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Old Mill Street

Manchester

Overheating (AD Part O) Assessment

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Revision Record

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1.0 Executive Summary

Crookes Walker Consulting (CWC) have carried out dynamic thermal modelling for the Old Mill Street residential development, Manchester. The analysis has been developed with reference to:

- Building Regulations (2021 Edition) Approved Document O, based on CIBSE Technical Memorandum 59: Design Methodology for the Assessment of Overheating Risk in Homes (2017) ('CIBSE TM59').
- Acoustics, Ventilation and Overheating Residential Design Guide (2020) ('AVO Guide'), applied to the daytime window opening durations set out in the project acoustic report (Section 3.1.3).

Approved Document O and CIBSE TM59 set out a standardised approach that checks that internal temperatures remain within the stated limits, that overheating risk is limited, and that the ventilation strategy takes account of internal noise when relying on openable windows.

Dynamic thermal modelling for Old Mill Street has been completed for the DSY1 weather file. The analysis has been developed with reference to the requirements of Approved Document O, based on:

- Building fabrics as per Table 4.
- Mechanical ventilation rates outlined in Section 4.3.1.
- Window openings outlined in Section 4.3.2, including the acoustic window opening restrictions set out in Section 3.1.3.

As window openings are restricted in line with the project acoustic report, the dwellings have been assessed as predominantly mechanically ventilated, against the CIBSE TM59 fixed temperature test (Section 3.1.1). Table 1 below gives a summary of the DSY1 results for bedrooms

and kitchen/living/dining (KLD) areas. The Approved Document O assessment is determined against the mandatory DSY1 weather file. DSY2 and DSY3 results are not included in this issue of the report and can be made available on request.

Building	Weather File	Status	Fixed Temperature Test (Highest % of Occupied Hours > 26 °C, Max 3%)		Rooms Passing	Overall Result
			Bedrooms	KLDs		
Old Mill Street	DSY1	Mandatory	✓	✓	✓	Pass
	DSY2	Advisory	–	–	–	Available on request
	DSY3	Advisory	–	–	–	Available on request

Table 1. Results Summary

In line with CIBSE TM59 guidance, the assessment is required to be demonstrated against the DSY1 weather file only. Whilst the DSY2 and DSY3 weather files may be used to stress-test the building under alternative heat events, these are not mandatory for Approved Document O. As shown in Table 1, all 107 assessed rooms (66 bedrooms and 41 KLDs) achieve the CIBSE TM59 fixed temperature test under DSY1 in the thermal model.

This assessment will need to be undertaken again if any parameters change from those stated herein.

2.0 Introduction

Crookes Walker Consulting (CWC) have undertaken an overheating risk assessment, developed with reference to the Building Regulations Approved Document O (2021 edition), for the proposed Old Mill Street residential development, Manchester. The scheme comprises a six-storey residential building of 41 dwellings: 1B1P and 2B4P apartments, and 2B4P, 3B6P and 4B7P duplexes, as shown on the Buttress revised scheme drawings listed in Table 2.

This revision (P03) supersedes revision P02 (21/10/2025) and updates the assessment to the revised scheme layout. The dwellings are assessed as predominantly mechanically ventilated against the CIBSE TM59 fixed temperature test, with MVHR boost ventilation and with window openings restricted in line with the project acoustic report (Section 3.1.3).

