



IEEE 1580 Type P Resources

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Offshore and
Marine Shipboard
Cables

IEEE 1580 Type P MOR[®] Polyrad[®] XT-125



Standard Conductor Chart

APPROX. AREA (CMIL)	APPROX. SIZE (AWG)	COND. STRAND	TYPE OF STRANDING	DIAMETER (INCHES)	CAPACITANCE (PICO) (FARADS/FT)	A.C. RESISTANCE @ 20°C (OHMS/M)	A.C. IMPEDANCE @ 60 CYCLES (OHMS/M)	INDUCTANCE (MICRO H/M) X 10 ⁻⁵	WEIGHT (LBS/ M')
1900	18	19/30	CONC	.0475	23.9	5.46	6.22	10.88	6
2601	16	19/29	CONC	.054	24.6	3.99	4.82	10.61	8
3831	14	19/27	CONC	.067	31.6	2.71	3.05	9.549	12
6088	12	19/25	CONC	.086	37.5	1.70	1.92	9.019	20
10910	10	27/24	BUNCH	.120	47.6	.95	1.10	8.223	34
14950	8	37/24	CONC	.140	33.8	.69	.70	9.284	51
24640	6	61/24	CONC	.181	41.3	.42	.57	8.754	83
36760	5	91/24	ROPE	.242	52.2	.28	.33	8.223	119
42420	4	105/24	ROPE	.262	55.7	.24	.28	7.958	138
50500	3	126/24	ROPE	.285	59.7	.21	.23	7.692	167
60600	2	140/24	ROPE	.307	63.4	.17	.20	7.692	190
90900	1	224/24	ROPE	.380	66.2	.11	.14	7.692	302
111100	1/0	273/24	ROPE	.437	74.9	.09	.11	7.427	366
131300	2/0	323/24	ROPE	.458	77.4	.08	.10	7.427	420
181800	3/0	456/24	ROPE	.549	90.2	.06	.07	7.162	594
222200	4/0	551/24	ROPE	.611	66.6	.05	.06	7.692	721
262600	-	646/24	ROPE	.652	70.3	.04	.05	7.427	871
313100	-	777/24	ROPE	.720	76.4	.03	.05	7.427	1049
373700	-	925/24	ROPE	.795	83.0	.03	.04	7.162	1256
444400	-	1110/24	ROPE	.855	88.3	.02	.04	7.162	1506
535300	-	1332/24	ROPE	.925	84.5	.02	.04	7.162	1729
646400	-	1591/24	ROPE	1.035	92.9	.02	.03	7.162	2123
777700	-	1924/24	ROPE	1.120	99.4	.01	.03	6.897	2591
11111000	-	2745/24	ROPE	1.328	115.0	.01	.03	6.897	3400

Conversion factors:

(1) Micro H/M x10⁻⁵ X .3048 = Micro H/KMx10⁻⁵

(2) Ohms/M' X .304 = Ohms/Km



Standard Color Code Chart – IEEE 1580 Table 22

CONDUCTOR NUMBER	BASE COLOR	TRACER 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	-
22	Black	White	Red
23	White	Black	Red
24	Red	Black	White
25	Green	Black	White
26	Orange	Black	White
27	Blue	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
44	Black	White	Blue
45	White	Black	Blue
46	Red	White	Blue

CONDUCTOR NUMBER	BASE COLOR	TRACER COLOR	TRACER COLOR
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	-
87	Black	Orange	-
88	White	Orange	-
89	Red	Orange	-
90	Green	Orange	-
91	Blue	Orange	-
92	Black	Blue	-

Note #1: Pair Color Code: Black and white with each conductor printed alpha-numerically for easy identification.

Note #2: Triad Color Code: Black, white and red with each conductor printed alpha-numerically for easy identification.

Note #3: Power Color Code: All black with printed numbers.



