

PIPE HEAT LOSS CALCULATION - CORE A



PROJECT NAME: WOOD GREEN
PROJECT NUMBER: 3035
DATE: 15/12/2021

SUMMER

A	HEAT SUBSTATION	PIPE SIZE	65Ø																																															
		LENGTH	20.00																																															
		HEAT LOSS	7.56																																															
		TOTAL HEAT LOSS	151.20																																															
B	RISER	FLOOR	FLOOR																																															
		PIPE SIZE	50Ø																																															
		LENGTH	3.00																																															
		HEAT LOSS	6.72																																															
		TOTAL HEAT LOSS	20.16																																															
C	CORRIDOR	FLOOR	0 L																																															
		PIPE SIZE	Ø 50																																															
		LENGTH	12.67																																															
		HEAT LOSS	6.72																																															
		TOTAL HEAT LOSS	85.14																																															
D	HCU	APARTMENT	C1																																															
		PIPE SIZE	25Ø																																															
		LENGTH	5.00																																															
		HEAT LOSS	4.62																																															
		TOTAL HEAT LOSS	23.10																																															
		TOTAL HEAT LOSS	2182.60																																															
		UPLIFT HEAT LOSS	2837.38																																															

SUMMER HEAT LOSS			
PIPE SIZE	HEAT EMISSION (W/mK)	DELTA T	HEAT LOSS (W/m)
25Ø	0.11	42	4.62
32Ø	0.13	42	5.46
40Ø	0.14	42	5.88
50Ø	0.16	42	6.72
65Ø	0.18	42	7.56
80Ø	0.2	42	8.4
100Ø	0.24	42	10.08
125Ø	0.28	42	11.76

Heat emission values from Table 2.26 Cibe Guide C.

PIPE HEAT LOSS CALCULATION - CORE A



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PROJECT NUMBER: 3035
DATE: 15/12/2021

SUMMER

A	HEAT SUBSTATION	PIPE SIZE	65Ø
		LENGTH	20.00
		HEAT LOSS	9.00
		TOTAL HEAT LOSS	180.00

		FLOOR	Floor 0	Floor 1	Floor 2	Floor 3	Floor 4	Floor 5	Floor 6	Floor 7	Floor 8
B	RISER	PIPE SIZE	50Ø	50Ø	50Ø	40Ø	40Ø	40Ø	32Ø	32Ø	25Ø
		LENGTH	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
		HEAT LOSS	8.00	8.00	8.00	7.00	7.00	7.00	6.50	6.50	5.50
		TOTAL HEAT LOSS	24.00	24.00	24.00	21.00	21.00	21.00	19.50	19.50	16.50

C	CORRIDOR	FLOOR	0 L	0 R	1 L	1 R	2 L	2 R	3 L	3 R	4 L	4 R	5 L	5 R	6 L	6 R	7 L	7 R	8 L
		PIPE SIZE	50Ø	25Ø	25Ø	32Ø	25Ø	32Ø	25Ø	32Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø
		LENGTH	12.67	12.67	12.67	12.67	12.67	12.67	12.67	12.67	12.67	12.67	12.67	12.67	12.67	12.67	12.67	12.67	12.67
		HEAT LOSS	8.00	5.50	5.50	6.50	5.50	6.50	5.50	6.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
		TOTAL HEAT LOSS	101.36	69.69	69.69	82.36	69.69	82.36	69.69	82.36	69.69	69.69	69.69	69.69	69.69	69.69	69.69	69.69	69.69

D	HCU	APARTMENT	C1	C2	C3	C4	P1	P2	P3	P4	P7	P8	P9	P10	P11	P12	P13	P15	P16	P17	P18	P19	P20	P21	P23	P24	P25	P26	P27	P28	P30	P31	P32	P33	P34	P35	P37	P38	P39	P40	P41	P42	P44	P45	P46	P48	P49	P50
		PIPE SIZE	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø		
		LENGTH	5.00	5.00	4.00	4.00	5.00	5.00	4.00	5.00	4.00	3.00	5.00	4.00	4.00	4.00	1.00	4.00	5.00	5.00	4.00	4.00	4.00	1.00	4.00	3.00	3.00	4.00	4.00	4.00	4.00	3.00	5.00	4.00	4.00	4.00	4.00	3.00	3.00	3.00	4.00	3.00	3.00	1.00				
		HEAT LOSS	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50		
		TOTAL HEAT LOSS		27.50	27.50	22.00	22.00	27.50	27.50	22.00	27.50	22.00	16.50	27.50	22.00	22.00	22.00	22.00	5.50	22.00	27.50	27.50	22.00	22.00	22.00	5.50	22.00	16.50	16.50	22.00	22.00	22.00	22.00	22.00	16.50	27.50	22.00	22.00	22.00	22.00	22.00	16.50	16.50	22.00	16.50	22.00	16.50	5.50

WINTER HEAT LOSS			
PIPE SIZE	HEAT EMISSION (W/m)	DELTA T	HEAT LOSS (W/m)
25Ø	0.11	50	5.5
32Ø	0.14	50	6.5
40Ø	0.16	50	7
50Ø	0.18	50	8
65Ø	0.18	50	8
80Ø	0.2	50	10
100Ø	0.24	50	12
125Ø	0.28	50	14

Heat emission values from Table 2.26 Cibse Guide C.

TOTAL HEAT LOSS	2054.737
UPLIFT HEAT LOSS	2671.158

SUMMER

PIPE SIZE	HEAT EMISSION (W/mk)	DELTA T	HEAT LOSS (W/m)
25Ø	0.11	50	5.5
32Ø	0.13	50	6.5
40Ø	0.14	50	7
50Ø	0.16	50	8
65Ø	0.18	50	9
80Ø	0.2	50	10
100Ø	0.24	50	12
125Ø	0.28	50	14

Heat emission values from Table 2.26 CIBSE Guide C.

