

Approved Document O report
Overheating risk in residential buildings
for
Albany Road - 2 Bed

Albany Road - 2 Bed

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Building details

Project name: Albany Road - 2 Bed	Date: 11-07-2024 10:59:46
Location: Manchester Ap, United Kingdom	
Address: Albany Road, Chorlton	
Building use: Domestic	
Are there any security, noise, or pollution issues:	

Designer's details

Designer's name:
Designer's organisation:
Designer's address:

Dynamic thermal model

Software: IESVE version 2023.5.1.0	
Weather file: Manchester_DSY1_2020High50_.epw	
Results file: OH13 - 22089 Albany Road.aps	
Number of rooms analysed: 57	
TM59: summer elevated air speed: 0.1	
TM59: occupant category: Category II (normal)	
Overheating mitigation strategy:	
Has the building construction proposal been modelled accurately?	YES
Have the analysed rooms passed the assessment for Approved Doc O Dynamic Thermal Modelling Method (CIBSE TM 59)?	YES
Designer's signature:	

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Summary

CIBSE TM59 overheating methodology for predominantly naturally ventilated rooms assesses against two criteria, (a) and (b) (for Category I occupancy, T_{max} is reduced by 1K):

- Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours
- Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Approved document O applies limits to CIBSE TM59 section 3.3 (openings); these requirements are applied by appropriate assignment of MacroFlo types / scripted profiles in the model (see Modelled Openings Section).

CIBSE TM59 overheating methodology for predominantly mechanically ventilated rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

CIBSE TM59 also states that the inclusion of corridors in the overheating analysis is mandatory where community heating pipework runs through them. While there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of the total annual hours this should be identified as a significant risk.

Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
00.01 2 Bed - Double Bedroom	-	-	Pass	-
00.01 2 Bed - Living/Kitchen	-	-	Pass	-
00.01 2 Bed - Single Bedroom	-	-	Pass	-
00.02 2 Bed - Double Bedroom	-	-	Pass	-
00.02 2 Bed - Living/Kitchen	-	-	Pass	-
00.02 2 Bed - Single Bedroom	-	-	Pass	-
00.03 2 Bed - Double Bedroom	Pass	Pass	-	-
00.03 2 Bed - Living/Kitchen	Pass	N/A	-	-
00.03 2 Bed - Single Bedroom	Pass	Pass	-	-
00.09 2 Bed - Double Bedroom	Pass	Pass	-	-
00.09 2 Bed - Living/Kitchen	-	-	Pass	-
00.09 2 Bed - Single Bedroom	-	-	Pass	-
01.10 2 Bed - Double Bedroom	Pass	Pass	-	-
01.10 2 Bed - Living/Kitchen	-	-	Pass	-
01.10 2 Bed - Single Bedroom	Pass	Pass	-	-
01.11 2 Bed - Double Bedroom	-	-	Pass	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
01.11 2 Bed - Living/Kitchen	-	-	Pass	-
01.11 2 Bed - Single Bedroom	-	-	Pass	-
01.12 2 Bed - Double Bedroom	-	-	Pass	-
01.12 2 Bed - Living/Kitchen	-	-	Pass	-
01.12 2 Bed - Single Bedroom	-	-	Pass	-
01.13 2 Bed - Double Bedroom	Pass	Pass	-	-
01.13 2 Bed - Living/Kitchen	Pass	N/A	-	-
01.13 2 Bed - Single Bedroom	Pass	Pass	-	-
01.19 2 Bed - Double Bedroom	Pass	Pass	-	-
01.19 2 Bed - Living/Kitchen	-	-	Pass	-
01.19 2 Bed - Single Bedroom	-	-	Pass	-
01.20 2 Bed - Double Bedroom	Pass	Pass	-	-
01.20 2 Bed - Living/Kitchen	Pass	N/A	-	-
01.20 2 Bed - Single Bedroom	Pass	Pass	-	-
02.21 2 Bed - Double Bedroom	Pass	Pass	-	-
02.21 2 Bed - Living/Kitchen	-	-	Pass	-
02.21 2 Bed - Single Bedroom	Pass	Pass	-	-
02.22 2 Bed - Double Bedroom	-	-	Pass	-
02.22 2 Bed - Living/Kitchen	-	-	Pass	-
02.22 2 Bed - Single Bedroom	-	-	Pass	-
02.23 2 Bed - Double Bedroom	-	-	Pass	-
02.23 2 Bed - Living/Kitchen	-	-	Pass	-
02.23 2 Bed - Single Bedroom	-	-	Pass	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
02.24 2 Bed - Double Bedroom	Pass	Pass	-	-
02.24 2 Bed - Living/Kitchen	Pass	N/A	-	-
02.24 2 Bed - Single Bedroom	Pass	Pass	-	-
02.30 2 Bed - Double Bedroom	Pass	Pass	-	-
02.30 2 Bed - Living/Kitchen	-	-	Pass	-
02.30 2 Bed - Single Bedroom	-	-	Pass	-
02.31 2 Bed - Double Bedroom	Pass	Pass	-	-
02.31 2 Bed - Living/Kitchen	Pass	N/A	-	-
02.31 2 Bed - Single Bedroom	Pass	Pass	-	-
03.22 2 Bed - Double Bedroom	-	-	Pass	-
03.22 2 Bed - Single Bedroom	Pass	Pass	-	-
03.32 2 Bed - Double Bedroom	-	-	Pass	-
03.32 2 Bed - Living/Kitchen	Pass	N/A	-	-
03.32 2 Bed - Single Bedroom	-	-	Pass	-
03.33 2 Bed - Living/Kitchen	-	-	Pass	-
03.40 2 Bed - Double Bedroom	-	-	Pass	-
03.40 2 Bed - Living/Kitchen	Pass	N/A	-	-
03.40 2 Bed - Single Bedroom	-	-	Pass	-

