

Size of Largest Service-Entrance Conductor or Equivalent Area for Parallel Conductors¹

Size of Grounding Electrode Conductor

Copper	Aluminum or Copper-Clad Aluminum	Copper	Aluminum or Copper-Clad Aluminum ²
2 or smaller	½ or smaller	8	6
1 or 1/0	2/0 or 3/0	6	4
2/0 or 3/0	4/0 or 250 kcmil	4	2
Over 3/0 through 350 kcmil	Over 250 kcmil through 500 kcmil	2	1/0
Over 350 kcmil through 600 kcmil	Over 500 kcmil through 900 kcmil	1/0	3/0
Over 600 kcmil through 1100 kcmil	Over 900 kcmil through 1750 kcmil	2/0	4/0
Over 1100 kcmil	Over 1750 kcmil	3/0	250 kcmil

Notes:

1. Where multiple sets of service-entrance conductors are used as permitted in Section 230.40, Exception No. 2, the equivalent size of the

Table 250-122. Minimum Size Equipment Grounding Conductors for Grounding Raceway and Equipment

Rating or Setting of Automatic Overcurrent Device in Circuit Ahead of Equipment, Conduit, etc., Not Exceeding (Amperes)	Size (AWG or kcmil)	
	Copper	Aluminum or Copper-Clad Aluminum*
15	14	12
20	12	10
30	10	8
40	10	8
60	10	8
100	8	6
200	6	4
300	4	2
400	3	1
500	2	1/0
600	1	2/0
800	1/0	3/0
1000	2/0	4/0
1200	3/0	250
1600	4/0	350
2000	250	400
2500	350	600
3000	400	600
4000	500	800
5000	700	1200
6000	800	1200

Note: Where necessary to comply with Section 250-2(d), the equipment grounding conductor shall be sized larger than this table.

*See installation restrictions in Section 250-120.

Table 310-16. Allowable Ampacities of Insulated Conductors Rated 0 through 2000 Volts, 60°C through 90°C (140°F through 194°F) Not More than Three Current-Carrying Conductors in Raceway, Cable, or Earth (Directly Buried), Based on Ambient Temperature of 30°C (86°F)

Size AWG or kcmil	Temperature Rating of Conductor (See Table 310-13)						Size AWG or kcmil
	60°C (140°F)	75°C (167°F)	90°C (194°F)	60°C (140°F)	75°C (167°F)	90°C (194°F)	
	Types TW, UF	Types FEPW, RH, RHW, THHW, THW, THWN, XHHW, USE, ZW	Types TBS, SA, SIS, FEP, FEPB, MI, RHH, RHW- 2, THHN, THHW, THW-2, THWN- 2, USE-2, XHH, XHHW, XHHW- 2, ZW-2	Types TW, UF	Types RH, RHW, THHW, THW, THWN, XHHW, USE	Types TBS, SA, SIS, THHN, THHW, THW-2, THWN-2, RHH, RHW-2, USE-2, XHH, XHHW, XHHW-2, ZW-2	
COPPER			ALUMINUM OR COPPER-CLAD ALUMINUM				
18	—	—	14	—	—	—	—
16	—	—	18	—	—	—	—
14*	20	20	25	—	—	—	—
12*	25	25	30	20	20	25	12*
10*	30	35	40	25	30	35	10*
8	40	50	55	30	40	45	8
6	55	65	75	40	50	60	6
4	70	85	95	55	65	75	4
3	85	100	110	65	75	85	3
2	95	115	130	75	90	100	2
1	110	130	150	85	100	115	1
1/0	125	150	170	100	120	135	1/0
2/0	145	175	195	115	135	150	2/0
3/0	165	200	225	130	155	175	3/0
4/0	195	230	260	150	180	205	4/0
250	215	255	290	170	205	230	250
300	240	285	320	190	230	255	300
350	260	310	350	210	250	280	350
400	280	335	380	225	270	305	400
500	320	380	430	260	310	350	500
600	355	420	475	285	340	385	600
700	385	460	520	310	375	420	700
750	400	475	535	320	385	435	750
800	410	490	555	330	395	450	800
900	435	520	585	355	425	480	900
1000	455	545	615	375	445	500	1000
1250	495	590	665	405	485	545	1250
1500	520	625	705	435	520	585	1500
1750	545	650	735	455	545	615	1750
2000	560	665	750	470	560	630	2000