2.1 Site Location

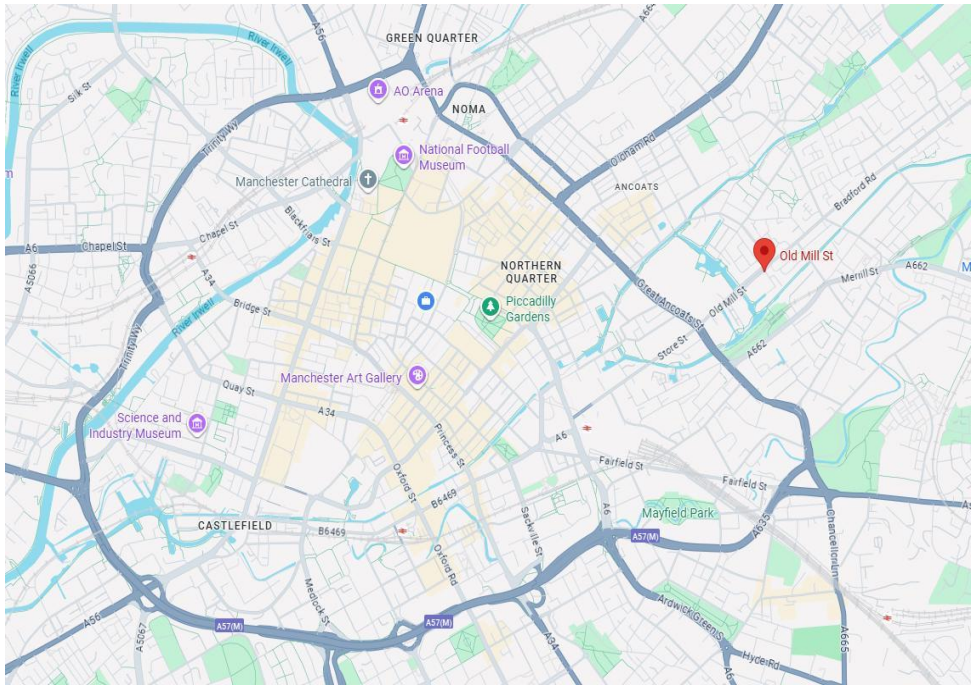


Figure 1. Site Location

The site is located on Old Mill Street, Manchester. The Manchester DSY1 2020 High Emissions 50th percentile weather file has therefore been used for the Approved Document O assessment. The assessment is required to demonstrate the CIBSE TM59 criteria against the DSY1 weather file, with additional reporting on the building's performance under the DSY2 and DSY3 weather files recommended for information only. DSY2 and DSY3 results are not included in this issue of the report and can be made available on request.

It should be noted that should a single room not meet a single assessment criterion, the whole building is deemed not to meet the requirement.

2.2 Modelling Disclaimer

The building has been modelled with accredited software package IES:VE version 2025.2.0.0, which is an approved dynamic simulation software, compliant with CIBSE AM11.

These assessments were undertaken by an Energy Specialist; an individual who has acquired substantial expertise or a recognised qualification for undertaking assessments, designs, and installations of Low and Zero Carbon solutions in the commercial buildings sector and is not professionally connected to a single Low and Zero Carbon technology or manufacturer.

It should be noted that the data generated by this work is obtained using computer simulations. These simulations are the best means of predicting the performance of the building at this stage. Full certainty can only be achieved by measuring the performance of the building and associated systems after a period of use.

Whilst the simulations have been undertaken in good faith using reasonable skill and care, Crookes Walker Consulting Limited can take no responsibility for differences between the computer simulations and the actual performance of the completed building due to the inherent complexity and variability of the physics in a building and its environment.

2.3 Building Layout

Table 2 below confirms the architectural drawings (Buttress, issued under Transmittal 36, 28/09/2026) used for the geometric model in the overheating assessment:

Drawing	Drawing Reference	Revision	Date
Floor Plans			
Ground Floor GA Plan - Planning	OLDMS-BUT-01-00-DR-A-94000	P04	15/09/2026
First Floor GA Plan - Planning	OLDMS-BUT-01-01-DR-A-94001	P04	15/09/2026
Typical Floor GA Plan - Planning	OLDMS-BUT-01-ZZ-DR-A-94002	P03	03/09/2026
Fifth Floor GA Plan - Planning	OLDMS-BUT-01-05-DR-A-94005	P03	03/09/2026
Roof GA Plan - Planning	OLDMS-BUT-01-R5-DR-A-94006	P03	03/09/2026
Elevations			
Planning GA Elevations - South	OLDMS-BUT-01-ZZ-DR-A-95001	P03	03/09/2026
Planning GA Elevations - North	OLDMS-BUT-01-ZZ-DR-A-95002	P03	03/09/2026
Sections			
Planning GA Longitudinal Sections	OLDMS-BUT-01-ZZ-DR-A-96001	P04	15/09/2026
Planning GA Cross Sections	OLDMS-BUT-01-ZZ-DR-A-96002	P04	15/09/2026

