

TEMPERATURE CORRECTION FACTOR FOR ANNEALED COPPER CONDUCTOR

Temperature °c	Temperature Correction Factor kt	Temperature °c	Temperature Correction Factor kt	Temperature °c	Temperature Correction Factor kt
5	1.064	16	1.016	27	0.973
6	1.059	17	1.012	28	0.969
7	1.055	18	1.008	29	0.965
8	1.050	19	1.004	30	0.962
9	1.046	20	1.000	31	0.958
10	1.042	21	0.996	32	0.954
11	1.037	22	0.992	33	0.951
12	1.033	23	0.988	34	0.947
13	1.029	24	0.984	35	0.943
14	1.025	25	0.980		
15	1.020	26	0.977		

The values of corrections factors, k_t , shown in the table above are based on a resistance-temperature coefficient of 0.004 per °C at 20°C.

Although the value of temperature correction factors specified are approximate, they may however be considered to give practical values well within the accuracies that can normally be achieved in the measurement of conductor temperature and length of cables or flexible cords.

For more accurate values use may be made of the formulas mentioned below. The formulas, however, do not stand as a binding requirement for testing in compliance with respect to the standards BS: 6360 nor IEC: 228 in assessment of resistances.

Exact formula for the temperature correction factors:

- a) Annealed copper conductors: plain
 $k_t, Cu = 254.5 / (234.5 + t) = 1 / (1 + 0.00393(t - 20))$
- b) Hard-drawn copper conductors: plain or metal-coated
 $k_t, HCu = 262.5 / (242.55 + t) = 1 / (1 + 0.00381(t - 20))$

In all the above cases, the letter T indicates the temperature of the conductor at the time of measurement in degrees Celsius.