Ampacity – 95°C

45°C Ambient – Single Banked

AWG/kcmil	mm ²	CIRCULAR MILS	1/C	2/C	3/C
20	0.6	1022	11	9	8
18	1.0	1624	15	13	11
16	1.2	2583	22	18	15
14	2.1	4110	35	30	24
12	3.3	6530	44	38	30
10	5.3	10400	56	47	39
8	8.4	16500	70	62	50
6	13.3	26300	92	82	67
5	16.8	33100	104	96	78
4	21.1	41700	123	105	87
3	26.7	52600	140	126	103
2	33.6	66400	162	143	116
1	42.4	83700	180	162	137
1/0	53.5	106000	217	191	157
2/0	67.4	133000	251	232	180
3/0	85.0	168000	289	255	209
4/0	107.2	212000	337	295	242
262	133.1	262000	392	345	283
313	158.7	313100	439	378	309
373	189.4	373700	507	440	361
444	225.2	444400	567	486	396
535	271.3	535300	638	546	448
646	327.6	646400	693	603	492
777	394.2	777700	750	674	552
1111	563.1	1111000	972	814	658

- Notes: (1) The above current-carrying capacities are for marine installations with cables arranged in a single bank per hanger and are 85% of the ICEA calculated values (See Note 2). Double banking of distribution-type cables should be avoided. For those instances where cable must be double banked, the current-carrying capacities in the above table should be multiplied by 0.8.
- (2) The ICEA calculated the current capacities of these cables are based on cables installed in free air, i.e., at least one cable diameter spacing between adjacent cables. See IEEE Publication No. S-135-1962/ICEA and Publication No. P-46-426, 1962 Edition.
- (3) If ambient temperatures differ from 45°C, the values shown above should be multiplied by the following factors:
40°C - 1.04 50°C - .95 60°C - .85 70°C - .74

When the number of conductors in a cable exceeds 3, the maximum current-carrying capacity of each conductor is to be reduced according to the following table:

NUMBER OF CONDUCTORS	% OF 3 CONDUCTOR AMPACITY VALUES
4 through 6	80
7 through 9	70
10 through 20	50
21 through 30	45
31 through 40	40
41 through 60	35
61 and up	30



Ampacity – 100°C

45°C Ambient – Single Banked

AWG/kcmil	mm ²	CIRCULAR MILS	1/C	2/C	3/C
20	0.6	1022	12	10	9
18	1.0	1624	16	14	12
16	1.2	2583	23	19	16
14	2.1	4110	37	31	25
12	3.3	6530	45	40	31
10	5.3	10400	58	49	41
8	8.4	16500	72	64	52
6	13.3	26300	96	85	70
5	16.8	33100	109	101	82
4	21.1	41700	128	110	92
3	26.7	52600	146	132	108
2	33.6	66400	169	149	122
1	42.4	83700	194	174	143
1/0	53.5	106000	227	199	164
2/0	67.4	133000	262	242	188
3/0	85.0	168000	300	265	218
4/0	107.2	212000	351	307	252
262	133.1	262000	407	358	294
313	158.7	313100	455	391	321
373	189.4	373700	526	456	375
444	225.2	444400	588	504	411
535	271.3	535300	662	566	465
646	327.6	646400	715	625	510
777	394.2	777700	830	699	573
1111	563.1	1111000	1003	844	693

- Notes: (1) The above current-carrying capacities are for marine installations with cables arranged in a single bank per hanger and are 85% of the ICEA calculated values (See Note 2). Double banking of distribution-type cables should be avoided. For those instances where cable must be double banked, the current-carrying capacities in the above table should be multiplied by 0.8.
- (2) The ICEA calculated the current capacities of these cables are based on cables installed in free air, i.e., at least one cable diameter spacing between adjacent cables. See IEEE Publication No. S-135-1962/ICEA and Publication No. P-46-426, 1962 Edition.
- (3) If ambient temperatures differ from 45°C, the values shown above should be multiplied by the following factors:
40°C - 1.04 50°C - .95 60°C - .85 70°C - .74

When the number of conductors in a cable exceeds 3, the maximum current-carrying capacity of each conductor is to be reduced according to the following table:

NUMBER OF CONDUCTORS	% OF 3 CONDUCTOR AMPACITY VALUES
4 through 6	80
7 through 9	70
10 through 20	50
21 through 30	45
31 through 40	40
41 through 60	35
61 and up	30



