

Alpha Essentials

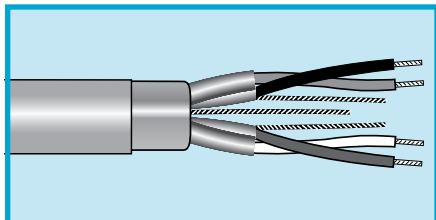
The Reliable Source for
Industry-Standard Cable

Alpha
Essentials



Plenum Cable

150 V Foil Shield, Multipair, FEP, PVDF,
Low- and Mid-Capacitance



UL CL2P
UL CMP
CSA CMP FT6

Operating Temperature

- 25°C to +125°C

Conductor Color Coding

- Chart A1

Materials

- Stranded tinned copper conductors
- FEP insulation
- Aluminum/polyester foil shield, 25% overlap min.
Foil facing inward
- Stranded tinned copper drain wire, 24 AWG
- Slate PVDF jacket

Availability

500 ft (152 m)

1000 ft (305 m)

Spools may contain multiple lengths

Individually Shielded Pairs

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.007 (0.18 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58602	2	0.164	4.17	0.009	0.23
58603	3	0.175	4.45	0.009	0.23
58604	4	0.195	4.95	0.009	0.23

Mutual capacitance: 25 pF/ft (82 pF/m)
Ground capacitance: 45 pF/ft (147.6 pF/m)

Overall Shield

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.007 (0.18 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58802	2	0.154	3.91	0.011	0.28
58803	3	0.163	4.14	0.011	0.28
58804	4	0.180	4.57	0.011	0.28
58806	6	0.217	5.51	0.011	0.28
58809	9	0.256	6.50	0.011	0.28
58812	12.5	0.294	7.47	0.011	0.28

Mutual capacitance: 20 pF/ft (65.6 pF/m)
Ground capacitance: 36 pF/ft (118.1 pF/m)

Overall Shield

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.012 (0.30 mm)

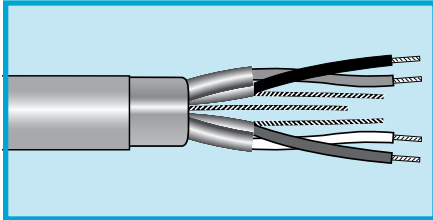
Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58902	2	0.186	4.72	0.011	0.28
58903	3	0.199	5.05	0.011	0.28
58904	4	0.219	5.56	0.011	0.28
58906	6	0.266	6.76	0.011	0.28
58909	9	0.315	8.00	0.011	0.28
58912	12.5	0.367	9.32	0.011	0.28

Mutual capacitance: 12.5 pF/ft (41 pF/m)
Ground capacitance: 23 pF/ft (75.5 pF/m)

Plenum Cable

150 V Foil Shield, Multipair, FEP, PVDF

Low- and Mid-Capacitance



UL CL2P
UL CMP
CSA CMP FT6

Operating Temperature

- 25°C to +125°C

Conductor Color Coding

- Chart A1

Materials

- Stranded tinned copper conductors
- FEP insulation
- Aluminum/polyester foil shield, 25% overlap min.
Foil facing inward
- Stranded tinned copper drain wire, 24 AWG
- Slate PVDF jacket

Availability

500 ft (152 m)
1000 ft (305 m)

Spools may contain multiple lengths

Overall Foil Shield, Individually Shielded Pairs

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.007 (0.18 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58612	2	0.187	4.75	0.009	0.23
58613	3	0.199	5.05	0.009	0.23
58616	6	0.267	6.68	0.009	0.23

Mutual capacitance: 29 pF/ft (95.1 pF/m)
Ground capacitance: 51 pF/ft (167.3 pF/m)

Individually Shielded Pairs, Overall Shield

18 AWG (0.82 mm²)

Stranding: 7/0.0152 (7 x 0.39 mm)
Insulation thickness: 0.007 (0.18 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58632	2	0.810	6.38	0.010	0.25
58633	3	0.264	6.71	0.410	0.25

Mutual capacitance: 35 pF/ft (114.8 pF/m)
Ground capacitance: 63 pF/ft (206.7 pF/m)

Individually Shielded Pairs

16 AWG (0.35 mm²)

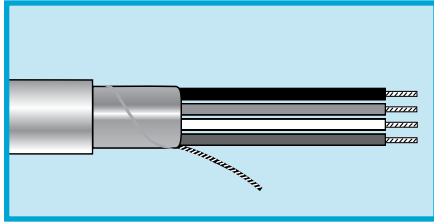
Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.007 (0.18 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58642	2	0.289	7.34	0.012	0.30
58643	3	0.309	7.85	0.012	0.30

Mutual capacitance: 39 pF/ft (128 pF/m)
Ground capacitance: 69 pF/ft (226.4 pF/m)

Plenum Cable

300 V Overall Foil Shield, Multiconductor, PVC, PVC



UL CMP
CSA CMP FT6

Operating Temperature

- -20°C to +75°C

Conductor Color Coding

- 1 Black, 2 Red, 3 White, 4 Green, 5 Brown, 6 Blue, 7 Orange, 8 Yellow, 9 Violet, 10 Slate

Materials

- Stranded bare copper conductors
- Plenum-rated PVC insulation
- Aluminum/polyester foil shield, 25% overlap min.
Foil facing outward
- Stranded tinned copper drain wire (see tables for size)
- White plenum-rated PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

18 AWG (0.89 mm²)

Stranding: 7/26 (16 x 0.40 mm)
Insulation thickness: 0.010 (0.25 mm)
20 AWG (0.56 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	Mm
M244825	2	0.166	4.22	0.015	0.38
M244826	3	0.187	4.60	0.015	0.38
M244827	4	0.199	5.05	0.015	0.38