Table 2. Architectural Drawing Register

2.4 Views of Thermal Model

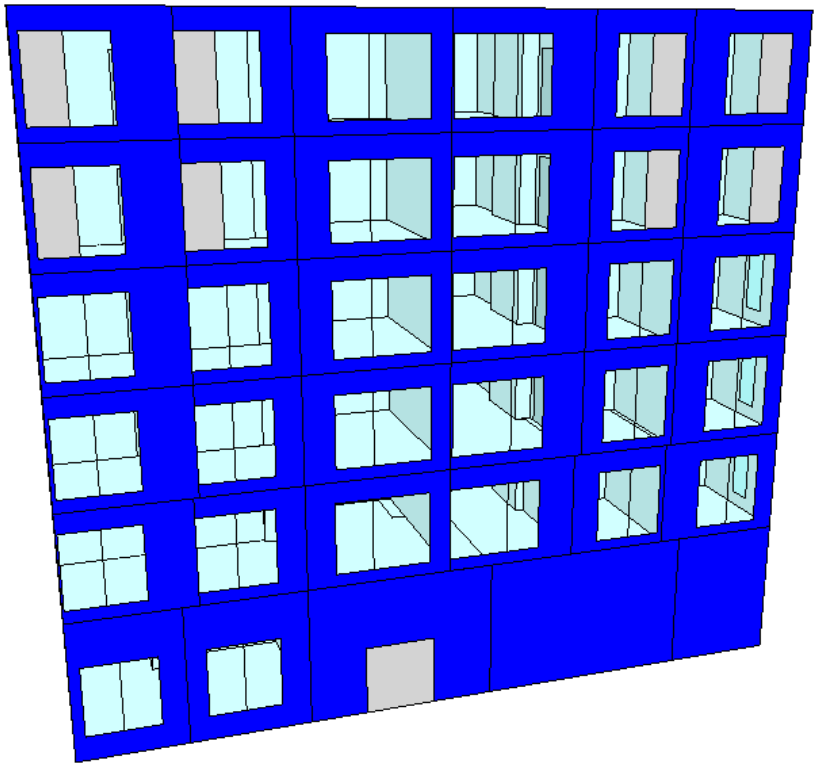


Figure 2. Thermal Model

3.0 Assessment Targets

3.1 Approved Document O

The Building Regulations 2010 Approved Document O (2021 edition) is based on CIBSE TM59 (2017) 'Design methodology for the assessment of overheating risk in homes'. This is a standardised approach in predicting overheating risk in residential buildings using prescribed inputs and usage profiles.

The profiles represent aggregated domestic usage patterns, based on CIBSE TM59 Design methodology for the assessment of overheating risk in homes. They have been developed to evaluate the building design and not to directly mimic usage modes. To prevent deviation from the defined methodology it is not acceptable to alter the CIBSE TM59 set profiles. Full usage profiles are in Appendix 1 of this document.

Compliance with this assessment methodology does not ensure that people will always be comfortable in their homes, due to variations on the intended use, however it does aim to limit the length of time excessive temperatures are experienced.

All assumptions and mitigations made within this report must form part of the construction contract, or the model will need to be re-run to prove compliance incorporating any changes. Any inclusion of pipework insulation, blinds, openable windows etc. must not be ignored.

3.1.1 Predominantly Mechanically Ventilated Zones

The Old Mill Street dwellings have been assessed as predominantly mechanically ventilated. Window openings are restricted in line with the project acoustic report (Section 3.1.3), and each dwelling is served by MVHR with boost ventilation (Section 4.3.1). Openable windows have been retained in the thermal model with the acoustic restrictions applied (Section 4.3.2).

For homes that are predominantly mechanically ventilated, or have restricted window openings, CIBSE TM59 (Section 4.3) requires the CIBSE fixed temperature test to be followed:

Fixed temperature test: The operative temperature in living rooms, kitchens and bedrooms shall not exceed 26°C for more than 3% of the annual occupied hours.

