



Application Guide

WHAT IS CLASS 2 AND CLASS 5

What is class 2 and class 5?

Class 2 and Class 5 conductors are used to distinguish conductor hardness, according to IEC 60228 insulation conductor cable standard. According to this standard, Class2 is called a twisted round cable, Class5 is called soft conductor. The case of cables being fixed or with less mobile design should use Class2 conductor, while more movement or with cable soft conductor, Class 5 conductors should be used.

The requirement of Class2 conductor is in the below table

Table 2 – Class 2 stranded conductors for single-core and multi-core cables

1	2	3	4	5	6	7	8	9	10
Nominal cross-sectional area mm ²	Minimum number of wires in the conductor						Maximum resistance of conductor at 20°C		
	Circular		Circular compacted		Shaped		Annealed copper conductor		Aluminium or aluminium alloy conductor ^c
	Cu	Al	Cu	Al	Cu	Al	Plain wires	Metal-coated wires	
							Ω/km	Ω/km	Ω/km
0,5	7	-	-	-	-	-	36,0	36,7	-
0,75	7	-	-	-	-	-	24,5	24,8	-
1,0	7	-	-	-	-	-	18,1	18,2	-
1,5	7	-	6	-	-	-	12,1	12,2	-
2,5	7	-	6	-	-	-	7,41	7,56	-
4	7	-	6	-	-	-	4,61	4,70	-
6	7	-	6	-	-	-	3,08	3,11	-
10	7	7	6	6	-	-	1,83	1,84	3,08
16	7	7	6	6	-	-	1,15	1,16	1,91
25	7	7	6	6	6	6	0,727	0,734	1,20
35	7	7	6	6	6	6	0,524	0,529	0,868
50	19	19	6	6	6	6	0,387	0,391	0,641
70	19	19	12	12	12	12	0,268	0,270	0,443

The requirement of Class5 conductor is in the below table

Table 3 – Class 5 flexible copper conductors for single core and multi-core cables

1	2	3	4
Nominal cross-sectional area mm ²	Maximum diameter of wires in conductor mm	Maximum resistance of conductor at 20 °C	
		Plain wires Ω/km	Metal-coated wires Ω/km
0,5	0,21	39,0	40,1
0,75	0,21	26,0	26,7
1,0	0,21	19,5	20,0
1,5	0,26	13,3	13,7
2,5	0,26	7,98	8,21
4	0,31	4,95	5,09
6	0,31	3,30	3,39
10	0,41	1,91	1,95
16	0,41	1,21	1,24
25	0,41	0,780	0,795
35	0,41	0,554	0,565
50	0,41	0,386	0,393
70	0,51	0,272	0,277