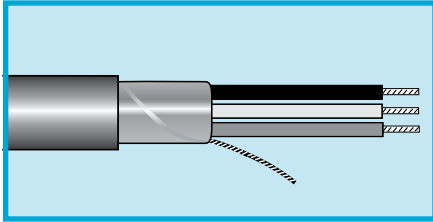
16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.010 (0.25 mm)
18 AWG (0.89 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M244834	2	0.192	4.88	0.015	0.38
M244835	3	0.204	5.18	0.015	0.38
M244836	4	0.225	5.71	0.015	0.38

Plenum Cable

300 V Foil Shield, Multiconductor, PVC, PVC



UL CL2P
UL CMP
CSA CMP FT6

Operating Temperature

- 5°C to +75°C

Conductor Color Coding

- Chart D2

Materials

- Stranded bare copper conductors
- Plenum-rated PVC insulation
- Foil shield
Aluminum/polyester foil shield,
25% overlap min.
Foil facing outward
- Stranded tinned copper drain wire (see tables for size)
- Slate plenum-rated PVC jacket

Availability

500 ft (152 m)
1000 ft (305 m)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.008 (0.020 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58401	2	0.120	3.05	0.015	0.39
57003	3	0.120	3.05	0.015	0.39
57004	4	0.131	3.33	0.015	0.39
57006	6	0.154	3.91	0.015	0.39
57008	8	0.167	4.24	0.015	0.39
57010	10	0.194	4.93	0.015	0.39
57015	15	0.217	5.51	0.015	0.39
58110/25	25	0.262	6.65	0.015	0.39

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.008 (0.020 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58411	2	0.126	3.20	0.015	0.39
58113	3	0.133	3.38	0.015	0.39
58114	4	0.145	3.68	0.015	0.39
58116	6	0.172	4.37	0.015	0.39
58117	7	0.172	4.37	0.015	0.39
58118	8	0.187	4.75	0.015	0.39
58119	9	0.201	5.11	0.015	0.39
58120	10	0.218	5.54	0.015	0.39
58120/12	12	0.225	5.72	0.015	0.39
58120/15	15	0.245	6.22	0.015	0.39
58120/25	25	0.314	7.98	0.017	0.43

20 AWG (0.35 mm²)

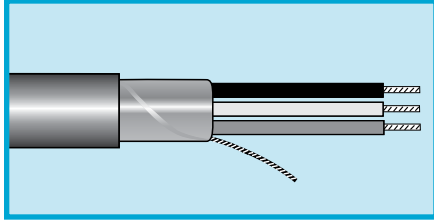
Stranding: 7/0.0121 (7 x 0.31 mm)
Insulation thickness: 0.008 (0.020 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58421	2	0.138	3.51	0.015	0.39
58124	4	0.160	4.06	0.015	0.39
58126	6	0.191	4.85	0.015	0.39



Plenum Cable

300 V Foil Shield, Multiconductor, PVC, PVC



UL CL2P
UL CMP
CSA CMP FT6

Operating Temperature

- -5°C to +75°C

Conductor Color Coding

- Chart D2

Materials

- Stranded bare copper conductors
- Plenum-rated PVC insulation
- Foil shield
Aluminum/polyester foil shield,
25% overlap min.
Foil facing outward
- Stranded tinned copper drain wire (see tables for size)
- Slate plenum-rated PVC jacket

Availability

500 ft (152 m)
1000 ft (305 m)

18 AWG (0.82 mm²)

Stranding: 7/0.0152 (7 x 0.39 mm)
Insulation thickness: 0.009 (0.023 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58431	2	0.162	4.11	0.015	0.39
58133	3	0.172	4.37	0.015	0.39
58134	4	0.189	4.80	0.015	0.39
58136	6	0.227	5.77	0.015	0.39

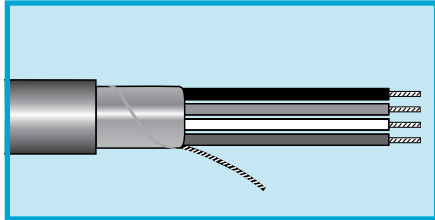
16 AWG (1.31 mm²)

Stranding: 7/0.0192 (7 x 0.49 mm)
Insulation thickness: 0.009 (0.023 mm)
18 AWG (0.82 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58142	2	0.186	4.72	0.015	0.39
58144	4	0.218	5.54	0.015	0.39

Plenum Cable

300 V Overall Foil Shield, Multiconductor, FEP, FEP



UL CMP
CSA CMP FT6

Operating Temperature

- -80°C to +150°C

Conductor Color Coding

- Chart F

Materials

- Stranded tinned copper conductors
- FEP insulation
- Aluminum/polyester foil shield, 25% overlap min.
Foil facing outward
- Stranded tinned copper drain wire (see tables for size)
- Slate FEP jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.006 (0.15 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M64837	2	0.096	2.44	0.010	0.25
M64838	3	0.102	2.59	0.010	0.25
M64839	4	0.111	2.82	0.010	0.25
M64840	5	0.122	3.10	0.010	0.25
M64841	6	0.133	3.38	0.010	0.25
M64842	7	0.133	3.38	0.010	0.25
M64843	8	0.168	4.26	0.012	0.30

22 AWG (0.35 mm²)

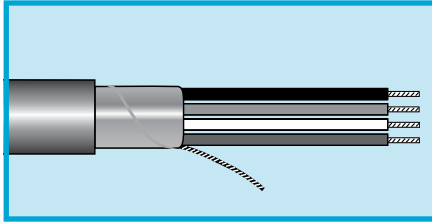
Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.006 (0.15 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M64800	2	0.108	2.74	0.010	0.25
M64801	3	0.115	2.92	0.010	0.25
M64802	4	0.126	3.20	0.010	0.25
M64803	5	0.138	3.51	0.010	0.25
M64804	6	0.151	3.84	0.010	0.25
M64805	7	0.151	3.84	0.010	0.25
M64806	8	0.168	4.27	0.012	0.30
M64807	9	0.181	4.60	0.012	0.30
M64808	10	0.196	4.98	0.012	0.30
M64809	12	0.203	5.16	0.012	0.30
M64812	15	0.221	5.61	0.012	0.30