The adaptive criteria for predominantly naturally ventilated homes (CIBSE TM59 Section 4.2), including the bedroom night-time criterion, do not apply under the fixed temperature test.

3.1.2 Communal Corridors

Though compliance is not mandatory, the risk of overheating is required to be reported by CIBSE TM59, and therefore AD Part O, in all communal circulation zones. These zones are deemed to have a high risk of overheating if the operative temperature exceeds 28°C for more than 3% of annual hours.

3.1.3 Window and Noise Constraints

A Stage 3 Acoustic Design Report has been prepared for the development by Hann Tucker Associates (HTA), reference 32297/ADR1, Revision 0, dated 12/08/2025 (issued as a draft for team comment). The report identifies three façade zones (Red, Orange and Green) based on the incident noise levels on each façade, shown in Figure 3, and sets out limits on window opening for overheating control with reference to Approved Document O at night and the AVO Guide during the day. CWC have applied this acoustic advice as issued; acoustic matters remain the responsibility of the acoustic consultant.

Night-time (23:00 to 07:00): HTA have calculated the maximum acoustic open area for bedroom windows in each façade zone (Section 7.4.1 of the HTA report), to limit internal noise in bedrooms to 40 dB LAeq,T averaged over 8 hours and 55 dB LAFmax not exceeded more than 10 times a night. These maximum geometric open areas have been converted to equivalent areas in the thermal model, and bedroom window openings have been limited to these areas during the night-time period.

Daytime (07:00 to 23:00): HTA have set out the maximum number of hours that bedroom and living room windows can be open during the day in each façade zone, in line with the AVO Guide and assuming a 13 dBA loss through a partially open window (Section 7.4.2 of the HTA report). These limits have been applied to window opening in the thermal model. The restrictions applied are summarised in Table 3.

Façade Zone	Maximum Acoustic Open Area for Bedroom Windows at Night, 23:00 to 07:00 (m^2)	Maximum Hours Windows can be Open During the Day, 07:00 to 23:00 (h)
Red	0.011	5.8
Orange	0.045	8.1
Green	0.111	11.2

Table 3. Acoustic Window Opening Restrictions Applied in the Thermal Model (HTA 32297/ADR1 Rev 0, Sections 7.4.1 and 7.4.2).

The façade zones shown in Figure 3 are taken from the HTA Stage 3 Acoustic Design Report (32297/ADR1 Rev 0) and have been applied to the corresponding façades of the revised scheme. Any change to the acoustic restrictions, or to the window type, size or opening arrangement, would require the thermal model to be re-run and this report updated.



Figure 3. Façade Zones (Extract from HTA Stage 3 Acoustic Design Report 32297/ADR1 Rev 0)

4.0 Inputs

4.1 Fabric Parameters

Table 4 confirms the proposed building fabrics and glazing properties applied to the thermal model.

Element	U-value (W/m^2K)
External Wall	0.14
External Window	1.20 | g-value: 0.40 (south, east and west facing), 0.50 (north facing)
Roof	0.11
Ground Floor	0.16
Air permeability	3.0 $m^3/h.m^2$ @ 50 Pa

Table 4. Fabric values

4.2 Blinds

Blinds and other internal shading devices are not permitted to be included in the overheating assessments therefore these were omitted in the analysis.

4.3 Ventilation Strategy

4.3.1 Mechanical Ventilation

The ventilation strategy comprises mechanical ventilation with heat recovery (MVHR) to each dwelling. Table 5 below displays the background (Approved Document F minimum) mechanical air flow rates, and Table 6 displays the additional boost flow rates, assigned in the thermal model. The background mechanical air flow rates run continuously. Heat recovery has been bypassed for this assessment.

In bedrooms and kitchen/living/dining rooms the boost flow rate is applied, in addition to the background rate, when the room temperature exceeds 21°C. The combined background and boost flow rates equal the total MVHR unit capacity assumed for each dwelling type, as set out in Table 7.

1B1P denotes a one-bedroom, one-person apartment; 2B4P Apartment denotes a two-bedroom, four-person apartment; 2B4P, 3B6P and 4B7P Duplex denote two, three and four-bedroom duplex dwellings. Bedroom supply and wet room extract rates are given per room; the number of bedrooms and wet rooms (bathrooms, en-suites and WCs) in each dwelling type is shown in the tables.