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Naturally ventilated rooms – criterion (a)

Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours.

Room name	Occupied hours	No. hours $\Delta T \geq 1^\circ\text{K}$	% Occupied hours $\Delta T \geq 1^\circ\text{K}$	Criterion a check
00.03 2 Bed - Double Bedroom	3672	0	0.0	Pass
00.03 2 Bed - Living/Kitchen	1989	0	0.0	Pass
00.03 2 Bed - Single Bedroom	3672	0	0.0	Pass
00.09 2 Bed - Double Bedroom	3672	0	0.0	Pass
01.10 2 Bed - Double Bedroom	3672	0	0.0	Pass
01.10 2 Bed - Single Bedroom	3672	0	0.0	Pass
01.13 2 Bed - Double Bedroom	3672	0	0.0	Pass
01.13 2 Bed - Living/Kitchen	1989	0	0.0	Pass
01.13 2 Bed - Single Bedroom	3672	0	0.0	Pass
01.19 2 Bed - Double Bedroom	3672	0	0.0	Pass
01.20 2 Bed - Double Bedroom	3672	0	0.0	Pass
01.20 2 Bed - Living/Kitchen	1989	0	0.0	Pass
01.20 2 Bed - Single Bedroom	3672	0	0.0	Pass
02.21 2 Bed - Double Bedroom	3672	0	0.0	Pass
02.21 2 Bed - Single Bedroom	3672	0	0.0	Pass
02.24 2 Bed - Double Bedroom	3672	0	0.0	Pass
02.24 2 Bed - Living/Kitchen	1989	0	0.0	Pass
02.24 2 Bed - Single Bedroom	3672	0	0.0	Pass
02.30 2 Bed - Double Bedroom	3672	0	0.0	Pass
02.31 2 Bed - Double Bedroom	3672	0	0.0	Pass

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Room name	Occupied hours	No. hours $\Delta T \geq 1^\circ\text{K}$	% Occupied hours $\Delta T \geq 1^\circ\text{K}$	Criterion a check
02.31 2 Bed - Living/Kitchen	1989	0	0.0	Pass
02.31 2 Bed - Single Bedroom	3672	0	0.0	Pass
03.22 2 Bed - Single Bedroom	3672	0	0.0	Pass
03.32 2 Bed - Living/Kitchen	1989	0	0.0	Pass
03.40 2 Bed - Living/Kitchen	1989	0	0.0	Pass

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Naturally ventilated rooms – criterion (b)

Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Any rooms that are not bedrooms are therefore not assessed, hence the corresponding N/A values.