Plenum Cable

300 V Overall Foil Shield, Multiconductor, FEP, FEP



UL CMP
CSA CMP FT6

Operating Temperature

- 80°C to +150°C

Conductor Color Coding

- Chart F

Materials

- Stranded tinned copper conductors
- FEP insulation
- Aluminum/polyester foil shield, 25% overlap min.
Foil facing outward
- Stranded tinned copper drain wire (see tables for size)
- Slate FEP jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length
(Minimums may apply)

Color Code D

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.006 (0.15 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M613226	1	0.118	2.99	0.015	0.38

20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)
Insulation thickness: 0.006 (0.15 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	Mm
M64816	2	0.124	3.15	0.010	0.25
M64817	3	0.132	3.35	0.010	0.25
M64818	4	0.145	3.68	0.010	0.25

Color Code D

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.007 (0.18 mm)
20 AWG (0.60 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M613242	2	0.162	4.11	0.015	0.38

-80°C to +200°C

18 AWG (0.89 mm²)

Stranding: 7/26 (16 x 0.40 mm)
Insulation thickness: 0.009 (0.23 mm)
20 AWG (0.56 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M64825	2	0.160	4.06	0.010	0.25
M64826	3	0.166	4.22	0.010	0.25
M64827	4	0.188	4.78	0.012	0.30
M64829	6	0.227	5.77	0.012	0.30

-80°C to +200°C

16 AWG (1.43 mm²)

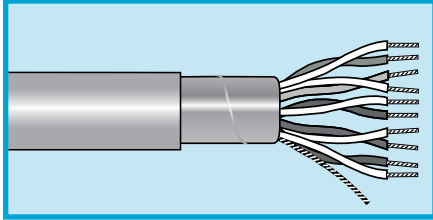
Stranding: 7/24 (7 x 0.51 mm)
Insulation thickness: 0.009 (0.23 mm)
18 AWG (0.89 mm²) drain wire

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
M64834	2	0.180	4.57	0.010	0.25
M64835	3	0.196	4.98	0.012	0.30
M64836	4	0.217	5.51	0.012	0.30



Plenum Cable

300/150 V Foil Shield, Multipair, PVC, PVC



UL CL2P
UL CMP
CSA CMP FT6

Operating Temperature

- 5°C to +75°C

Conductor Color Coding

- Chart A1

Materials

- Stranded bare copper conductors
- Plenum-rated PVC insulation
- Foil shield
- Aluminum/polyester foil shield, 25% overlap min.
Foil facing outward
- Stranded tinned copper drain wire (see tables for size)
- Slate plenum-rated PVC jacket

Availability

500 ft (152 m)
1000 ft (305 m)

24 AWG (0.22 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.008 (0.020 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
57602	2	0.178	4.52	0.015	0.39
57603	3	0.175	4.45	0.015	0.39
57604	4	0.193	4.90	0.015	0.39
57605	5	0.212	5.38	0.015	0.39

22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)
Insulation thickness: 0.008 (0.020 mm)
24 AWG (0.22 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
58412	2	0.185	4.70	0.015	0.39
58413	3	0.197	5.00	0.015	0.39
58414	4	0.217	5.51	0.015	0.39
58415	5	0.239	6.07	0.015	0.39
58416	6	0.261	6.63	0.015	0.39
57628	8	0.285	7.24	0.015	0.39
58419	9	0.311	7.90	0.016	0.41
58420/19	19	0.418	10.62	0.018	0.46

20 AWG (0.35 mm²)

Stranding: 7/0.0121 (7 x 0.31 mm)
Insulation thickness: 0.008 (0.020 mm)
22 AWG (0.35 mm²) drain wire

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
57632	2	0.205	5.21	0.015	0.39
57634	4	0.240	6.10	0.015	0.39
57636	6	0.291	7.39	0.015	0.39



Multipair Cables

Chart A

Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Black +Red	14	Green + Blue	27	Brown + Yellow	40	Slate + Blue
2	Black + White	15	Green + White	28	Violet + Red	41	Slate + Brown
3	Black + Green	16	Green + Brown	29	Violet + White	42	Slate + Yellow
4	Black + Blue	17	Green + Orange	30	Violet + Green	43	Slate + Orange
5	Black + Brown	18	Green + Yellow	31	Violet + Blue	44	Slate + Black
6	Black + Yellow	19	White + Blue	32	Violet + Brown	45	White/Black + Red
7	Black + Orange	20	White + Brown	33	Violet + Yellow	46	White/Black + Green
8	Red + Green	21	White + Orange	34	Violet + Orange	47	White/Black + Blue
9	Red + White	22	White + Yellow	35	Violet + Slate	48	White/Black + Brown
10	Red + Blue	23	Blue + Brown	36	Violet + Black	49	White/Black + Yellow
11	Red + Yellow	24	Blue + Orange	37	Slate + Red	50	White/Black + Orange
12	Red + Brown	25	Blue + Yellow	38	Slate + White	51	White/Black + Violet
13	Red + Orange	26	Brown + Orange	39	Slate + Green		

Chart A1

Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Black +Red	14	Green + White	27	Brown + Orange	40	Slate + Blue
2	Black + White	15	Green + Blue	28	Violet + Red	41	Slate + Brown
3	Black + Green	16	Green + Yellow	29	Violet + White	42	Slate + Yellow
4	Black + Blue	17	Green + Brown	30	Violet + Green	43	Slate + Orange
5	Black + Yellow	18	Green + Orange	31	Violet + Blue	44	Slate + Black
6	Black + Brown	19	White + Blue	32	Violet + Brown	45	White/Black + Red
7	Black + Orange	20	White + Yellow	33	Violet + Yellow	46	White/Black + Green
8	Red + White	21	White + Brown	34	Violet + Orange	47	White/Black + Blue
9	Red + Green	22	White + Orange	35	Violet + Slate	48	White/Black + Brown
10	Red + Blue	23	Blue + Yellow	36	Violet + Black	49	White/Black + Yellow
11	Red + Yellow	24	Blue + Brown	37	Slate + Red	50	White/Black + Orange
12	Red + Brown	25	Blue + Orange	38	Slate + White	51	White/Black + Violet
13	Red + Orange	26	Brown + Yellow	39	Slate + Green		