CORRECTION FACTORS

Ambient Temp. (°C)	For ambient temperatures other than 30°C (86°F), multiply the allowable ampacities shown above by the appropriate factor shown below.						Ambient Temp. (°F)
21-25	1.08	1.05	1.04	1.08	1.05	1.04	70-77
26-30	1.00	1.00	1.00	1.00	1.00	1.00	78-86
31-35	0.91	0.94	0.96	0.91	0.94	0.96	87-95
36-40	0.82	0.88	0.91	0.82	0.88	0.91	96-104
41-45	0.71	0.82	0.87	0.71	0.82	0.87	105-113
46-50	0.58	0.75	0.82	0.58	0.75	0.82	114-122
51-55	0.41	0.67	0.76	0.41	0.67	0.76	123-131
56-60	—	0.58	0.71	—	0.58	0.71	132-140
61-70	—	0.33	0.58	—	0.33	0.58	141-158
71-80	—	—	0.41	—	—	0.41	159-176

*See Section 240-3.

CONDUCTORS

Type	Conductor Size (AWG/kcmil)	Trade Size (in.)											
		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6
RH	14	6	10	17	29	39	65	93	143	191	246	387	558
	12	5	8	13	23	32	52	75	115	154	198	311	448
RHH, RHW, RHW-2	14	4	7	12	21	28	46	66	102	136	176	276	398
	12	3	6	10	17	23	38	55	85	113	146	229	330
RH, RHH, RHW, RHW-2	10	3	5	8	14	19	31	44	68	91	118	185	267
	8	1	2	4	7	10	16	23	36	48	61	97	139
	6	1	1	3	6	8	13	18	29	38	49	77	112
	4	1	1	2	4	6	10	14	22	30	38	60	87
	3	1	1	2	4	5	9	12	19	26	34	53	76
	2	1	1	1	3	4	7	11	17	23	29	46	66
	1	0	1	1	1	3	5	7	11	15	19	30	44
	1/0	0	1	1	1	2	4	6	10	13	17	26	38
	2/0	0	1	1	1	2	4	5	8	11	14	23	33
	3/0	0	0	1	1	1	3	4	7	10	12	20	28
	4/0	0	0	1	1	1	3	4	6	8	11	17	24
	250	0	0	0	1	1	3	4	6	8	13	18	
	300	0	0	0	1	1	2	4	5	7	11	16	
	350	0	0	0	1	1	2	4	5	6	10	15	
	400	0	0	0	1	1	1	3	4	6	9	13	
	500	0	0	0	1	1	1	3	4	5	8	11	
	600	0	0	0	0	1	1	2	3	4	6	9	
	700	0	0	0	0	1	1	1	3	4	6	8	
	750	0	0	0	0	1	1	1	3	3	5	8	
	800	0	0	0	0	0	1	1	1	2	3	5	7
	900	0	0	0	0	0	1	1	1	2	3	5	7
	1000	0	0	0	0	0	1	1	1	1	3	4	6
	1250	0	0	0	0	0	0	1	1	1	1	3	5
	1500	0	0	0	0	0	0	1	1	1	1	3	4
	1750	0	0	0	0	0	0	1	1	1	1	2	4
	2000	0	0	0	0	0	0	0	1	1	1	2	3
TW	14	9	15	25	44	59	98	140	216	288	370	581	839
	12	7	12	19	33	45	75	107	165	221	284	446	644
	10	5	9	14	25	34	56	80	123	164	212	332	480
	8	3	5	8	14	19	31	44	68	91	118	185	267
RHH*, RHW*, THHW, THW, THW-2	14	6	10	17	29	39	65	93	143	191	246	387	558
	12	5	8	13	23	32	52	75	115	154	198	311	448
RHH*, RHW*, THHW, THW, THW-2	10	3	6	10	18	25	41	58	90	120	154	242	350
	8	1	4	6	11	15	24	35	54	72	92	145	209
RHH*, RHW*, THHW, THW, THW-2	6	1	3	5	8	11	18	27	41	55	71	111	160
	4	1	1	3	6	8	14	20	31	41	53	83	120
	3	1	1	3	5	7	12	17	26	35	45	71	103
	2	1	1	2	4	6	10	14	22	30	38	60	87
	1	1	1	1	3	4	7	10	15	21	27	42	61
	1/0	0	1	1	2	3	6	8	13	18	23	36	52
	2/0	0	1	1	2	3	5	7	11	15	19	31	44
	3/0	0	1	1	1	2	4	6	9	13	16	26	37
	4/0	0	0	1	1	1	3	5	8	10	14	21	31
	250	0	0	1	1	1	3	4	6	8	11	17	25
	300	0	0	1	1	1	2	3	5	7	9	15	22
	350	0	0	0	1	1	3	5	6	7	8	13	19
	400	0	0	0	1	1	3	4	6	7	12	17	
	500	0	0	0	1	1	2	3	5	6	10	14	
	600	0	0	0	1	1	1	3	4	5	8	12	
	700	0	0	0	0	1	1	2	3	4	7	10	
	750	0	0	0	0	1	1	2	3	4	7	10	
	800	0	0	0	0	1	1	1	2	3	4	6	9
	900	0	0	0	0	1	1	1	3	4	6	8	
	1000	0	0	0	0	0	1	1	2	3	5	8	
	1250	0	0	0	0	0	1	1	1	2	4	6	
	1500	0	0	0	0	0	1	1	1	2	3	5	
	1750	0	0	0	0	0	0	1	1	1	3	4	
	2000	0	0	0	0	0	0	1	1	1	3	4	