Room name	No. hours > 26°C 22:00-24:00	No. hours > 26°C 00:00-07:00	Total hours > 26°C	Criterion b check
00.03 2 Bed - Double Bedroom	4	7	11	Pass
00.03 2 Bed - Living/Kitchen	N/A	N/A	N/A	N/A
00.03 2 Bed - Single Bedroom	1	0	1	Pass
00.09 2 Bed - Double Bedroom	8	11	19	Pass
01.10 2 Bed - Double Bedroom	0	0	0	Pass
01.10 2 Bed - Single Bedroom	1	0	1	Pass
01.13 2 Bed - Double Bedroom	2	0	2	Pass
01.13 2 Bed - Living/Kitchen	N/A	N/A	N/A	N/A
01.13 2 Bed - Single Bedroom	2	0	2	Pass
01.19 2 Bed - Double Bedroom	4	0	4	Pass
01.20 2 Bed - Double Bedroom	5	0	5	Pass
01.20 2 Bed - Living/Kitchen	N/A	N/A	N/A	N/A
01.20 2 Bed - Single Bedroom	3	0	3	Pass
02.21 2 Bed - Double Bedroom	0	0	0	Pass
02.21 2 Bed - Single Bedroom	1	0	1	Pass
02.24 2 Bed - Double Bedroom	2	0	2	Pass
02.24 2 Bed - Living/Kitchen	N/A	N/A	N/A	N/A
02.24 2 Bed - Single Bedroom	2	0	2	Pass
02.30 2 Bed - Double Bedroom	3	0	3	Pass
02.31 2 Bed - Double Bedroom	3	0	3	Pass

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Room name	No. hours > 26°C 22:00-24:00	No. hours > 26°C 00:00-07:00	Total hours > 26°C	Criterion b check
02.31 2 Bed - Living/Kitchen	N/A	N/A	N/A	N/A
02.31 2 Bed - Single Bedroom	3	0	3	Pass
03.22 2 Bed - Single Bedroom	4	0	4	Pass
03.32 2 Bed - Living/Kitchen	N/A	N/A	N/A	N/A
03.40 2 Bed - Living/Kitchen	N/A	N/A	N/A	N/A

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Mechanically ventilated rooms

CIBSE TM59 overheating methodology for predominantly mech. vent. rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
00.01 2 Bed - Double Bedroom	165	1.9	Pass
00.01 2 Bed - Living/Kitchen	125	2.6	Pass
00.01 2 Bed - Single Bedroom	147	1.7	Pass
00.02 2 Bed - Double Bedroom	162	1.8	Pass
00.02 2 Bed - Living/Kitchen	122	2.6	Pass
00.02 2 Bed - Single Bedroom	143	1.6	Pass
00.09 2 Bed - Living/Kitchen	67	1.4	Pass
00.09 2 Bed - Single Bedroom	103	1.2	Pass
01.10 2 Bed - Living/Kitchen	76	1.6	Pass
01.11 2 Bed - Double Bedroom	180	2.1	Pass
01.11 2 Bed - Living/Kitchen	134	2.8	Pass
01.11 2 Bed - Single Bedroom	157	1.8	Pass
01.12 2 Bed - Double Bedroom	184	2.1	Pass
01.12 2 Bed - Living/Kitchen	137	2.9	Pass
01.12 2 Bed - Single Bedroom	158	1.8	Pass
01.19 2 Bed - Living/Kitchen	78	1.6	Pass
01.19 2 Bed - Single Bedroom	109	1.2	Pass
02.21 2 Bed - Living/Kitchen	81	1.7	Pass
02.22 2 Bed - Double Bedroom	165	1.9	Pass
02.22 2 Bed - Living/Kitchen	124	2.6	Pass
02.22 2 Bed - Single Bedroom	141	1.6	Pass
02.23 2 Bed - Double Bedroom	175	2.0	Pass
02.23 2 Bed - Living/Kitchen	134	2.8	Pass
02.23 2 Bed - Single Bedroom	157	1.8	Pass
02.30 2 Bed - Living/Kitchen	76	1.6	Pass
02.30 2 Bed - Single Bedroom	105	1.2	Pass
03.22 2 Bed - Double Bedroom	125	1.4	Pass
03.32 2 Bed - Double Bedroom	83	0.9	Pass
03.32 2 Bed - Single Bedroom	85	1.0	Pass
03.33 2 Bed - Living/Kitchen	108	2.3	Pass
03.40 2 Bed - Double Bedroom	91	1.0	Pass
03.40 2 Bed - Single Bedroom	96	1.1	Pass

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Communal corridors

CIBSE TM59 states that whilst there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of annual hours, then this should be identified as a significant risk within the TM59 overheating report.