Chart B

Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	White +Black	35	Orange +Slate	69	White/Red +Green
2	White +Brown	36	Yellow +Green	70	White/Red +Blue
3	White +Red	37	Yellow +Blue	71	White/Red +Violet
4	White +Orange	38	Yellow +Violet	72	White/Red +Slate
5	White +Yellow	39	Yellow +Slate	73	White/Orange +Black
6	White +Green	40	Green +Blue	74	White/Orange +Brown
7	White +Blue	41	Green +Violet	75	White/Orange +Red
8	White +Violet	42	Green +Slate	76	White/Orange +Orange
9	White +Slate	43	Blue +Violet	77	White/Orange +Yellow
10	Black +Brown	44	Blue +Slate	78	White/Orange +Green
11	Black +Red	45	Violet +Slate	79	White/Orange +Blue
12	Black +Orange	46	White/Black +Black	80	White/Orange +Violet
13	Black +Yellow	47	White/Black +Brown	81	White/Orange +Slate
14	Black +Green	48	White/Black +Red	82	White/Yellow +Black
15	Black +Blue	49	White/Black +Orange	83	White/Yellow +Brown
16	Black +Violet	50	White/Black +Yellow	84	White/Yellow +Red
17	Black +Slate	51	White/Black +Green	85	White/Yellow +Orange
18	Brown +Red	52	White/Black +Blue	86	White/Yellow +Yellow
19	Brown +Orange	53	White/Black +Violet	87	White/Yellow +Green
20	Brown +Yellow	54	White/Black +Slate	88	White/Yellow +Blue
21	Brown +Green	55	White/Brown +Black	89	White/Yellow +Violet
22	Brown +Blue	56	White/Brown +Brown	90	White/Yellow +Slate
23	Brown +Violet	57	White/Brown +Red	91	White/Green +Black
24	Brown +Slate	58	White/Brown +Orange	92	White/Green +Brown
25	Red +Orange	59	White/Brown +Yellow	93	White/Green +Red
26	Red +Yellow	60	White/Brown +Green	94	White/Green +Orange
27	Red +Green	61	White/Brown +Blue	95	White/Green +Yellow
28	Red +Blue	62	White/Brown +Violet	96	White/Green +Green
29	Red +Violet	63	White/Brown +Slate	97	White/Green +Blue
30	Red +Slate	64	White/Red +Black	98	White/Green +Violet
31	Orange +Yellow	65	White/Red +Brown	99	White/Green +Slate
32	Orange +Green	66	White/Red +Red	100	White/Blue +Black
33	Orange +Blue	67	White/Red +Orange	101	White/Blue +Brown
34	Orange +Violet	68	White/Red +Yellow	102	White/Blue +Red

Multipair Cables

Chart BR							
Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Black #1 + Red #1	14	Black #14 + Red #14	27	Black #27 + Red #27	40	Black #40 + Red #40
2	Black #2 + Red #2	15	Black #15 + Red #15	28	Black #28 + Red #28	41	Black #41 + Red #41
3	Black #3 + Red #3	16	Black #16 + Red #16	29	Black #29 + Red #29	42	Black #42 + Red #42
4	Black #4 + Red #4	17	Black #17 + Red #17	30	Black #30 + Red #30	43	Black #43 + Red #43
5	Black #5 + Red #5	18	Black #18 + Red #18	31	Black #31 + Red #31	44	Black #44 + Red #44
6	Black #6 + Red #6	19	Black #19 + Red #19	32	Black #32 + Red #32	45	Black #45 + Red #45
7	Black #7 + Red #7	20	Black #20 + Red #20	33	Black #33 + Red #33	46	Black #46 + Red #46
8	Black #8 + Red #8	21	Black #21 + Red #21	34	Black #34 + Red #34	47	Black #47 + Red #47
9	Black #9 + Red #9	22	Black #22 + Red #22	35	Black #35 + Red #35	48	Black #48 + Red #48
10	Black #10 + Red #10	23	Black #23 + Red #23	36	Black #36 + Red #36	49	Black #49 + Red #49
11	Black #11 + Red #11	24	Black #24 + Red #24	37	Black #37 + Red #37	50	Black #50 + Red #50
12	Black #12 + Red #12	25	Black #25 + Red #25	38	Black #38 + Red #38	51	Black #51 + Red #51
13	Black #13 + Red #13	26	Black #26 + Red #26	39	Black #39 + Red #39		

Chart BW							
Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Black + White #1	14	Black + White #14	27	Black + White #27	40	Black + White #40
2	Black + White #2	15	Black + White #15	28	Black + White #28	41	Black + White #41
3	Black + White #3	16	Black + White #16	29	Black + White #29	42	Black + White #42
4	Black + White #4	17	Black + White #17	30	Black + White #30	43	Black + White #43
5	Black + White #5	18	Black + White #18	31	Black + White #31	44	Black + White #44
6	Black + White #6	19	Black + White #19	32	Black + White #32	45	Black + White #45
7	Black + White #7	20	Black + White #20	33	Black + White #33	46	Black + White #46
8	Black + White #8	21	Black + White #21	34	Black + White #34	47	Black + White #47
9	Black + White #9	22	Black + White #22	35	Black + White #35	48	Black + White #48
10	Black + White #10	23	Black + White #23	36	Black + White #36	49	Black + White #49
11	Black + White #11	24	Black + White #24	37	Black + White #37	50	Black + White #50
12	Black + White #12	25	Black + White #25	38	Black + White #38		
13	Black + White #13	26	Black + White #26	39	Black + White #39		

