

Wire & Cable Methods of Color Coding

Used to identify conductors for point-to-point wiring and for circuit diagrams. Color codes are used to establish a standard for use by different manufacturers.

The first color code used colored tracers in a solid colored braid. Most control cable color codes are adaptations of this method. Later, for ease and convenience, ink printed versions were developed.

Telephone requirements established special color codes.

Color Codes (ICEA Methods)

ICEA/NEMA Method 1

Colored insulation with contrasting ink tracers as required. Six different insulation colors and four different colored ink tracers are used to provide positive identification through 21 conductors. The same identification sequence is repeated for cables containing more than 21 conductors.

ICEA/NEMA Method 2

A neutral colored compound is used with single or double spiral ink tracers as required to provide positive identification through 21 conductors. The identification sequence is repeated for cables containing more than 21 conductors.

ICEA/NEMA Method 3

A neutral or single colored insulation compound is surface ink printed with both conductor number and color designation to provide positive identification through 21 conductors. The identification sequence is repeated for cables containing more than 21 conductors.

ICEA/NEMA Method 4

A neutral or single colored insulation compound is surface ink printed with conductor number to provide positive conductor identification through 21 conductors. The identification sequence is repeated for cables containing more than 21 conductors.

ICEA/NEMA Method 5

A color coding using braids. Also sometimes specified using colored insulation and contrasting tracers as an extension of Method 1 to eliminate duplicate conductors. Up to 127 positive conductor coding are available with this method. Usually specified as per: ICEA5-61-402 Table 5-1 or ICEA 5-19-81 Table 5-2.

ICEA/NEMA Method 6

A color coding whereby one conductor in each layer is identified by a braid, tape, ridge, stripe or color.

ICEA/NEMA Paired Color Code

A coding whereby one leg of all pairs is coded white and its mate is coded in accordance with the first 21 conductors of Method 1, omitting white and repeating the sequence as necessary.

Telephone Paired Color Code

Five colors are paired with each of five mate colors to give 25 identified pairs. The color sequences are repeated for more than 25 pairs using colored binder strings for group identification.

Note: UL and the NEC restrict the use of green and white as colors and stripes. Special color codes are available to meet these requirements. One method is ICEA Method E-2 which is similar to Method 1 and ICEA Method E-4 which is similar to Method 2.



Wire & Cable Methods of Color Coding

ICEA Method 1, Table E-1
(Colored compound with tracers)

Conductor Number	Background or Base Color	Tracer Color
1*	Black	-
2	White	-
3	Red	-
4	Green	-
5	Orange	-
6	Blue	-
7	White	Black
8	Red	Black
9	Green	Black
10	Orange	Black
11	Blue	Black
12	Black	White
13	Red	White
14	Green	White
15	Blue	White
16	Black	Red
17	White	Red
18	Orange	Red
19	Blue	Red
20	Red	Green
21	Orange	Green

*This conductor is in the inside of the assembly.

ICEA Method 2, Table E-1
(Neutral colored compound with tracers)

Conductor Number	First Tracer Color (Wide Tracer)	Second Tracer Color (Narrow Tracer)
1*	Black	-
2	White	-
3	Red	-
4	Green	-
5	Orange	-
6	Blue	-
7	White	Black
8	Red	Black
9	Green	Black
10	Orange	Black
11	Blue	Black
12	Black	White
13	Red	White
14	Green	White
15	Blue	White
16	Black	Red
17	White	Red
18	Orange	Red
19	Blue	Red
20	Red	Green
21	Orange	Green

*This conductor is in the inside of the assembly.

ICEA Method 1, Table E-2
(Colored compound with tracers)

Conductor Number	Background or Base Color	Tracer Color
1*	Black	-
2	Red	-
3	Blue	-
4	Orange	-
5	Yellow	-
6	Brown	-
7	Red	Black
8	Blue	Black
9	Orange	Black
10	Yellow	Black
11	Brown	Black
12	Black	Red
13	Blue	Red
14	Orange	Red
15	Yellow	Red
16	Brown	Red
17	Black	Blue
18	Red	Blue
19	Orange	Blue
20	Yellow	Blue
21	Brown	Blue
22	Black	Orange
23	Red	Orange
24	Blue	Orange
25	Yellow	Orange
26	Brown	Orange
27	Black	Yellow
28	Red	Yellow
29	Blue	Yellow
30	Orange	Yellow
31	Brown	Yellow
32	Black	Brown
33	Red	Brown
34	Blue	Brown
35	Orange	Brown
36	Yellow	Brown

*This conductor is in the inside of the assembly.



Wire & Cable Methods of Color Coding

ICEA Method 1, Table E-2

(Neutral colored compound with tracers)

Conductor Number	Background or Base Color	Tracer Color
1*	Black	-
2	Red	-
3	Blue	-
4	Orange	-
5	Yellow	-
6	Brown	-
7	Red	Black
8	Blue	Black
9	Orange	Black
10	Yellow	Black
11	Brown	Black
12	Black	Red
13	Blue	Red
14	Orange	Red
15	Yellow	Red
16	Brown	Red
17	Black	Blue
18	Red	Blue
19	Orange	Blue
20	Yellow	Blue
21	Brown	Blue
22	Black	Orange
23	Red	Orange
24	Blue	Orange
25	Yellow	Orange
26	Brown	Orange
27	Black	Yellow
28	Red	Yellow
29	Blue	Yellow
30	Orange	Yellow
31	Brown	Yellow
32	Black	Brown
33	Red	Brown
34	Blue	Brown
35	Orange	Brown
36	Yellow	Brown

*This conductor is in the inside of the assembly.