Ampacity – 110°C

45°C Ambient – Single Banked

AWG/kcmil	mm ²	CIRCULAR MILS	1/C	2/C	3/C
20	0.6	1022	13	11	10
18	1.0	1624	17	15	13
16	1.2	2583	25	20	17
14	2.1	4110	40	33	27
12	3.3	6530	48	43	33
10	5.3	10400	62	52	44
8	8.4	16500	77	69	56
6	13.3	26300	103	91	75
5	16.8	33100	117	109	88
4	21.1	41700	137	118	99
3	26.7	52600	156	141	116
2	33.6	66400	181	160	131
1	42.4	83700	208	186	153
1/0	53.5	106000	243	213	176
2/0	67.4	133000	281	259	201
3/0	85.0	168000	321	284	233
4/0	107.2	212000	376	329	270
262	133.1	262000	426	378	310
313	158.7	313100	491	420	345
373	189.4	373700	563	497	406
444	225.2	444400	630	556	454
535	271.3	535300	709	625	511
646	327.6	646400	766	649	525
777	394.2	777700	889	784	640
1111	563.1	1111000	1006	-	-

- Notes: (1) The above current-carrying capacities are for marine installations with cables arranged in a single bank per hanger and are 85% of the ICEA calculated values (See Note 2). Double banking of distribution-type cables should be avoided. For those instances where cable must be double banked, the current-carrying capacities in the above table should be multiplied by 0.8.
- (2) The ICEA calculated the current capacities of these cables are based on cables installed in free air, i.e., at least one cable diameter spacing between adjacent cables. See IEEE Publication No. S-135-1962/ICEA and Publication No. P-46-426, 1962 Edition.
- (3) If ambient temperatures differ from 45°C, the values shown above should be multiplied by the following factors:
 40°C - 1.04 50°C - .95 60°C - .85 70°C - .74

When the number of conductors in a cable exceeds 3, the maximum current-carrying capacity of each conductor is to be reduced according to the following table:

NUMBER OF CONDUCTORS	% OF 3 CONDUCTOR AMPACITY VALUES
4 through 6	80
7 through 9	70
10 through 20	50
21 through 30	45
31 through 40	40
41 through 60	35
61 and up	30



Ampacity – 125 °C

45 °C Ambient – Single Banked

AWG/kcmil	mm ²	CIRCULAR MILS	1/C	2/C	3/C
16	1.2	2583	25	22	18
14	2.1	4110	39	33	28
12	3.3	6530	49	44	37
10	5.3	10400	68	64	49
8	8.4	16500	90	77	63
6	13.3	26300	126	111	91
5	16.8	33100	153	147	120
4	21.1	41700	158	153	126
3	26.7	52600	195	180	148
2	33.6	66400	217	196	161
1	42.4	83700	281	245	202
1/0	53.5	106000	319	278	229
2/0	67.4	133000	354	309	254
3/0	85.0	168000	437	382	313
4/0	107.2	212000	495	432	354
262	133.1	262000	559	481	395
313	158.7	313100	617	539	442
373	189.4	373700	692	599	492
444	225.2	444400	772	669	549
535	271.3	535300	871	741	608
646	327.6	646400	979	-	-
777	394.2	777700	1101	-	-
1111	563.1	1111000	1374	-	-

- Notes: (1) The above current-carrying capacities are for marine installations with cables arranged in a single bank per hanger and are 85% of the ICEA calculated values (See Note 2). Double banking of distribution-type cables should be avoided. For those instances where cable must be double banked, the current-carrying capacities in the above table should be multiplied by 0.8.
- (2) The ICEA calculated the current capacities of these cables are based on cables installed in free air, i.e., at least one cable diameter spacing between adjacent cables. See IEEE Publication No. S-135-1962/ICEA and Publication No. P-46-426, 1962 Edition.
- (3) If ambient temperatures differ from 45°C, the values shown above should be multiplied by the following factors:
40°C - 1.04 50°C - .95 60°C - .85 70°C - .74

When the number of conductors in a cable exceeds 3, the maximum current-carrying capacity of each conductor is to be reduced according to the following table:

NUMBER OF CONDUCTORS	% OF 3 CONDUCTOR AMPACITY VALUES
4 through 6	80
7 through 9	70
10 through 20	50
21 through 30	45
31 through 40	40
41 through 60	35
61 and up	30