Chart C							
Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Blue + White	14	Orange/Slate + White	27	Blue/Orange + Red	40	Slate/White + Red
2	Orange + White	15	Green/White + White	28	Blue/Green + Red	41	Blue + Black
3	Green + White	16	Green/Brown + White	29	Blue/Brown + Red	42	Orange + Black
4	Brown + White	17	Green/Slate + White	30	Blue/Slate + Red	43	Green + Black
5	Slate + White	18	Brown/White + White	31	Orange/White + Red	44	Brown + Black
6	Blue/White + White	19	Brown/Slate + White	32	Orange/Green + Red	45	Slate + Black
7	Blue/Orange + White	20	Slate/White + White	33	Orange/Brown + Red	46	Blue/White + Black
8	Blue/Green + White	21	Blue + Red	34	Orange/Slate + Red	47	Blue/Orange + Black
9	Blue/Brown + White	22	Orange + Red	35	Green/White + Red	48	Blue/Green + Black
10	Blue/Slate + White	23	Green + Red	36	Green/Brown + Red	49	Blue/Brown + Black
11	Orange/White + White	24	Brown + Red	37	Green/Slate + Red	50	Blue/Slate + Black
12	Orange/Green + White	25	Slate + Red	38	Brown/White + Red	51	Orange/White + Black
13	Orange/Brown + White	26	Blue/White + Red	39	Brown/Slate + Red		

Chart K					
Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Black + Red	14	Green + White	27	Brown + Orange
2	Black + White	15	Green + Blue	28	Orange + Yellow
3	Black + Green	16	Green + Yellow	29	Violet + Orange
4	Black + Blue	17	Green + Brown	30	Violet + Red
5	Black + Yellow	18	Green + Orange	31	Violet + White
6	Black + Brown	19	White + Blue	32	Violet + Green
7	Black + Orange	20	White + Yellow	33	Violet + Blue
8	Red + White	21	White + Brown	34	Violet + Yellow
9	Red + Green	22	White + Orange	35	Violet + Brown
10	Red + Blue	23	Blue + Yellow	36	Violet + Black
11	Red + Yellow	24	Blue + Brown	37	Slate + White
12	Red + Brown	25	Blue + Orange		
13	Red + Orange	26	Brown + Yellow		

Multipair Cables

Chart L

Pair No.	Color Combination	Pair No.	Color Combination
1	White + Blue	10	Red + Slate
2	White + Orange	11	Black + Blue
3	White + Green	12	Black + Orange
4	White + Brown	13	Black + Green
5	White + Slate	14	Black + Brown
6	Red + Blue	15	Black + Slate
7	Red + Orange	16	Yellow + Blue
8	Red + Green	17	Yellow + Orange
9	Red + Brown	18	Yellow + Green
		19	Yellow + Brown
		20	Yellow + Slate
		21	Violet + Blue
		22	Violet + Orange
		23	Violet + Green
		24	Violet + Brown
		25	Violet + Slate

Chart M

Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Blue/White + White/Blue	10	Slate/Red + Red/Slate	19	Brown/Yellow + Yellow/Brown
2	Orange/White + White/Orange	11	Blue/Black + Black/Blue	20	Slate/Yellow + Yellow/Slate
3	Green/White + White/Green	12	Orange/Black + Black/Orange	21	Blue/Violet + Violet/Blue
4	Brown/White + White/Brown	13	Green/Black + Black/Green	22	Orange/Violet + Violet/Orange
5	Slate/White + White/Slate	14	Brown/Black + Black/Brown	23	Green/Violet + Violet/Green
6	Blue/Red + Red/Blue	15	Slate/Black + Black/Slate	24	Brown/Violet + Violet/Brown
7	Orange/Red + Red/Orange	16	Blue/Yellow + Yellow/Blue	25	Slate/Violet + Violet/Slate
8	Green/Red + Red/Green	17	Orange/Yellow + Yellow/Orange		
9	Brown/Red + Red/Brown	18	Green/Yellow + Yellow/Green		

Chart N

Pair No.	Color Combination
1	Black + Yellow
2	Red + Violet
3	Blue + Brown
4	Orange + Green
5	Black/White + White/Black
6	Brown/White + White/Brown
7	Red/White + White/Red
8	Orange/White + White/Orange
9	Yellow/White + White/Yellow
10	Green/White + White/Green
11	Blue/White + White/Blue
12	Violet/White + White/Violet

Chart Q

Pair No.	Color Combination
1	Black + White
2	Red + Green
3	Brown + Blue
4	Orange + Yellow
5	Violet + Slate
6	Tan + Pink
7	White/Blue + Blue/White
8	White/Brown + Brown/White
9	White/Orange + Orange/White
10	White/Green + Green/White
11	White/Red + Red/White
12	White/Black + Black/White
13	Yellow/Blue + Blue/Yellow
14	Yellow/Brown + Brown/Yellow
15	Yellow/Orange + Orange/Yellow
16	Yellow/Red + Red/Yellow
17	Yellow/Black + Black/Yellow
18	Yellow/Violet + Violet/Yellow

