m ²	Indoor Interior Partition Wall	Adjacent Room	0.300 W/m ² K	4.5 W/K
Wall 50EB	4.00 m x 4.26 m – 1.21 m ² openings	15.83 m ²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	4.2 W/K
Wall 5130	4.80 m x 3.48 m – 1.92 m ² openings	14.78 m ²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	3.9 W/K
Wall 5B0E	4.00 m x 2.70 m	10.80 m ²	Outdoor Insulated Exterior Wall - Hollow Brick (200 mm) + 12 cm Mineral Wool	External	0.267 W/m ² K	2.9 W/K
Window 33AB	1.10 m x 1.10 m	1.21 m ²	Outdoor Double Glazed Window	External	1.500 W/m ² K	1.8 W/K
Window 8E6D	1.60 m x 1.20 m	1.92 m ²	Outdoor Double Glazed Window	External	1.500 W/m ² K	2.9 W/K

HEATING EMITTERS

EMITTER	DIMENSIONS	AREA	POWER	COVERAGE	STATUS
Type 11	1.10 m x 0.60 m	0.66 m ²	858 W	57%	Enabled

MATERIAL ASSEMBLIES USED

MATERIAL	TYPE	ASSEMBLY	U-VALUE	RATING
Indoor Interior Door	Door	Single layer	0.800 W/m ² K	Excellent

Indoor Interior Partition Wall	Wall	Single layer	0.300 W/m²K	Good
Outdoor Double Glazed Window	Window	Single layer	1.500 W/m²K	Moderate
Outdoor Insulated Concrete Floor	Floor	Concrete Suspended + 8 cm PU Rigid Foam	0.283 W/m²K	Good
Outdoor Insulated Entrance Door	Door	Single layer	0.800 W/m²K	Excellent
Outdoor Insulated Exterior Wall	Wall	Hollow Brick (200 mm) + 12 cm Mineral Wool	0.267 W/m²K	Good
Outdoor Well Insulated Roof	Roof	Wood Joist / Rafter + 20 cm Mineral Wool	0.177 W/m²K	Excellent

RECOMMENDATIONS

- 1

Optimize Radiator Sizing

7 rooms have insufficient radiator capacity. Add or upgrade radiators to ensure adequate heating.

Medium priority - Heating - Improved comfort and efficiency