

Room Material

Walls

Room Name	External Wall	Internal Wall
Bed w/ensuite	Wall (0.61 W)	Building Regs 2022 Limit (0.26 W)
Ensuite	Wall (0.61 W)	Building Regs 2022 Limit (0.26 W)
W/C	Wall (0.61 W)	Building Regs 2022 Limit (0.26 W)
Kitchen/Dining	Wall (0.61 W)	Building Regs 2022 Limit (0.26 W)
Hall	Wall (0.61 W)	Building Regs 2022 Limit (0.26 W)
Utility		Building Regs 2022 Limit (0.26 W)

Windows & Doors

Room Name	Window	External Door	Internal Door
Bed w/ensuite	Window (1.40 W)		
Ensuite			
W/C			
Kitchen/Dining	Window (1.40 W)	Door (3.00 W)	
Hall		Door (3.00 W)	
Utility			

Floor & Ceiling/Roof

Room Name	Floor	Ceiling/Roof
Bed w/ensuite	Floor (1.20 W)	Roof (0.13 W)

7543.3.1 - Plot 45
Lodge Rd, Caerleon, Newport NP18, UK

Worcester Bosch

Ensuite	Floor (1.20 W)	Roof (0.13 W)
W/C	Floor (1.20 W)	Roof (0.13 W)
Kitchen/Dining	Floor (1.20 W)	Roof (0.13 W)
Hall	Floor (1.20 W)	Roof (0.13 W)
Utility	Floor (1.20 W)	Roof (0.13 W)

Room-by-Room Heat Loss Calculations

Worcester Bosch

Cotswold Way, Warndon, Worcester, WR4 9SW

01905751464

imira.mutkova@uk.bosch.com

Date of Calculation: 24 Apr 2026

Site Address:

7543.3.1 - Plot 45

Lodge Rd, Caerleon, Newport NP18, UK

Heat Loss Per Area: ≥ 75 W/m² < 75 W/m² < 35 W/m²

Name	Design Temp	Air Changes / Hour	Thermal Bridging	Area	Volume	Fabric Heat Loss	Ventilation Heat Loss	Spare Capacity Heat Loss	Total Heat Loss	W/m ²	Annual Energy
Bed w/ensuite	21.0 °C	1.50	0.05	15.01 m ²	45.02 m ³	947.21 W	552.52 W	154.71 W	1701.80 W	113.41 W/m ² 	3719.42 kWh
Ensuite	22.0 °C	1.50	0.05	4.03 m ²	12.09 m ³	214.72 W	154.52 W	38.00 W	417.97 W	103.68 W/m ² 	913.50 kWh
W/C	18.0 °C	1.50	0.05	2.55 m ²	7.65 m ³	82.59 W	82.35 W	16.91 W	185.97 W	72.92 W/m ² 	406.46 kWh
Kitchen/ Dining	21.0 °C	1.50	0.05	28.04 m ²	84.13 m ³	1715.84 W	1032.49 W	283.41 W	3117.53 W	111.17 W/m ² 	6813.60 kWh
Hall	18.0 °C	1.00	0.05	5.36 m ²	16.09 m ³	406.70 W	115.43 W	54.25 W	742.27 W	138.44 W/m ² 	1622.29 kWh
Utility	18.0 °C	2.00	0.05	2.12 m ²	6.37 m ³	39.01 W	91.37 W	13.23 W	145.56 W	68.59 W/m ² 	318.13 kWh
Total/Avg.	NA	NA	NA	57.11 m²	171.34 m³	3406.06 W	2028.69 W	560.50 W	6311.11 W	110.50 W/m²	13793.41 kWh

Worcester Bosch
Cotswold Way, Warndon, Worcester, WR4 9SW



7543.3.1 - Plot 45
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Material Heat Loss