Multiconductor Cables

Chart D													
No.	Base Color	1st Stripe	2nd Stripe	3rd Stripe					No.	Base Color	1st Stripe	2nd Stripe	3rd Stripe
1	Black				35	White	Red	Red	69	White	Black	Green	Blue
2	Red				36	White	Red	Green	70	White	Black	Green	Brown
3	White				37	White	Red	Blue	71	White	Black	Green	Orange
4	Green				38	White	Red	Brown	72	White	Black	Green	Slate
5	Orange				39	White	Red	Violet	73	White	Black	Green	Violet
6	Blue				40	White	Green	Black	74	White	Black	Yellow	Blue
7	Brown				41	White	Green	Red	75	White	Black	Yellow	Brown
8	Yellow				42	White	Green	Green	76	White	Black	Yellow	Orange
9	Violet				43	White	Green	Blue	77	White	Black	Yellow	Slate
10	Slate				44	White	Green	Brown	78	White	Black	Yellow	Violet
11	Pink				45	White	Green	Violet	79	White	Black	Blue	Brown
12	Tan				46	White	Blue	Black	80	White	Black	Blue	Orange
13	Red	Green			47	White	Blue	Red	81	White	Black	Blue	Slate
14	Red	Yellow			48	White	Blue	Green	82	White	Black	Blue	Violet
15	Red	Black			49	White	Blue	Blue	83	White	Black	Brown	Orange
16	White	Black			50	White	Blue	Brown	84	White	Black	Brown	Slate
17	White	Red			51	White	Blue	Violet	85	White	Black	Brown	Violet
18	White	Green			52	White	Brown	Black	86	White	Black	Orange	Slate
19	White	Yellow			53	White	Brown	Red	87	White	Black	Orange	Violet
20	White	Blue			54	White	Brown	Green	88	White	Black	Slate	Violet
21	White	Brown			55	White	Brown	Blue	89	White	Red	Black	Green
22	White	Orange			56	White	Brown	Brown	90	White	Red	Black	Yellow
23	White	Slate			57	White	Brown	Violet	91	White	Red	Black	Blue
24	White	Violet			58	White	Violet	Red	92	White	Red	Black	Brown
25	White	Black	Red		59	White	Violet	Green	93	White	Red	Black	Orange
26	White	Black	Green		60	White	Violet	Blue	94	White	Red	Black	Slate
27	White	Black	Yellow		61	White	Black	Red	95	White	Red	Black	Violet
28	White	Black	Blue		62	White	Black	Red	96	White	Red	Green	Yellow
29	White	Black	Brown		63	White	Black	Red	97	White	Red	Green	Blue
30	White	Black	Orange		64	White	Black	Red	98	White	Red	Green	Brown
31	White	Black	Slate		65	White	Black	Red	99	White	Red	Green	Orange
32	White	Black	Violet		66	White	Black	Red	100	White	Red	Green	Slate
33	White	Black	Black		67	White	Black	Red					
34	White	Red	Black		68	White	Black	Green					

Chart D1	
No.	Color
1	Black
2	Red
3	White
4	Green
5	Yellow
6	Blue

Chart CE	
No.	Color
1	Green/Yellow
2	Lt. Blue
3	Black
4	Brown

Chart D2					
No.	Base Color	Stripe	No.	Base Color	Stripe
1	Black		14	White	Orange
2	White		15	White	Green
3	Red		16	White	Brown
4	Green		17	White	Slate
5	Brown		18	Red	Blue
6	Blue		19	Red	Orange
7	Orange		20	Red	Green
8	Yellow		21	Red	Brown
9	Violet		22	Red	Slate
10	Slate		23	Green	Blue
11	Pink		24	Green	Orange
12	Tan		25	Green	Brown
13	White	Blue			

Multiconductor Cables

Chart E														
No.	Base Color	1st Stripe	2nd Stripe	3rd Stripe	No.	Base Color	1st Stripe	2nd Stripe	3rd Stripe	No.	Base Color	1st Stripe	2nd Stripe	3rd Stripe
1	Black				35	White	Red	Orange		69	White	Black	Orange	Green
2	Brown				36	White	Red	Yellow		70	White	Black	Orange	Blue
3	Red				37	White	Red	Green		71	White	Black	Orange	Violet
4	Orange				38	White	Red	Blue		72	White	Black	Orange	Slate
5	Yellow				39	White	Red	Violet		73	White	Black	Yellow	Green
6	Green				40	White	Red	Slate		74	White	Black	Yellow	Blue
7	Blue				41	White	Orange	Yellow		75	White	Black	Yellow	Violet
8	Violet				42	White	Orange	Green		76	White	Black	Yellow	Slate
9	Slate				43	White	Orange	Blue		77	White	Black	Green	Blue
10	White				44	White	Orange	Violet		78	White	Black	Green	Violet
11	White	Black			45	White	Orange	Slate		79	White	Black	Green	Slate
12	White	Brown			46	White	Yellow	Green		80	White	Black	Blue	Violet
13	White	Red			47	White	Yellow	Blue		81	White	Black	Blue	Slate
14	White	Orange			48	White	Yellow	Violet		82	White	Black	Violet	Slate
15	White	Yellow			49	White	Yellow	Slate		83	White	Brown	Red	Orange
16	White	Green			50	White	Green	Blue		84	White	Brown	Red	Yellow
17	White	Blue			51	White	Green	Violet		85	White	Brown	Red	Green
18	White	Violet			52	White	Green	Slate		86	White	Brown	Red	Blue
19	White	Slate			53	White	Blue	Violet		87	White	Brown	Red	Violet
20	White	Black	Brown		54	White	Blue	Slate		88	White	Brown	Red	Slate
21	White	Black	Red		55	White	Violet	Slate		89	White	Brown	Orange	Yellow
22	White	Black	Orange		56	White	Black	Brown	Red	90	White	Brown	Orange	Green
23	White	Black	Yellow		57	White	Black	Brown	Orange	91	White	Brown	Orange	Blue
24	White	Black	Green		58	White	Black	Brown	Yellow	92	White	Brown	Orange	Violet
25	White	Black	Blue		59	White	Black	Brown	Green	93	White	Brown	Orange	Slate
26	White	Black	Violet		60	White	Black	Brown	Blue	94	White	Brown	Yellow	Green
27	White	Black	Slate		61	White	Black	Brown	Violet	95	White	Brown	Yellow	Blue
28	White	Brown	Red		62	White	Black	Brown	Slate	96	White	Brown	Yellow	Violet
29	White	Brown	Orange		63	White	Black	Red	Yellow	97	White	Brown	Yellow	Slate
30	White	Brown	Yellow		64	White	Black	Red	Green	98	White	Brown	Green	Blue
31	White	Brown	Green		65	White	Black	Red	Blue	99	White	Brown	Green	Violet
32	White	Brown	Blue		66	White	Black	Red	Violet	100	White	Brown	Green	Slate
33	White	Brown	Violet		67	White	Black	Red	Slate					
34	White	Brown	Slate		68	White	Black	Orange	Yellow					