Dwelling Type	Supply (l/s)				Extract (l/s)			
	KLD	Bedroom (each)	No. of Bedrooms	Total Supply	KLD	Wet Room (each)	No. of Wet Rooms	Total Extract
1B1P Apartment	13	8	1	21	13	8	1	21
2B4P Apartment	13	8	2	29	13	8	2	29
2B4P Duplex	13	12	2	37	13	8	3	37
3B6P Duplex	13	8	3	37	13	8	3	37
4B7P Duplex	13	6	4	37	13	8	3	37

Table 5. Old Mill Street: Background Mechanical Air Flow Rates.

Dwelling Type	Supply (l/s)				Extract (l/s)			
	KLD	Bedroom (each)	No. of Bedrooms	Total Supply	KLD	Wet Room (each)	No. of Wet Rooms	Total Extract
1B1P Apartment	30.33	18.67	1	49.00	30.33	18.67	1	49.00
2B4P Apartment	18.38	11.31	2	41.00	18.38	11.31	2	41.00
2B4P Duplex	11.59	10.70	2	33.00	11.59	7.14	3	33.00
3B6P Duplex	11.59	7.14	3	33.00	11.59	7.14	3	33.00
4B7P Duplex	15.81	7.30	4	45.00	15.81	9.73	3	45.00

Table 6. Old Mill Street: Boost Mechanical Air Flow Rates (in addition to background rates).

Dwelling Type	Total MVHR Supply Capacity (l/s)	Total MVHR Extract Capacity (l/s)
1B1P Apartment	70	70
2B4P Apartment	70	70

Dwelling Type	Total MVHR Supply Capacity (l/s)	Total MVHR Extract Capacity (l/s)
2B4P Duplex	70	70
3B6P Duplex	70	70
4B7P Duplex	82	82

Table 7. Old Mill Street: Total Maximum Mechanical Air Flow Rate Capacity.

The total MVHR unit capacities assumed in the thermal model are 70 l/s supply and 70 l/s extract for the 1B1P and 2B4P apartments and the 2B4P and 3B6P duplexes, and 82 l/s supply and 82 l/s extract for the 4B7P duplex, as set out in Table 7. The MVHR unit selections, and their ability to deliver these flow rates within the internal noise limits set out in the HTA report (Section 7.3), should be confirmed by the MEP designer.

4.3.2 Natural Ventilation

Apertures have been included for all bedrooms and kitchen/living/dining rooms. Window openings have been modelled with the acoustic restrictions set out in Section 3.1.3 and Table 3. The window schedule, opening type and free area should be confirmed by the architect; any subsequent restriction on the extent of opening would require the model to be re-run.

Openings start to open when occupied and the internal temperature reaches 22°C. As the temperature rises, they continue to open incrementally, until fully open at 26˚C, as prescribed by Approved Document Part O.

When the internal temperature drops below 26°C, windows start to close. As the temperature drops, the windows gradually close until they are fully shut at 22°C.

5.0 Results

The results below are based on the DSY1 (Design Summer Year 1, Manchester 2020 High Emissions 50th percentile) IES VE thermal model run for Old Mill Street (model reference REV03, 09/10/2026).

The results of the DSY1 overheating assessment indicate that all 107 bedrooms and kitchen/living/dining rooms assessed (66 bedrooms and 41 KLDs) achieve the CIBSE TM59 fixed temperature test for predominantly mechanically ventilated homes.

The highest result is 2.95% of annual occupied hours above 26°C in the KLDs (00_3B6P_02_Duplex_KLD, 140 hours) and 2.18% in the bedrooms (GF_3B6P_03_Duplex_Double Bed 1, 191 hours), against a limit of 3%. These results are based on the inputs and assumptions detailed in this report, including the mechanical ventilation strategy (Section 4.3.1), glazing specification, internal gains and the acoustic window opening restrictions (Section 3.1.3).