Room Name	External Wall	Internal Wall	Party Wall	Window	External Door	Internal Door	Floor	Ceiling/ Roof
Bed w/ensuite	414.16 W	6.03 W	0.00 W	191.30 W	0.00 W	0.00 W	288.12 W	47.60 W
Ensuite	105.16 W	14.01 W	0.00 W	0.00 W	0.00 W	0.00 W	82.24 W	13.31 W
W/C	35.71 W	0.00 W	0.00 W	0.00 W	0.00 W	0.00 W	39.78 W	7.09 W
Kitchen/Dining	586.14 W	10.43 W	0.00 W	286.94 W	204.96 W	0.00 W	538.41 W	88.95 W
Hall	82.16 W	0.00 W	0.00 W	0.00 W	225.98 W	0.00 W	83.64 W	14.92 W
Utility	0.00 W	0.00 W	0.00 W	0.00 W	0.00 W	0.00 W	33.10 W	5.90 W
Total	1223.33 W	30.47 W	0.00 W	478.24 W	430.94 W	0.00 W	1065.30 W	177.78 W

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Worcester Bosch

Heat Emitter Summary

Worcester Bosch

Cotswold Way, Warndon, Worcester, WR4 9SW

01905751464

imira.mutkova@uk.bosch.com

Site Address:

7543.3.1 - Plot 45

Lodge Rd, Caerleon, Newport NP18, UK

Date of Calculation: 24 Apr 2026

Demand Met: < 50% < 100% ≥ 100%

Room Summary:

Room Name	Design Temperature	Heat Loss	Heat Supplied
Bed w/ensuite	21.0 °C	1702 W	1786 W (104.95%) 
Ensuite	22.0 °C	418 W	274 W (65.52%) 
W/C	18.0 °C	186 W	216 W (116.14%) 
Kitchen/Dining	21.0 °C	3118 W	3144 W (100.85%) 
Hall	18.0 °C	742 W	861 W (115.93%) 
Utility	18.0 °C	146 W	0 W (0.00%) 

Room Summary by Emitter Type:

Room Name	Emitter Type	Design Temperature	Heat Loss	Heat Supplied
Bed w/ensuite	RAD	21.0 °C	1786 W	1786 W (104.95%) 
Ensuite	RAD	22.0 °C	274 W	274 W (65.52%) 
W/C	RAD	18.0 °C	216 W	216 W (116.14%) 
Kitchen/Dining	RAD	21.0 °C	3144 W	3144 W (100.85%) 
Hall	RAD	18.0 °C	861 W	861 W (115.93%) 

Radiators:

Room Name	Design Temp	Heat Loss	Mean Water Temp	Delta T	Emitter Name	Emitter Height	Emitter Width	Emitter Type	Output @ 50°C Delta T	Output @ System Delta T	Flow Rate	Demand Met
Bed w/ensuite	21.0 °C	1702 W	50.0 °C	10.0 °C	Towelrad Windsor 2 Column (White)	600 mm	1180 mm	RAD	444.0 W	555 W	0.01 L/s	32.58% 
Bed w/ensuite	21.0 °C	1702 W	50.0 °C	10.0 °C	Towelrad Windsor 4 Column (White)	600 mm	1410 mm	RAD	444.0 W	1232 W	0.03 L/s	72.37% 
Ensuite	22.0 °C	418 W	50.0 °C	10.0 °C	Towelrad Pisa Pisa Chrome Straight	1800 mm	500 mm	RAD	572.0 W	274 W	0.01 L/s	65.52% 
W/C	18.0 °C	186 W	50.0 °C	10.0 °C	Towelrad Pisa Pisa Chrome Straight	1200 mm	500 mm	RAD	375.0 W	216 W	0.01 L/s	116.14% 
Kitchen/Dining	21.0 °C	3118 W	50.0 °C	10.0 °C	Towelrad Windsor 3 Column (White)	600 mm	1180 mm	RAD	444.0 W	765 W	0.02 L/s	24.53% 
Kitchen/Dining	21.0 °C	3118 W	50.0 °C	10.0 °C	Towelrad Windsor 4 Column (White)	1800 mm	490 mm	RAD	444.0 W	1148 W	0.03 L/s	36.82% 
Kitchen/Dining	21.0 °C	3118 W	50.0 °C	10.0 °C	Towelrad Windsor 4 Column (White)	600 mm	1410 mm	RAD	444.0 W	1232 W	0.03 L/s	39.50% 
Hall	18.0 °C	742 W	50.0 °C	10.0 °C	Towelrad Windsor 2 Column (White)	1800 mm	582 mm	RAD	444.0 W	861 W	0.02 L/s	115.93% 