Chart F											
No.	Base Color	1st Stripe	2nd Stripe	No.	Base Color	1st Stripe	2nd Stripe	No.	Base Color	1st Stripe	2nd Stripe
1	Black			21	Orange	Green		41	Green	White	Blue
2	White			22	Black	White	Red	42	Orange	Red	Green
3	Red			23	White	Black	Red	43	Blue	Red	Green
4	Green			24	Red	Black	White	44	Black	White	Blue
5	Orange			25	Green	Black	White	45	White	Black	Blue
6	Blue			26	Orange	Black	White	46	Red	White	Blue
7	White	Black		27	Blue	Black	White	47	Green	Orange	Red
8	Red	Black		28	Black	Red	Green	48	Orange	Red	Blue
9	Green	Black		29	White	Red	Green	49	Blue	Red	Orange
10	Orange	Black		30	Red	Black	Green	50	Black	Orange	Red
11	Blue	Black		31	Green	Black	Orange	51	White	Black	Orange
12	Black	White		32	Orange	Black	Green	52	Red	Orange	Black
13	Red	White		33	Blue	White	Orange	53	Green	Red	Blue
14	Green	White		34	Black	White	Orange	54	Orange	Black	Blue
15	Blue	White		35	White	Red	Orange	55	Blue	Black	Orange
16	Black	Red		36	Orange	White	Blue	56	Black	Orange	Green
17	White	Red		37	White	Red	Blue	57	White	Orange	Green
18	Orange	Red		38	Black	White	Green	58	Red	Orange	Green
19	Blue	Red		39	White	Black	Green	59	Green	Black	Blue
20	Red	Green		40	Red	White	Green	60	Orange	Green	Blue

Chart G								
No.	Base Color	Stripe	No.	Base Color	Stripe	No.	Base Color	Stripe
1	White		6	Blue		11	White	Black
2	Black		7	Brown		12	White	Brown
3	Red		8	Orange		13	White	Red
4	Green		9	Slate		14	White	Orange
5	Yellow		10	Violet		15	White	Yellow

Conductor Color Coding

Multiconductor Cables

Chart H								
No.	Base Color	Stripe	No.	Base Color	Stripe	No.	Base Color	Stripe
1	Black		8	Orange		15	White	Blue
2	White		9	Slate		16	White	Brown
3	Red		10	Violet		17	White	Violet
4	Green		11	White	Black	18	White	Slate
5	Yellow		12	White	Red	19	Black	Red
6	Blue		13	White	Green	20	Black	Yellow
7	Brown		14	White	Yellow			

Chart I		
No.	Color	
1	Green	
2	White	
3	Brown	
4	Blue	
5	Orange	
6	Yellow	

Chart J					
No.	Base Color	Stripe	No.	Base Color	Stripe
1	Black		20	Yellow	Blue
2	Red		21	Brown	Blue
3	Blue		22	Black	Orange
4	Orange		23	Red	Orange
5	Yellow		24	Blue	Orange
6	Brown		25	Yellow	Orange
7	Red	Black	26	Brown	Orange
8	Blue	Black	27	Black	Yellow
9	Orange	Black	28	Red	Yellow
10	Yellow	Black	29	Blue	Yellow
11	Brown	Black	30	Orange	Yellow
12	Black	Red	31	Brown	Yellow
13	Blue	Red	32	Black	Brown
14	Orange	Red	33	Red	Brown
15	Yellow	Red	34	Blue	Brown
16	Brown	Red	35	Orange	Brown
17	Black	Blue	36	Yellow	Brown
18	Red	Blue	37	Black	
19	Orange	Blue			

Chart I2		
No.	Color	Stripe
1	Brown	
2	Blue	
3	Green	Yellow

Chart J1		
No.	Base Color	Stripe
1	Black #1	
2	Red #2	
3	Blue #3	
4	Orange #4	
5	Yellow #5	
6	Brown #6	
7	Red	Black #7
8	Blue	Black #8
9	Orange	Black #9
10	Yellow	Black #10
11	Brown	Black #11
12	Black	Red #12

Chart KW			
No.	Color	No.	Color
1	Green/Yellow	34	Black #33
2	Black #1	35	Black #34
3	White/Black*	36	Black #35
4	Black #3	37	Black #36
5	Black #4	38	Black #37
6	Black #5	39	Black #38
7	Black #6	40	Black #39
8	Black #7	41	Black #40
9	Black #8	42	Black #41
10	Black #9	43	Black #42
11	Black #10	44	Black #43
12	Black #11	45	Black #44
13	Black #12	46	Black #45
14	Black #13	47	Black #46
15	Black #14	48	Black #47
16	Black #15	49	Black #48
17	Black #16	50	Black #49
18	Black #17	51	Black #50
19	Black #18	52	Black #51
20	Black #19	53	Black #52
21	Black #20	54	Black #53
22	Black #21	55	Black #54
23	Black #22	56	Black #55
24	Black #23	57	Black #56
25	Black #24	58	Black #57
26	Black #25	59	Black #58
27	Black #26	60	Black #59
28	Black #27	61	Black #60
29	Black #28	62	Black #61
30	Black #29	63	Black #62
31	Black #30	64	Black #63
32	Black #31	65	Black #64
33	Black #32		

*The white/black neutral conductor is used only on 18 and 16 AWG cables with conductor counts of 12 or greater.

