

FRIAR STREET OVERHEATING STUDY - TM59 Overheating Assessments

Weather File: Swindon_Brize_Norton_DSY1_2020High50_epw

Homes that are predominantly mechanically ventilated because they have either no opportunity or extremely limited opportunities for opening windows/louvers should be assessed for overheating using the fixed temperature method based on CIBSE Guide A (2015a).

Criteria for homes 'predominantly mechanically ventilated'

For homes with restricted window openings, the CIBSE fixed temperature test must be followed, i.e. all occupied rooms should not exceed an operative temperature of 26°C for more than 3% of annual occupied annual hours.

Criteria For Spaces Predominantly 'Mechanically Ventilated'

OPTION-1 WITH SOLID PANEL

LEVEL	APT	Room Name	Annual Occupied Hours	No. of Hours over 26°C p.a	% of hours over 26°C p.a	CIBSE criteria met?
LEVEL 02	APT 03	L02-APT03_1B2P_DOUBLE BEDROOM01	8760	1533	17.50	FAIL
		L02-APT03_1B2P_LIVING/KITCHEN	4745	810	17.07	FAIL
	APT 04	L02-APT04_2B4P_DOUBLE BEDROOM01	8760	2171	24.78	FAIL
		L02-APT04_2B4P_DOUBLE BEDROOM02	8760	1859	21.22	FAIL
	APT 04	L02-APT04_2B4P_LIVING/KITCHEN	4745	1354	28.54	FAIL

OPTION-2 WITH BRISE SOLEIL

LEVEL	APT	Room Name	Annual Occupied Hours	No. of Hours over 26°C p.a	% of hours over 26°C p.a	CIBSE criteria met?
LEVEL 02	APT 03	L02-APT03_1B2P_DOUBLE BEDROOM01	8760	2158	24.63	FAIL
		L02-APT03_1B2P_LIVING/KITCHEN	4745	1112	23.44	FAIL
	APT 04	L02-APT04_2B4P_DOUBLE BEDROOM01	8760	2837	32.39	FAIL
		L02-APT04_2B4P_DOUBLE BEDROOM02	8760	2939	33.55	FAIL
	APT 04	L02-APT04_2B4P_LIVING/KITCHEN	4745	1751	36.90	FAIL

OPTION-3 WITH SOLID PANELS AND BRISE SOLEIL

LEVEL	APT	Room Name	Annual Occupied Hours	No. of Hours over 26°C p.a	% of hours over 26°C p.a	CIBSE criteria met?
LEVEL 02	APT 03	L02-APT03_1B2P_DOUBLE BEDROOM01	8760	1490	17.01	FAIL
		L02-APT03_1B2P_LIVING/KITCHEN	4745	774	16.31	FAIL
	APT 04	L02-APT04_2B4P_DOUBLE BEDROOM01	8760	1812	20.68	FAIL
		L02-APT04_2B4P_DOUBLE BEDROOM02	8760	1548	17.67	FAIL
	APT 04	L02-APT04_2B4P_LIVING/KITCHEN	4745	1023	21.56	FAIL

OPTION-4 WITH ACOUSTIC VENTILATION PANELS AND BRISE SOLEIL + TRIPLE GLAZING

LEVEL	APT	Room Name	Annual Occupied Hours	No. of Hours over 26°C p.a	% of hours over 26°C p.a	CIBSE criteria met?
LEVEL 02	APT 03	L02-APT03_1B2P_DOUBLE BEDROOM01	8760	59	0.67	PASS
		L02-APT03_1B2P_LIVING/KITCHEN	4745	63	1.33	PASS
	APT 04	L02-APT04_2B4P_DOUBLE BEDROOM01	8760	170	1.94	PASS
		L02-APT04_2B4P_DOUBLE BEDROOM02	8760	68	0.78	PASS
	APT 04	L02-APT04_2B4P_LIVING/KITCHEN	4745	103	2.17	PASS

LEVEL	APT	Room Name	Annual Occupied Hours	No. of Hours over 26°C p.a	% of hours over 26°C p.a	CIBSE criteria met?
LEVEL 06	APT 02	L06-APT02_1B2P_DOUBLE BEDROOM01	8760	695	7.93	FAIL
		L06-APT02_1B2P_LIVING/KITCHEN	4745	563	11.87	FAIL
	APT 03	L06-APT03_2B4P_DOUBLE BEDROOM01	8760	754	8.61	FAIL
		L06-APT03_2B4P_DOUBLE BEDROOM02	8760	895	10.22	FAIL
	APT 03	L06-APT03_2B4P_LIVING/KITCHEN	4745	608	12.81	FAIL