Detailed per-room DSY1 results are provided in Appendices 2 and 3. DSY2 and DSY3 results are not included in this issue of the report and can be made available on request.

Communal corridors have no risk of overheating (Section 3.1.2).

Building	Weather File	Status	Fixed Temperature Test (Highest % of Occupied Hours > 26 °C, Max 3%)		Rooms Passing	Overall Result
			Bedrooms	KLDs		
Old Mill Street	DSY1	Mandatory	✓	✓	✓	Pass
	DSY2	Advisory	–	–	–	Available on request
	DSY3	Advisory	–	–	–	Available on request

Table 8. Results Summary

In line with CIBSE TM59 guidance, the assessment is required to be demonstrated against the DSY1 weather file only. The DSY2 and DSY3 weather files represent more extreme summer events and are used for information on the resilience of the design; these results can be made available on request.

6.0 Appendix 1: CIBSE TM59 Prescribed Profiles

Number of people	Description	Peak Load (W) Sensible	Latent	Period 00–01	01–02	02–03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
				Hour-ending 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Single bedroom occupancy	75	55	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7
2	Double bedroom occupancy	150	110	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7
2	Studio occupancy	150	110	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1-bed: living/kitchen occupancy	75	55	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
1	1-bed: living occupancy	75	55	0	0	0	0	0	0	0	0	0	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0	0
1	1-bed: kitchen occupancy	75	55	0	0	0	0	0	0	0	0	0	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0	0
2	2-bed: living/kitchen occupancy	150	110	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
2	2-bed: living occupancy	150	110	0	0	0	0	0	0	0	0	0	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0	0
2	2-bed: kitchen occupancy	150	110	0	0	0	0	0	0	0	0	0	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0	0
3	3-bed: living/kitchen occupancy	225	165	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
3	3-bed: living occupacy	225	165	0	0	0	0	0	0	0	0	0	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0	0
3	3-bed: kitchen occupancy	225	165	0	0	0	0	0	0	0	0	0	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0	0
	Single bedroom equipment	80		0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.13
	Double bedroom equipment	80		0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.13
	Studio equipment	450		0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	1	1	0.44	0.44	0.24	0.24
	Living/kitchen equipment	450		0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	1	1	0.44	0.44	0.24	0.24
	Living equipment	150		0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1	1	1	1	0.4	0.4
	Kitchen equipment	300		0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	1	1	0.17	0.17	0.17	0.17
	Lighting profile	2	(W/m²)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0

7.0 Appendix 2: DSY1: Fixed Temperature Test (Bedrooms)

Zone	Operative Temperature > 26 °C (Max 3%)
00_2B4P_01_Double Bed 01	0.38
00_2B4P_01_Double Bed 02	0.50
GF_2B4P_02_Duplex_ Double Bed 1	0.87
GF_2B4P_02_Duplex_Double Bed 2	0.86
GF_3B6P_03_Duplex_Double Bed 1	2.18
GF_3B6P_03_Duplex_Double Bed 2	1.16
GF_3B6P_03_Duplex_Double Bed 3	1.64
01_1B1P_01_Double Bed	0.57
01_1B1P_03_Double Bed	0.59
01_1B1P_04_Double Bed	0.68
01_2B4P_02_Double Bed 1	0.48
01_2B4P_02_Double Bed 2	0.75
01_2B4P_05_Double Bed 1	0.86
01_2B4P_05_Double Bed 2	1.11
01_4B7P_01_Duplex_Double Bed 1	1.14
01_4B7P_01_Duplex_Double Bed 2	1.47
01_4B7P_01_Duplex_Double Bed 3	1.61
01_4B7P_01_Duplex_Single Bed 1	0.92
02_1B1P_03_Double Bed	0.58
02_1B1P_04_Double Bed	0.62
02_1B1P_07_Double Bed	0.96
02_1B1P_08_Double Bed	1.24
02_2B4P_01_Double Bed 1	1.32
02_2B4P_01_Double Bed 2	0.63
02_2B4P_02_Double Bed 1	0.49
02_2B4P_02_Double Bed 2	0.63
02_2B4P_05_Double Bed 1	0.80
02_2B4P_05_Double Bed 2	0.72
02_2B4P_06_Double Bed 1	1.71
02_2B4P_06_Double Bed 2	0.88
03_1B1P_03_Double Bed	0.61
03_1B1P_04_Double Bed	0.58
03_1B1P_07_Double Bed	0.74
03_1B1P_08_Double Bed	0.73
03_2B4P_01_Double Bed 1	1.02
03_2B4P_01_Double Bed 2	0.51
03_2B4P_02_Double Bed 1	0.54
03_2B4P_02_Double Bed 2	0.66
03_2B4P_05_Double Bed 1	1.04
03_2B4P_05_Double Bed 2	0.65
03_2B4P_06_Double Bed 1	0.90
03_2B4P_06_Double Bed 2	0.98
04_1B1P_03_Double Bed	0.55
04_1B1P_04_Double Bed	0.55
04_1B1P_07_Double Bed	0.53

