



Heat Loss Report

For the property at :

ABBAY GARDENS - PLOT 2
LADY LANE
BLUNDSDON
SWINDON
WILTSHIRE
SN25 2DW

Dated
14 July 2023

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1. Introduction

This report details the heat loss for a proposed dwelling in SN25 2DW; Better Planet recommends that the client confirms all the assumptions listed below as Better Planet accepts no liability for the accuracy of this information.

2. Basic Principles

Location: ABBEY GARDENS - PLOT 2
 LADY LANE
 BLUNSDON
 SWINDON
 WILTSHIRE
 SN25 2DW

Design Temperatures: -2.8 °C External temperature

Internal Temperature: Variable (see table)

Exposed Location: NO

Intermittently Heated: NO

Thermal Bridges: Insulated

Ground Floor: Suspended Ground Floor NOT in contact with the soil.

Comments / Assumptions

- New Build Detached House Third Story Room In Roof
- Building Regulations 2021 Edition dated 15 June 2022 Notional Values for New Build Used throughout
- All Rooms Heated to 21°C. All Bathrooms/En-Suites heated to 22°C
- No central MVHR system
- 5 Bathrooms/En-Suites and 1 W/C
- Assume Third ceilings are sloping/flat. Assume Suspended Block & Beam Floor
- Open Fireplace in Living Room adds 1kW to Heat Loss

3. Construction Specification

U-Value Wm ² K	Area Details / Notes
EXTERNAL WALL	
0.18	EXTERNAL WALLS (100MM CELOTEX OR EQUIVALENT) AS PER CURRENT BUILDING REGULATIONS 2021 EDITION NEW BUILD
INTERNAL WALL	
0.35	ASSUME INSULATED
FLOOR	
0.13	GROUND FLOOR SOLID OR SUSPENDED BLOCK & BEAM (120MM CELOTEX OR EQUIVALENT) AS PER CURRENT BUILDING REGULATIONS 2021 EDITION NEW BUILD
0.33	INTERNAL FLOORS EXPOSED UNDERSIDE - - ASSUME INSULATED
ROOF	
0.11	ROOF INSULATION FLAT/LOFT OR SLOPING (200MM CELOTEX OR EQUIVALENT) AS PER CURRENT BUILDING REGULATIONS 2021 EDITION NEW BUILD
0.32	INTERMEDIATE CEILING - - ASSUME INSULATED
WINDOWS & DOORS	
1.20	DOUBLE GLAZED WINDOWS AS PER BUILDING REGULATIONS 2021 EDITION NEW BUILD
1.00	EXTERNAL DOORS (SEMI GLAZED OR UNGLAZED) AS PER BUILDING REGULATIONS 2021 EDITION NEW BUILD

4. Heat Losses

Room By Room Analysis					Outside Design Temperature	-2.8 °C
Room name	Room Ref	Room Temp [°C]	Peak heat load [W]	Energy Heat Losses [kWh]	Room area [m ²]	Spec. peak heat load [W/m ²]
KITCHEN / BREAKFAST	G01	21	1087	2659	28	39
UTILITY	G02	21	175	429	6	29
DINING ROOM	G03	21	321	783	15	22
HALL & STAIRS	G04	21	165	401	8	20
W/C	G05	21	55	133	2	28
LOUNGE	G06	21	1471	3595	19	77
BEDROOM 01 FRONT RIGHT	F01	21	391	956	21	18
EN-SUITE TO BEDROOM 01	F02	22	235	546	6	37
BEDROOM 02 REAR LEFT	F03	21	237	583	15	16
EN-SUITE TO BEDROOM 02	F04	22	136	318	4	33
FIRST FLOOR BATHROOM	F05	22	166	389	5	33
BEDROOM 03 FRONT LEFT	F06	21	222	545	12	18
FIRST FLOOR LANDING & STAIRS	F07	21	162	398	13	13
BEDROOM 04 FRONT LEFT	S01	21	305	800	20	15
EN-SUITE TO BEDROOM 04	S02	22	291	716	8	37
BEDROOM 05 FRONT RIGHT	S03	21	209	550	14	15
EN-SUITE TO BEDROOM 05	S04	22	211	517	6	34
SECOND FLOOR LANDING & STAIRS	S05	21	72	200	8	9

		210 m²
		14,518 kWh
Total Heat Load	5,911 W	
	28 W/m²	

Total power heat losses 5.91 kW

- Design room temperatures comply with BS EN12831-1:2017
- For calculations of ventilation and fabric heat losses the internal volume of the room is calculated
- Dimensions of the building based on drawings provided by client
- Does not allow for intermittent heating
- Area of rooms includes unheated rooms
- W/m² only uses heated rooms for its calculation

5. Heat Emitter Analysis

Room name	Existing Emitters			Emitter Outputs*			
	Type Of Emitter	Design Flow Temp [°C]	Star rating	60°C Flow	55°C Flow	50°C Flow	45°C Flow
				★ [W]	★★ [W]	★★★ [W]	★★★★ [W]
*Outputs show Additional Outputs Required if Existing Radiators are Recorded OR Total Outputs Required if no existing Radiators are Recorded or Modern Underfloor Heating is being installed							
KITCHEN / BREAKFAST	-	-	-	1731	2074	2558	3294
UTILITY	-	-	-	279	334	412	530
DINING ROOM	-	-	-	511	613	755	973
HALL & STAIRS	-	-	-	263	315	388	500
W/C	-	-	-	88	105	129	167
LOUNGE	-	-	-	2342	2807	3461	4458
BEDROOM 01 FRONT RIGHT	-	-	-	623	746	920	1185
EN-SUITE TO BEDROOM 01	-	-	-	374	448	553	712
BEDROOM 02 REAR LEFT	-	-	-	377	452	558	718
EN-SUITE TO BEDROOM 02	-	-	-	217	260	320	412
FIRST FLOOR BATHROOM	-	-	-	264	317	391	503
BEDROOM 03 FRONT LEFT	-	-	-	354	424	522	673
FIRST FLOOR LANDING & STAIRS	-	-	-	258	309	381	491
BEDROOM 04 FRONT LEFT	-	-	-	486	582	718	924
EN-SUITE TO BEDROOM 04	-	-	-	463	555	685	882
BEDROOM 05 FRONT RIGHT	-	-	-	333	399	492	633
EN-SUITE TO BEDROOM 05	-	-	-	336	403	496	639
SECOND FLOOR LANDING & STAIRS	-	-	-	115	137	169	218