Multiconductor Cables

Chart KX					
No.	Color			No.	Color
1	Green/Yellow	23	Black #22	45	Black #44
2	Black #1	24	Black #23	46	Black #45
3	Black #2	25	Black #24	47	Black #46
4	Black #3	26	Black #25	48	Black #47
5	Black #4	27	Black #26	49	Black #48
6	Black #5	28	Black #27	50	Black #49
7	Black #6	29	Black #28	51	Black #50
8	Black #7	30	Black #29	52	Black #51
9	Black #8	31	Black #30	53	Black #52
10	Black #9	32	Black #31	54	Black #53
11	Black #10	33	Black #32	55	Black #54
12	Black #11	34	Black #33	56	Black #55
13	Black #12	35	Black #34	57	Black #56
14	Black #13	36	Black #35	58	Black #57
15	Black #14	37	Black #36	59	Black #58
16	Black #15	38	Black #37	60	Black #59
17	Black #16	39	Black #38	61	Black #60
18	Black #17	40	Black #39	62	Black #61
19	Black #18	41	Black #40	63	Black #62
20	Black #19	42	Black #41	64	Black #63
21	Black #20	43	Black #42	65	Black #64
22	Black #21	44	Black #43		

Chart LW					
No.	Color	No.	Color	No.	Color
1	Green/Yellow	23	Dk. Blue #22	45	Dk. Blue #44
2	Dk. Blue #1	24	Dk. Blue #23	46	Dk. Blue #45
3	White/Blue*	25	Dk. Blue #24	47	Dk. Blue #46
4	Dk. Blue #3	26	Dk. Blue #25	48	Dk. Blue #47
5	Dk. Blue #4	27	Dk. Blue #26	49	Dk. Blue #48
6	Dk. Blue #5	28	Dk. Blue #27	50	Dk. Blue #49
7	Dk. Blue #6	29	Dk. Blue #28	51	Dk. Blue #50
8	Dk. Blue #7	30	Dk. Blue #29	52	Dk. Blue #51
9	Dk. Blue #8	31	Dk. Blue #30	53	Dk. Blue #52
10	Dk. Blue #9	32	Dk. Blue #31	54	Dk. Blue #53
11	Dk. Blue #10	33	Dk. Blue #32	55	Dk. Blue #54
12	Dk. Blue #11	34	Dk. Blue #33	56	Dk. Blue #55
13	Dk. Blue #12	35	Dk. Blue #34	57	Dk. Blue #56
14	Dk. Blue #13	36	Dk. Blue #35	58	Dk. Blue #57
15	Dk. Blue #14	37	Dk. Blue #36	59	Dk. Blue #58
16	Dk. Blue #15	38	Dk. Blue #37	60	Dk. Blue #59
17	Dk. Blue #16	39	Dk. Blue #38	61	Dk. Blue #60
18	Dk. Blue #17	40	Dk. Blue #39	62	Dk. Blue #61
19	Dk. Blue #18	41	Dk. Blue #40	63	Dk. Blue #62
20	Dk. Blue #19	42	Dk. Blue #41	64	Dk. Blue #63
21	Dk. Blue #20	43	Dk. Blue #42	65	Dk. Blue #64
22	Dk. Blue #21	44	Dk. Blue #43		

*The white/blue neutral conductor is used only on 18 and 16 AWG cables with conductor counts of 12 or greater.

Chart LX	
No.	Color
1	Green/Yellow
2	Dk. Blue #1
3	Dk. Blue #2
4	Dk. Blue #3
5	Dk. Blue #4
6	Dk. Blue #5
7	Dk. Blue #6
8	Dk. Blue #7
9	Dk. Blue #8
10	Dk. Blue #9
11	Dk. Blue #10

Chart O			
No.	Color	No.	Color
1	Black	9	Violet
2	White	10	Slate
3	Red	11	Pink
4	Green	12	Tan
5	Brown	13	Black/White
6	Blue	14	Red/White
7	Orange	15	Green/White
8	Yellow		

Conductor Color Coding

Chart P	
No.	Color
1	White
2	Black
3	Red
4	Green
5	Blue
6	Brown
7	Yellow
8	Orange

Chart R							
No.	Base Color	1st Stripe	2nd Stripe	No.	Base Color	1st Stripe	2nd Stripe
1	Black			16	White	Black	
2	Red			17	White	Red	
3	Green			18	White	Green	
4	White			19	White	Yellow	
5	Brown			20	White	Blue	
6	Blue			21	White	Brown	
7	Orange			22	White	Orange	
8	Yellow			23	White	Slate	
9	Violet			24	White	Violet	
10	Slate			25	White	Black	Red
11	Pink			26	White	Black	Green
12	Tan			27	White	Black	Yellow
13	Red	Green		28	White	Black	Blue
14	Red	Yellow		29	White	Black	Brown
15	Red	Black		30	White	Black	Orange

Chart RW					
No.	Color	No.	Color	No.	Color
1	Green/Yellow	23	Red #22	45	Red #44
2	Red #1	24	Red #23	46	Red #45
3	White/Red*	25	Red #24	47	Red #46
4	Red #3	26	Red #25	48	Red #47
5	Red #4	27	Red #26	49	Red #48
6	Red #5	28	Red #27	50	Red #49
7	Red #6	29	Red #28	51	Red #50
8	Red #7	30	Red #29	52	Red #51
9	Red #8	31	Red #30	53	Red #52
10	Red #9	32	Red #31	54	Red #53
11	Red #10	33	Red #32	55	Red #54
12	Red #11	34	Red #33	56	Red #55
13	Red #12	35	Red #34	57	Red #56
14	Red #13	36	Red #35	58	Red #57
15	Red #14	37	Red #36	59	Red #58
16	Red #15	38	Red #37	60	Red #59
17	Red #16	39	Red #38	61	Red #60
18	Red #17	40	Red #39	62	Red #61
19	Red #18	41	Red #40	63	Red #62
20	Red #19	42	Red #41	64	Red #63
21	Red #20	43	Red #42	65	Red #64
22	Red #21	44	Red #43		

*The white/red neutral conductor is used only on 18 and 16 AWG cables with conductor counts of 12 or greater.

Chart RX	
1	Green/Yellow
2	Red #1
3	Red #2
4	Red #3
5	Red #4
6	Red #5
7	Red #6
8	Red #7
9	Red #8
10	Red #9
11	Red #10
12	Red #11