Zone	Operative Temperature > 26 °C (Max 3%)
04_1B1P_08_Double Bed	0.62
04_2B4P_01_Double Bed 1	0.65
04_2B4P_01_Double Bed 2	0.48
04_2B4P_02_Double Bed 1	0.54
04_2B4P_02_Double Bed 2	0.55
04_2B4P_05_Double Bed 1	0.61
04_2B4P_05_Double Bed 2	0.56
04_2B4P_06_Double Bed 1	0.79
04_2B4P_06_Double Bed 2	0.74
05_1B1P_03_Double Bed	0.53
05_1B1P_04_Double Bed	0.58
05_1B1P_07_Double Bed	0.49
05_1B1P_08_Double Bed	0.65
05_2B4P_01_Double Bed 1	0.63
05_2B4P_01_Double Bed 2	0.46
05_2B4P_02_Double Bed 1	0.47
05_2B4P_02_Double Bed 2	0.50
05_2B4P_05_Double Bed 1	0.87
05_2B4P_05_Double Bed 2	0.63
05_2B4P_06_Double Bed 1	0.61
05_2B4P_06_Double Bed 2	0.86

8.0 Appendix 3: DSY1: Fixed Temperature Test (KLDs)

Zone	Operative Temperature > 26 °C (Max 3%)
00_2B4P_02_Duplex_KLD	1.52
00_2B4P_03_KLD	0.67
00_3B6P_02_Duplex_KLD	2.95
00_4B6P_01_Duplex_KLD	1.03
01_1B1P_01_KLD	0.95
01_1B1P_03_KLD	0.89
01_1B1P_04_KLD	0.82
01_2B4P_02_KLD	0.86
01_2B4P_05_KLD	1.98
02_1B1P_03_KLD	0.80
02_1B1P_04_KLD	0.80
02_1B1P_07_KLD	0.97
02_1B1P_08_KLD	1.12
02_2B4P_01_KLD	0.97
02_2B4P_02_KLD	0.84
02_2B4P_05_KLD	0.91
02_2B4P_06_KLD	1.66
03_1B1P_03_KLD	0.86
03_1B1P_04_KLD	0.80
03_1B1P_07_KLD	1.01
03_1B1P_08_KLD	1.12
03_2B4P_01_KLD	0.97
03_2B4P_02_KLD	0.78
03_2B4P_05_KLD	1.18
03_2B4P_06_KLD	1.07
04_1B1P_03_KLD	0.84
04_1B1P_04_KLD	0.80
04_1B1P_07_KLD	0.70
04_1B1P_08_KLD	0.67
04_2B4P_01_KLD	0.82
04_2B4P_02_KLD	0.82
04_2B4P_05_KLD	0.82
04_2B4P_06_KLD	0.80
05_1B1P_03_KLD	0.72
05_1B1P_04_KLD	0.74
05_1B1P_07_KLD	0.63
05_1B1P_08_KLD	0.63
05_2B4P_01_KLD	0.70
05_2B4P_02_KLD	0.72
05_2B4P_05_KLD	0.97
05_2B4P_06_KLD	0.97

Values are the percentage of annual occupied hours in which the operative temperature exceeds 26°C (CIBSE TM59 fixed temperature test, maximum 3%).