

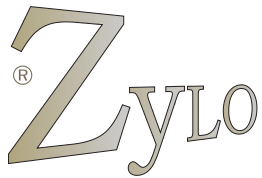


® Zylo



**Preformed Pipe Casings and Pipe Boxing**

# **A Guide to Heat Loss from Pipework**



## **A Guide to Pipe Sizes and Heat Loss**

This guide is intended to assist in estimating the contribution that steel and copper pipework make to the heating of a room and the losses incurred by un-lagged heating mains under suspended floors and in ducts and voids.

In reality, the true heat loss figure will vary according to site conditions. Air movement, temperature, water flow rate, paint finish and internal corrosion all affect pipework heat loss.

The outputs quoted are for bare pipes in free air, with a room temperature of 20°C and a pipework temperature of 75°C. For other temperatures, please refer to the conversion factor table on page five.



# Identifying Steel & Copper Pipework Sizes

## Mild Steel Tube Sizes BS1387 ( mm )

### Note

The nominal pipe size equates to the **inside diameter** of the pipe.

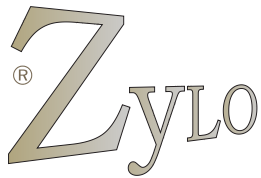
Nominal Pipe Size	<i>Light</i>		<i>Medium</i>		<i>Heavy</i>	
	O.D.	Wall	O.D.	Wall	O.D.	Wall
8	13.4	1.8	13.6	2.3	13.6	2.9
10	16.9	1.8	17.1	2.3	17.1	2.9
15	21.2	2.0	21.4	2.6	21.4	3.2
20	26.6	2.3	26.9	2.6	26.9	3.2
25	33.5	2.6	33.8	3.2	33.8	4.0
32	42.2	2.6	42.5	3.2	42.5	4.0
40	48.1	2.9	48.4	3.2	48.4	4.0
50	59.9	2.9	60.3	3.6	60.3	4.5
65	75.6	3.2	76.0	3.6	76.0	4.5
80	88.3	3.2	88.8	4.0	88.8	5.0
100	113.4	3.6	114.1	4.5	114.1	5.4
125	-	-	139.6	5.0	139.6	5.4
150	-	-	165.1	5.0	165.1	5.4

## Copper Tube Sizes BS 2871 (mm)

### Note

The nominal size equates to the **outside diameter** of the pipe

Nominal Pipe Size	<i>Table X</i>		<i>Table Y</i>		<i>Table Z</i>	
	I.D.	Wall	I.D.	Wall	I.D.	Wall
6	4.8	0.6	4.4	0.8	5.0	0.5
8	6.8	0.6	6.4	0.8	7.0	0.5
10	8.4	0.6	8.4	0.8	9.0	0.5
12	10.8	0.6	10.4	0.8	11.0	0.5
15	13.6	0.7	13.0	1.0	14.0	0.5
22	20.2	0.9	19.6	1.2	20.8	0.6
28	26.2	0.9	25.6	1.2	26.8	0.6
35	32.6	1.2	32.0	1.5	33.6	0.7
42	39.6	1.2	39.0	1.5	40.4	0.8
54	51.6	1.2	50.0	2.0	52.2	0.9
67	64.3	1.2	63.0	2.0	65.0	1.0



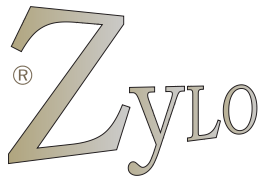
## Heat Losses from Steel & Copper Pipework

Heat Loss from **Steel Pipes** at 20°C Room Temperature  
and 75°C Mean Water Temperature ( W/m )

Nominal Pipe Size	Horizontal	Double Banked	Vertical
15	57	108	43
20	69	131	55
25	83	158	68
32	102	194	86
40	112	213	96
50	137	260	121
65	164	312	148
80	196	372	180
100	242	460	230

Heat Loss from **Copper Pipes** at 20°C Room Temperature  
and 75°C Mean Water Temperature ( W/m )

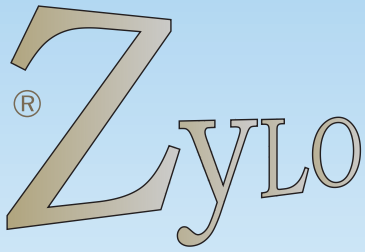
Nominal Pipe Size	Horizontal	Double Banked	Vertical
15	45	86	34
22	60	114	47
28	76	144	62
35	89	169	75
42	104	198	89
54	131	249	115
67	156	296	140



## Differential Temperature Conversion Factors

Multiply the pipework output by the appropriate factor

Room Temp.	Mean Water Temperature					
	65	70	75	80	85	90
°C						
10	0.95	1.06	1.17	1.29	1.41	1.54
13	0.90	1.01	1.12	1.24	1.36	1.49
15	0.86	0.97	1.09	1.20	1.33	1.45
18	0.81	0.92	1.03	1.15	1.27	1.40
20	0.78	0.89	1.00	1.12	1.24	1.36
22	0.74	0.85	0.97	1.08	1.20	1.33
25	0.69	0.80	0.91	1.03	1.15	1.27



## **About Us**

**BSMW Products Ltd manufacture a wide range of commercial radiator covers, heater guards and pipe casings.**

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