



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	Cond. Number	Background or Base Color	First Tracer Color	Second Tracer Color	Cond. Number	Background or Base Color	First Tracer Color	Second Tracer Color
1*	Black	-	-	44	Black	White	Blue	87	Black	Orange	-
2	White	-	-	45	White	Black	Blue	88	White	Orange	-
3	Red	-	-	46	Red	White	Blue	89	Red	Orange	-
4	Green	-	-	47	Green	Orange	Red	90	Green	Orange	-
5	Orange	-	-	48	Orange	Red	Blue	91	Blue	Orange	-
6	Blue	-	-	49	Blue	Red	Orange	92	Black	Blue	-
7	White	Black	-	50	Black	Orange	Red	93	White	Blue	-
8	Red	Black	-	51	White	Black	Orange	94	Red	Blue	-
9	Green	Black	-	52	Red	Orange	Black	95	Green	Blue	-
10	Orange	Black	-	53	Green	Red	Blue	96	Orange	Blue	-
11	Blue	Black	-	54	Orange	Black	Blue	97	Yellow	-	-
12	Black	White	-	55	Blue	Black	Orange	98	Yellow	Black	-
13	Red	White	-	56	Black	Orange	Green	99	Yellow	White	-
14	Green	White	-	57	White	Orange	Green	100	Yellow	Red	-
15	Blue	White	-	58	Red	Orange	Green	101	Yellow	Green	-
16	Black	Red	-	59	Green	Black	Blue	102	Yellow	Orange	-
17	White	Red	-	60	Orange	Green	Blue	103	Yellow	Blue	-
18	Orange	Red	-	61	Blue	Green	Orange	104	Black	Yellow	-
19	Blue	Red	-	62	Black	Red	Blue	105	White	Yellow	-
20	Red	Green	-	63	White	Orange	Blue	106	Red	Yellow	-
21	Orange	Green	-	64	Red	Black	Blue	107	Green	Yellow	-
22	Black	White	Red	65	Green	Orange	Blue	108	Orange	Yellow	-
23	White	Black	Red	66	Orange	White	Red	109	Blue	Yellow	-
24	Orange	Black	White	67	Blue	White	Red	110	Black	Yellow	Red
25	Blue	Black	White	68	Black	Green	Blue	111	White	Yellow	Red
26	Red	Black	White	69	White	Green	Blue	112	Green	Yellow	Red
27	Orange	Black	White	70	Red	Green	Blue	113	Orange	Yellow	Red
28	Black	Red	Green	71	Green	White	Red	114	Blue	Yellow	Red
29	White	Red	Green	72	Orange	Red	Black	115	Black	Yellow	White
30	Red	Black	Green	73	Blue	Red	Black	116	Red	Yellow	White
31	Green	Black	Orange	74	Black	Orange	Blue	117	Green	Yellow	White
32	Orange	Black	Green	75	Red	Orange	Blue	118	Orange	Yellow	White
33	Blue	White	Orange	76	Green	Red	Black	119	Blue	Yellow	White
34	Black	White	Orange	77	Orange	White	Green	120	Black	Yellow	Green
35	White	Red	Orange	78	Blue	White	Green	121	White	Yellow	Green
36	Orange	White	Blue	79	Red	White	Orange	122	Red	Yellow	Green
37	White	Red	Blue	80	Green	White	Orange	123	Orange	Yellow	Green
38	Black	White	Green	81	Blue	Black	Green	124	Blue	Yellow	Green
39	White	Black	Green	82	Orange	White	-	125	Black	Yellow	Blue
40	Red	White	Green	83	Green	Red	-	126	White	Yellow	Blue
41	Green	White	Blue	84	Black	Green	-	127	Red	Yellow	Blue
42	Orange	Red	Green	85	White	Green	-				
43	Blue	Red	Green	86	Blue	Green	-				

*This conductor is in the inside of the assembly.