Room name	No. hours > 28°C	% Annual hours > 28°C	Corridor overheating risk check
No corridors	N/A	N/A	N/A

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Modelled details & overheating mitigation strategy

Approved document O: Providing Information & Appendix B requires information about the model and the overheating mitigation strategy. The following tables detail the modelling method and mitigation strategies applied to each analysed room. Where multiple active openings per space (windows & louvres) exist they are all listed. Occupancy, equipment and lighting profiles for occupied rooms comply with TM59 section 5.

Modelled occupancy

Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
00.01 2 Bed - Double Bedroom	12.07	TM59 - Double Bedroom - Closed Windows	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
00.01 2 Bed - Living/Kitchen	24.85	TM59 - 2 Bedroom - Living / Kitchen - Closed Windows	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
00.01 2 Bed - Single Bedroom	8.16	TM59 - Single Bedroom - Closed Windows	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
00.02 2 Bed - Double Bedroom	12.07	TM59 - Double Bedroom - Closed Windows	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
00.02 2 Bed - Living/Kitchen	25.2	TM59 - 2 Bedroom - Living / Kitchen - Closed Windows	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
00.02 2 Bed - Single Bedroom	7.99	TM59 - Single Bedroom - Closed Windows	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
00.03 2 Bed - Double Bedroom	14.88	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
00.03 2 Bed - Living/Kitchen	28.59	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
00.03 2 Bed - Single Bedroom	10.31	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
00.09 2 Bed - Double Bedroom	12.23	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
00.09 2 Bed - Living/Kitchen	26.02	TM59 - 2 Bedroom - Living / Kitchen - Closed Windows	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
00.09 2 Bed - Single Bedroom	8.03	TM59 - Single Bedroom - Closed Windows	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
01.10 2 Bed - Double Bedroom	11.7	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
01.10 2 Bed - Living/Kitchen	26.96	TM59 - 2 Bedroom - Living / Kitchen - Closed Windows	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
01.10 2 Bed - Single Bedroom	8.1	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
01.11 2 Bed - Double Bedroom	12.07	TM59 - Double Bedroom - Closed Windows	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
01.11 2 Bed - Living/Kitchen	24.85	TM59 - 2 Bedroom - Living / Kitchen - Closed Windows	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
01.11 2 Bed - Single Bedroom	8.16	TM59 - Single Bedroom - Closed Windows	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
01.12 2 Bed - Double Bedroom	12.07	TM59 - Double Bedroom - Closed Windows	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
01.12 2 Bed - Living/Kitchen	25.2	TM59 - 2 Bedroom - Living / Kitchen - Closed Windows	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
01.12 2 Bed - Single Bedroom	7.99	TM59 - Single Bedroom - Closed Windows	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
01.13 2 Bed - Double Bedroom	14.88	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
01.13 2 Bed - Living/Kitchen	28.59	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
01.13 2 Bed - Single Bedroom	10.31	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
01.19 2 Bed - Double Bedroom	12.23	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
01.19 2 Bed - Living/Kitchen	26.02	TM59 - 2 Bedroom - Living / Kitchen - Closed Windows	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
01.19 2 Bed - Single Bedroom	8.03	TM59 - Single Bedroom - Closed Windows	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
01.20 2 Bed - Double Bedroom	12.83	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
01.20 2 Bed - Living/Kitchen	26.01	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
01.20 2 Bed - Single Bedroom	9.79	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
02.21 2 Bed - Double Bedroom	11.7	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
02.21 2 Bed - Living/Kitchen	26.96	TM59 - 2 Bedroom - Living / Kitchen - Closed Windows	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
02.21 2 Bed - Single Bedroom	8.1	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
02.22 2 Bed - Double Bedroom	12.07	TM59 - Double Bedroom - Closed Windows	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
02.22 2 Bed - Living/Kitchen	24.85	TM59 - 2 Bedroom - Living / Kitchen - Closed Windows	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
02.22 2 Bed - Single Bedroom	8.16	TM59 - Single Bedroom - Closed Windows	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
02.23 2 Bed - Double Bedroom	12.07	TM59 - Double Bedroom - Closed Windows	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
02.23 2 Bed - Living/Kitchen	25.2	TM59 - 2 Bedroom - Living / Kitchen - Closed Windows	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
02.23 2 Bed - Single Bedroom	7.99	TM59 - Single Bedroom - Closed Windows	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
02.24 2 Bed - Double Bedroom	14.88	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
02.24 2 Bed - Living/Kitchen	28.59	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
02.24 2 Bed - Single Bedroom	10.31	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
02.30 2 Bed - Double Bedroom	12.23	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
02.30 2 Bed - Living/Kitchen	26.02	TM59 - 2 Bedroom - Living / Kitchen - Closed Windows	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
02.30 2 Bed - Single Bedroom	8.03	TM59 - Single Bedroom - Closed Windows	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
02.31 2 Bed - Double Bedroom	12.83	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
02.31 2 Bed - Living/Kitchen	26.01	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
02.31 2 Bed - Single Bedroom	9.79	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
03.22 2 Bed - Double Bedroom	25.4	TM59 - Double Bedroom - Closed Windows	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
03.22 2 Bed - Single Bedroom	12.06	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
03.32 2 Bed - Double Bedroom	12.32	TM59 - Double Bedroom - Closed Windows	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
03.32 2 Bed - Living/Kitchen	25.9	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
03.32 2 Bed - Single Bedroom	8.28	TM59 - Single Bedroom - Closed Windows	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
03.33 2 Bed - Living/Kitchen	30.98	TM59 - 2 Bedroom - Living / Kitchen - Closed Windows	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
03.40 2 Bed - Double Bedroom	13.23	TM59 - Double Bedroom - Closed Windows	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
03.40 2 Bed - Living/Kitchen	27.14	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
03.40 2 Bed - Single Bedroom	8.69	TM59 - Single Bedroom - Closed Windows	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h

