

COPPER CLAMPS

INTRODUCTION

The copper current carrying clamps as depicted in this section are manufactured from the material grade LG 2 in accordance with BS 1400.1969. All clamps are supplied hot tin dipped and can be supplied silver plated if required.

1. Calculation of Thermal Expansion in Copper Tubes in mm

Length of Tube in Meter	Temperature Difference ΔT . in °C									
	10	20	30	40	50	60	70	80	90	100
2.5	0.42	0.85	1.3	1.7	2.2	2.6	3.0	3.4	3.9	4.4
5.0	0.85	1.7	2.6	3.4	4.3	5.2	6.0	6.8	7.7	8.6
10	1.7	3.4	5.1	6.8	8.5	10.2	11.9	13.6	15.3	17.0
20	3.4	6.8	10.2	13.6	17.0	20.4	23.8	27.2	30.6	34.0
30	5.1	10.2	15.3	20.4	25.8	30.6	35.7	40.8	46.2	51.6
40	6.8	13.6	20.4	27.2	34.0	40.8	47.6	54.4	61.2	68.0
50	8.5	17.0	25.5	34.0	42.5	51.0	59.5	68.0	76.5	85.0

Temperature Co-efficient of Linear expansion (temp. range $-20^{\circ} + 200^{\circ}\text{C}$
 Copper: 17×10^{-6} (0,000017 per centigrade degree)

2. Nominal Linear Expansion of Tubular Busbars

Temperature °C	Expansion in mm/Per Meter	
	Aluminium	Copper
20	0.69	0.51
30	0.92	0.68
40	1.15	0.85
50	1.38	1.02
60	1.61	1.19
70	1.84	1.36
80	2.12	1.58