ICEA Method 3

(Neutral or single color compound with surface printing of numbers and color designations)

Conductor Number	Printed Legend
1*	1 - Black
2	2 - White
3	3 - Red
4	4 - Green
5	5 - Orange
6	6 - Blue
7	7 - White-Black
8	8 - Red-Black
9	9 - Green-Black
10	10 - Orange-Black
11	11 - Blue-Black
12	12 - Black-White
13	13 - Red-White
14	14 - Green-White
15	15 - Blue-White
16	16 - Black-Red
17	17 - White-Red
18	18 - Orange-Red
19	19 - Blue-Red
20	20 - Red-Green
21	21 - Orange-Green

*This conductor is in the inside of the assembly.

ICEA Method 4

(Neutral or single color compound with surface printing of numbers)

Conductor Number	Printed Legend
1*	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21

*This conductor is in the inside of the assembly.



Wire & Cable Methods of Color Coding

ICEA Method 5

(Colored compounds with tracers)

Cond. Number	Background or Base Color	First Tracer Color	Second Tracer Color
1*	Black	-	-
2	White	-	-
3	Red	-	-
4	Green	-	-
5	Orange	-	-
6	Blue	-	-
7	White	Black	-
8	Red	Black	-
9	Green	Black	-
10	Orange	Black	-
11	Blue	Black	-
12	Black	White	-
13	Red	White	-
14	Green	White	-
15	Blue	White	-
16	Black	Red	-
17	White	Red	-
18	Orange	Red	-
19	Blue	Red	-
20	Red	Green	-
21	Orange	Green	-
22	Black	White	Red
23	White	Black	Red
24	Orange	Black	White
25	Blue	Black	White
26	Red	Black	White
27	Orange	Black	White
28	Black	Red	Green
29	White	Red	Green
30	Red	Black	Green
31	Green	Black	Orange
32	Orange	Black	Green
33	Blue	White	Orange
34	Black	White	Orange
35	White	Red	Orange
36	Orange	White	Blue
37	White	Red	Blue
38	Black	White	Green
39	White	Black	Green
40	Red	White	Green
41	Green	White	Blue
42	Orange	Red	Green
43	Blue	Red	Green

Cond. Number	Background or Base Color	First Tracer Color	Second Tracer Color
44	Black	White	Blue
45	White	Black	Blue
46	Red	White	Blue
47	Green	Orange	Red
48	Orange	Red	Blue
49	Blue	Red	Orange
50	Black	Orange	Red
51	White	Black	Orange
52	Red	Orange	Black
53	Green	Red	Blue
54	Orange	Black	Blue
55	Blue	Black	Orange
56	Black	Orange	Green
57	White	Orange	Green
58	Red	Orange	Green
59	Green	Black	Blue
60	Orange	Green	Blue
61	Blue	Green	Orange
62	Black	Red	Blue
63	White	Orange	Blue
64	Red	Black	Blue
65	Green	Orange	Blue
66	Orange	White	Red
67	Blue	White	Red
68	Black	Green	Blue
69	White	Green	Blue
70	Red	Green	Blue
71	Green	White	Red
72	Orange	Red	Black
73	Blue	Red	Black
74	Black	Orange	Blue
75	Red	Orange	Blue
76	Green	Red	Black
77	Orange	White	Green
78	Blue	White	Green
79	Red	White	Orange
80	Green	White	Orange
81	Blue	Black	Green
82	Orange	White	-
83	Green	Red	-
84	Black	Green	-
85	White	Green	-
86	Blue	Green	-

Cond. Number	Background or Base Color	First Tracer Color	Second Tracer Color
87	Black	Orange	-
88	White	Orange	-
89	Red	Orange	-
90	Green	Orange	-
91	Blue	Orange	-
92	Black	Blue	-
93	White	Blue	-
94	Red	Blue	-
95	Green	Blue	-
96	Orange	Blue	-
97	Yellow	-	-
98	Yellow	Black	-
99	Yellow	White	-
100	Yellow	Red	-
101	Yellow	Green	-
102	Yellow	Orange	-
103	Yellow	Blue	-
104	Black	Yellow	-
105	White	Yellow	-
106	Red	Yellow	-
107	Green	Yellow	-
108	Orange	Yellow	-
109	Blue	Yellow	-
110	Black	Yellow	Red
111	White	Yellow	Red
112	Green	Yellow	Red
113	Orange	Yellow	Red
114	Blue	Yellow	Red
115	Black	Yellow	White
116	Red	Yellow	White
117	Green	Yellow	White
118	Orange	Yellow	White
119	Blue	Yellow	White
120	Black	Yellow	Green
121	White	Yellow	Green
122	Red	Yellow	Green
123	Orange	Yellow	Green
124	Blue	Yellow	Green
125	Black	Yellow	Blue
126	White	Yellow	Blue
127	Red	Yellow	Blue

*This conductor is in the inside of the assembly.



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