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Modelled openings

Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
00.01 2 Bed - Double Bedroom	17.65	0.3	1.89, 0.6, 0.6, 0.6	98.339996337 89062, 0.0, 0.0, 0.0	15.4	Internal Doors Bedroom Weekly, off continuously
00.01 2 Bed - Living/Kitchen	15.59	0.3	1.89, 1.47, 1.47, 1.99	98.339996337 89062, 0.0, 0.0, 0.0	7.48	off continuously, on continuously
00.01 2 Bed - Single Bedroom	13.04	0.3	1.89, 0.9	98.339996337 89062, 0.0	22.78	Internal Doors Bedroom Weekly, off continuously
00.02 2 Bed - Double Bedroom	17.65	0.3	1.89, 0.6, 0.6, 0.6	98.339996337 89062, 0.0, 0.0, 0.0	15.4	Internal Doors Bedroom Weekly, off continuously
00.02 2 Bed - Living/Kitchen	13.21	0.3	1.89, 1.47, 1.47, 1.99	98.339996337 89062, 0.0, 0.0, 0.0	7.38	off continuously, on continuously
00.02 2 Bed - Single Bedroom	13.33	0.3	1.89, 0.9	98.339996337 89062, 0.0	23.26	Internal Doors Bedroom Weekly, off continuously
00.03 2 Bed - Double Bedroom	9.18	0.3	0.5, 0.95, 1.89	0.0, 50.34000 015258789, 9 8.3399963378 9062	15.7	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26a
00.03 2 Bed - Living/Kitchen	9.4	0.3	0.5, 0.95, 1.89	0.0, 50.34000 015258789, 9 8.3399963378 9062	8.17	off continuously, ADO.Section_26a, on continuously
00.03 2 Bed - Single Bedroom	13.51	0.3	0.5, 0.95, 1.89	0.0, 50.34000 015258789, 9 8.3399963378 9062	22.67	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26a