OPTION-5 WITH ACOUSTIC VENTILATION PANELS AND BRISE SOLEIL + TRIPLE GLAZING + MESH

LEVEL	APT	Room Name	Annual Occupied Hours	No. of Hours over 26°C p.a	% of hours over 26°C p.a	CIBSE criteria met?
LEVEL 02	APT 03	L02-APT03_1B2P_DOUBLE BEDROOM01	8760	59	0.67	PASS
		L02-APT03_1B2P_LIVING/KITCHEN	4745	63	1.33	PASS
	APT 04	L02-APT04_2B4P_DOUBLE BEDROOM01	8760	170	1.94	PASS
		L02-APT04_2B4P_DOUBLE BEDROOM02	8760	68	0.78	PASS
	APT 04	L02-APT04_2B4P_LIVING/KITCHEN	4745	103	2.17	PASS

LEVEL	APT	Room Name	Annual Occupied Hours	No. of Hours over 26°C p.a	% of hours over 26°C p.a	CIBSE criteria met?
LEVEL 06	APT 02	L06-APT02_1B2P_DOUBLE BEDROOM01	8760	298	3.40	FAIL
		L06-APT02_1B2P_LIVING/KITCHEN	4745	364	7.67	FAIL
	APT 03	L06-APT03_2B4P_DOUBLE BEDROOM01	8760	398	4.54	FAIL
		L06-APT03_2B4P_DOUBLE BEDROOM02	8760	124	1.42	PASS
	APT 03	L06-APT03_2B4P_LIVING/KITCHEN	4745	217	4.57	FAIL

OPTION-6 WITH ACOUSTIC VENTILATION PANELS AND BRISE SOLEIL + TRIPLE GLAZING + MESH + COOLING MODULE

LEVEL	APT	Room Name	Annual Occupied Hours	No. of Hours over 26°C p.a	% of hours over 26°C p.a	CIBSE criteria met?
LEVEL 02	APT 03	L02-APT03_1B2P_DOUBLE BEDROOM01	8760	11	0.13	PASS
		L02-APT03_1B2P_LIVING/KITCHEN	4745	12	0.25	PASS
	APT 04	L02-APT04_2B4P_DOUBLE BEDROOM01	8760	65	0.74	PASS
		L02-APT04_2B4P_DOUBLE BEDROOM02	8760	28	0.32	PASS
	APT 04	L02-APT04_2B4P_LIVING/KITCHEN	4745	76	1.60	PASS

LEVEL	APT	Room Name	Annual Occupied Hours	No. of Hours over 26°C p.a	% of hours over 26°C p.a	CIBSE criteria met?
LEVEL 06	APT 02	L06-APT02_1B2P_DOUBLE BEDROOM01	8760	37	0.42	PASS
		L06-APT02_1B2P_LIVING/KITCHEN	4745	63	1.33	PASS
	APT 03	L06-APT03_2B4P_DOUBLE BEDROOM01	8760	190	2.17	PASS
		L06-APT03_2B4P_DOUBLE BEDROOM02	8760	88	1.00	PASS
	APT 03	L06-APT03_2B4P_LIVING/KITCHEN	4745	142	2.99	PASS

Criteria For Spaces Predominantly 'Naturally Ventilated'

LEVEL	APT	Room Name	Criteria 1	Criteria 2		TM59 Criteria met ?	Room Name	Criteria 1	TM59 Criteria met ?
LEVEL 09				No. of Hours	% of Hours				
		BEDROOM (DOUBLE OCCUPANCY)					LIVING ROOM AND KITCHEN		
		L09 : DOUBLE BEDROOM 1 APT 03	0.4	7.00	0.21	PASS	L09-APT03_3B5P_LIVING/KITCHEN	0.7	PASS
	APT 03	L09 : DOUBLE BEDROOM 2 APT 03	0.5	1.00	0.03	PASS			
		L09 : SINGLE BEDROOM 3 APT 03	0.9	1.00	0.03	PASS			