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
00.09 2 Bed - Double Bedroom	8.57	0.3	1.89, 0.6, 0.6, 0.6	98.339996337 89062, 0.0, 50.34000015258 789, 50.34000 015258789	20.14	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26a
00.09 2 Bed - Living/Kitchen	15.67	0.3	1.47, 2.0, 1.47, 1.89	0.0, 0.0, 0.0, 9 8.3399963378 9062	7.14	off continuously, on continuously
00.09 2 Bed - Single Bedroom	27.27	0.3	0.6, 0.6, 0.6, 1.89	0.0, 0.0, 0.0, 9 8.3399963378 9062	23.15	Internal Doors Bedroom Weekly, off continuously
01.10 2 Bed - Double Bedroom	8.76	0.3	0.6, 0.6, 0.6, 1.89	0.0, 50.34000 015258789, 5 0.3400001525 8789, 98.3399 9633789062	21.05	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab
01.10 2 Bed - Living/Kitchen	8.24	0.3	0.6, 0.95, 0.6, 0.6, 1.89	0.0, 0.0, 0.0, 0.0, 98.33999 633789062	6.89	off continuously, on continuously
01.10 2 Bed - Single Bedroom	26.67	0.3	0.6, 0.6, 0.6, 1.89	0.0, 50.34000 015258789, 5 0.3400001525 8789, 98.3399 9633789062	30.4	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab
01.11 2 Bed - Double Bedroom	17.65	0.3	1.89, 0.6, 0.6, 0.6	98.339996337 89062, 0.0, 0.0, 0.0	15.4	Internal Doors Bedroom Weekly, off continuously
01.11 2 Bed - Living/Kitchen	46.34	0.3	1.89, 1.47, 1.47, 2.0	98.339996337 89062, 0.0, 0.0, 0.0	7.48	off continuously, on continuously
01.11 2 Bed - Single Bedroom	13.04	0.3	1.89, 0.9	98.339996337 89062, 0.0	22.78	Internal Doors Bedroom Weekly, off continuously
01.12 2 Bed - Double Bedroom	17.65	0.3	1.89, 0.6, 0.6, 0.6	98.339996337 89062, 0.0, 0.0, 0.0	15.4	Internal Doors Bedroom Weekly, off continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
01.12 2 Bed - Living/Kitchen	13.21	0.3	1.89, 1.47, 1.47, 2.0	98.339996337 89062, 0.0, 0.0, 0.0	7.38	off continuously, on continuously
01.12 2 Bed - Single Bedroom	13.33	0.3	1.89, 0.9	98.339996337 89062, 0.0	23.26	Internal Doors Bedroom Weekly, off continuously
01.13 2 Bed - Double Bedroom	9.18	0.3	0.5, 0.95, 1.89	0.0, 50.34000 015258789, 9 8.3399963378 9062	15.7	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab
01.13 2 Bed - Living/Kitchen	9.4	0.3	0.5, 0.95, 1.89	0.0, 50.34000 015258789, 9 8.3399963378 9062	8.17	off continuously, ADO.Section_26ab, on continuously
01.13 2 Bed - Single Bedroom	13.51	0.3	0.5, 0.95, 1.89	0.0, 50.34000 015258789, 9 8.3399963378 9062	22.67	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab
01.19 2 Bed - Double Bedroom	8.57	0.3	1.89, 0.6, 0.6, 0.6	98.339996337 89062, 0.0, 50.34000015258 789, 50.34000 015258789	20.14	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab
01.19 2 Bed - Living/Kitchen	15.67	0.3	1.47, 2.0, 1.47, 1.89	0.0, 0.0, 0.0, 9 8.3399963378 9062	7.14	off continuously, on continuously
01.19 2 Bed - Single Bedroom	27.27	0.3	0.6, 0.6, 0.6, 1.89	0.0, 0.0, 0.0, 9 8.3399963378 9062	23.15	Internal Doors Bedroom Weekly, off continuously
01.20 2 Bed - Double Bedroom	20.34	0.3	0.6, 0.6, 0.6, 1.89	0.0, 50.34000 015258789, 5 0.3400001525 8789, 98.3399 9633789062	19.19	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
01.20 2 Bed - Living/Kitchen	48.38	0.3	1.47, 1.47, 2.0, 1.89	0.0, 0.0, 98.33 99963378906 2, 98.3399963 3789062	14.71	off continuously, ADO.Section_26a, on continuously
01.20 2 Bed - Single Bedroom	26.67	0.3	0.6, 0.6, 0.6, 1.89	0.0, 50.34000 015258789, 5 0.3400001525 8789, 98.3399 9633789062	25.16	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab
02.21 2 Bed - Double Bedroom	8.76	0.3	0.6, 0.6, 0.6, 1.89	0.0, 50.34000 015258789, 5 0.3400001525 8789, 98.3399 9633789062	21.05	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab
02.21 2 Bed - Living/Kitchen	8.24	0.3	0.6, 0.94, 0.6, 0.6, 1.89	0.0, 0.0, 0.0, 0.0, 98.33999 633789062	6.89	off continuously, on continuously
02.21 2 Bed - Single Bedroom	26.67	0.3	0.6, 0.6, 0.6, 1.89	0.0, 50.34000 015258789, 5 0.3400001525 8789, 98.3399 9633789062	30.4	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab
02.22 2 Bed - Double Bedroom	17.65	0.3	1.89, 0.6, 0.6, 0.6	98.339996337 89062, 0.0, 0.0, 0.0	15.4	Internal Doors Bedroom Weekly, off continuously
02.22 2 Bed - Living/Kitchen	46.34	0.3	1.89, 1.47, 1.47, 2.0	98.339996337 89062, 0.0, 0.0, 0.0	7.48	off continuously, on continuously
02.22 2 Bed - Single Bedroom	13.04	0.3	1.89, 0.9	98.339996337 89062, 0.0	22.78	Internal Doors Bedroom Weekly, off continuously
02.23 2 Bed - Double Bedroom	17.65	0.3	1.89, 0.6, 0.6, 0.6	98.339996337 89062, 0.0, 0.0, 0.0	15.4	Internal Doors Bedroom Weekly, off continuously
02.23 2 Bed - Living/Kitchen	13.21	0.3	1.89, 1.47, 1.47, 1.99	98.339996337 89062, 0.0, 0.0, 0.0	7.38	off continuously, on continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
02.23 2 Bed - Single Bedroom	13.33	0.3	1.89, 0.9	98.33999633789062, 0.0	23.26	Internal Doors Bedroom Weekly, off continuously
02.24 2 Bed - Double Bedroom	9.18	0.3	0.5, 0.95, 1.89	0.0, 50.34000015258789, 98.33999633789062	15.7	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab
02.24 2 Bed - Living/Kitchen	9.4	0.3	0.5, 0.95, 1.89	0.0, 50.34000015258789, 98.33999633789062	8.17	off continuously, ADO.Section_26ab, on continuously
02.24 2 Bed - Single Bedroom	13.51	0.3	0.5, 0.95, 1.89	0.0, 50.34000015258789, 98.33999633789062	22.67	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab
02.30 2 Bed - Double Bedroom	8.57	0.3	1.89, 0.6, 0.6, 0.6	98.33999633789062, 0.0, 50.34000015258789, 50.34000015258789	20.14	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab
02.30 2 Bed - Living/Kitchen	15.67	0.3	1.47, 2.0, 1.47, 1.89	0.0, 0.0, 0.0, 98.33999633789062	7.14	off continuously, on continuously
02.30 2 Bed - Single Bedroom	27.27	0.3	0.6, 0.6, 0.6, 1.89	0.0, 0.0, 0.0, 98.33999633789062	23.15	Internal Doors Bedroom Weekly, off continuously
02.31 2 Bed - Double Bedroom	20.34	0.3	0.6, 0.6, 0.6, 1.89	0.0, 50.34000015258789, 50.34000015258789, 98.33999633789062	19.19	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab
02.31 2 Bed - Living/Kitchen	48.38	0.3	1.47, 1.47, 2.0, 1.89	0.0, 0.0, 98.33999633789062, 98.33999633789062	14.71	off continuously, ADO.Section_26a, on continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
02.31 2 Bed - Single Bedroom	26.67	0.3	0.6, 0.6, 0.6, 1.89	0.0, 50.34000 015258789, 5 0.3400001525 8789, 98.3399 9633789062	25.16	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab
03.22 2 Bed - Double Bedroom	26.29	0.3	1.89, 2.21, 1.47	98.339996337 89062, 0.0, 0.0	7.32	Internal Doors Bedroom Weekly, off continuously
03.22 2 Bed - Single Bedroom	22.89	0.3	0.57, 0.57, 0.6, 1.89	50.340000152 58789, 50.340 00015258789, 0.0, 98.33999 633789062	20.17	Internal Doors Bedroom Weekly, off continuously, ADO.Section_26ab
03.32 2 Bed - Double Bedroom	10.27	0.3	1.2, 1.89	0.0, 98.33999 633789062	15.09	Internal Doors Bedroom Weekly, off continuously
03.32 2 Bed - Living/Kitchen	14.26	0.3, 0.3	1.2, 2.0, 1.47, 1.47, 1.89	0.0, 98.33999 633789062, 0.0, 0.0, 98.33 99963378906 2	14.77	off continuously, ADO.Section_26a, on continuously
03.32 2 Bed - Single Bedroom	15.18	0.3	1.89, 1.2	98.339996337 89062, 0.0	22.45	Internal Doors Bedroom Weekly, off continuously
03.33 2 Bed - Living/Kitchen	9.47	0.3	1.99, 1.47, 1.47, 1.89	0.0, 0.0, 0.0, 9 8.3399963378 9062	6.0	off continuously, on continuously
03.40 2 Bed - Double Bedroom	9.55	0.3	1.2, 1.89	0.0, 98.33999 633789062	14.05	Internal Doors Bedroom Weekly, off continuously
03.40 2 Bed - Living/Kitchen	14.55	0.3, 0.3	1.47, 2.0, 1.47, 0.6, 0.6, 0.6, 1.89	0.0, 0.0, 0.0, 0.0, 50.34000 015258789, 5 0.3400001525 8789, 98.3399 9633789062	9.07	off continuously, ADO.Section_26ab, on continuously
03.40 2 Bed - Single Bedroom	14.55	0.3	1.2, 1.89	0.0, 98.33999 633789062	21.39	Internal Doors Bedroom Weekly, off continuously

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Modelled ventilation

Room name	Infiltration rate ACH	Mech vent flow rate ACH
00.01 2 Bed - Double Bedroom	0.2	2.39
00.01 2 Bed - Living/Kitchen	0.2	1.06
00.01 2 Bed - Single Bedroom	0.2	3.53
00.02 2 Bed - Double Bedroom	0.2	2.39
00.02 2 Bed - Living/Kitchen	0.2	1.05
00.02 2 Bed - Single Bedroom	0.2	3.61
00.03 2 Bed - Double Bedroom	0.2	0.73
00.03 2 Bed - Living/Kitchen	0.2	0.29
00.03 2 Bed - Single Bedroom	0.2	1.05
00.09 2 Bed - Double Bedroom	0.2	0.88
00.09 2 Bed - Living/Kitchen	0.2	1.01
00.09 2 Bed - Single Bedroom	0.2	3.59
01.10 2 Bed - Double Bedroom	0.2	0.92
01.10 2 Bed - Living/Kitchen	0.2	0.98
01.10 2 Bed - Single Bedroom	0.2	1.33
01.11 2 Bed - Double Bedroom	0.2	2.39
01.11 2 Bed - Living/Kitchen	0.2	1.06
01.11 2 Bed - Single Bedroom	0.2	3.53
01.12 2 Bed - Double Bedroom	0.2	2.39
01.12 2 Bed - Living/Kitchen	0.2	1.05
01.12 2 Bed - Single Bedroom	0.2	3.61
01.13 2 Bed - Double Bedroom	0.2	0.73
01.13 2 Bed - Living/Kitchen	0.2	0.29
01.13 2 Bed - Single Bedroom	0.2	1.05
01.19 2 Bed - Double Bedroom	0.2	0.88
01.19 2 Bed - Living/Kitchen	0.2	1.01
01.19 2 Bed - Single Bedroom	0.2	3.59
01.20 2 Bed - Double Bedroom	0.2	0.84
01.20 2 Bed - Living/Kitchen	0.2	0.32
01.20 2 Bed - Single Bedroom	0.2	1.1
02.21 2 Bed - Double Bedroom	0.2	0.92
02.21 2 Bed - Living/Kitchen	0.2	0.98
02.21 2 Bed - Single Bedroom	0.2	1.33
02.22 2 Bed - Double Bedroom	0.2	2.39
02.22 2 Bed - Living/Kitchen	0.2	1.06
02.22 2 Bed - Single Bedroom	0.2	3.53
02.23 2 Bed - Double Bedroom	0.2	2.39
02.23 2 Bed - Living/Kitchen	0.2	1.05
02.23 2 Bed - Single Bedroom	0.2	3.61
02.24 2 Bed - Double Bedroom	0.2	0.73

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
02.24 2 Bed - Living/Kitchen	0.2	0.29
02.24 2 Bed - Single Bedroom	0.2	1.05
02.30 2 Bed - Double Bedroom	0.2	0.88
02.30 2 Bed - Living/Kitchen	0.2	1.01
02.30 2 Bed - Single Bedroom	0.2	3.59
02.31 2 Bed - Double Bedroom	0.2	0.84
02.31 2 Bed - Living/Kitchen	0.2	0.32
02.31 2 Bed - Single Bedroom	0.2	1.1
03.22 2 Bed - Double Bedroom	0.2	1.79
03.22 2 Bed - Single Bedroom	0.2	1.73
03.32 2 Bed - Double Bedroom	0.2	2.2
03.32 2 Bed - Living/Kitchen	0.2	0.33
03.32 2 Bed - Single Bedroom	0.2	3.26
03.33 2 Bed - Living/Kitchen	0.2	1.05
03.40 2 Bed - Double Bedroom	0.2	1.91
03.40 2 Bed - Living/Kitchen	0.2	0.3
03.40 2 Bed - Single Bedroom	0.2	2.91