*Types RHH, RHW, and RHW-2 without outer covering.

CONDUCTORS

Type	Conductor Size (AWG/kcmil)	Trade Size (in.)											
		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6
THHN, THWN, THWN-2	14	13	22	36	63	85	140	200	309	412	531	833	1200
	12	9	16	26	46	62	102	146	225	301	387	608	880
	10	6	10	17	29	39	64	92	142	189	244	383	550
	8	3	6	9	16	22	37	53	82	109	140	221	330
	6	2	4	7	12	16	27	38	59	79	101	159	230
	4	1	2	4	7	10	16	23	36	48	62	98	140
	3	1	1	3	6	8	14	20	31	41	53	83	110
	2	1	1	3	5	7	11	17	26	34	44	70	100
	1	1	1	1	4	5	8	12	19	25	33	51	70
	1/0	1	1	1	3	4	7	10	16	21	27	43	60
	2/0	0	1	1	2	3	6	8	13	18	23	36	50
	3/0	0	1	1	1	3	5	7	11	15	19	30	40
	4/0	0	1	1	1	2	4	6	9	12	16	25	35
	250	0	0	1	1	1	3	5	7	10	13	20	28
	300	0	0	1	1	1	3	4	6	8	11	17	24
	350	0	0	1	1	1	2	4	6	8	11	17	24
	400	0	0	1	1	1	2	3	5	7	8	13	19
	500	0	0	0	1	1	2	4	5	7	8	11	17
	600	0	0	0	1	1	1	3	4	6	9	13	19
	700	0	0	0	1	1	1	3	4	5	8	11	16
	750	0	0	0	0	1	1	1	3	4	5	7	10
	800	0	0	0	0	1	1	1	2	3	4	7	9
	900	0	0	0	0	1	1	1	2	3	4	6	8
	1000	0	0	0	0	1	1	1	1	2	3	4	6
FEP, FEPB, PFA, PFAH, TFE	14	12	22	35	61	83	136	194	300	400	515	808	1160
	12	9	16	26	44	60	99	142	219	292	376	590	830
	10	6	11	18	32	43	71	102	157	209	269	423	610
	8	3	6	10	18	25	41	58	90	120	154	242	350
	6	2	4	7	13	17	29	41	64	85	110	172	240
	4	1	3	5	9	12	20	29	44	59	77	120	170
	3	1	2	4	7	10	17	24	37	50	64	100	140
	2	1	1	3	6	8	14	20	31	41	53	83	110
PFA, PFAH, TFE, Z	14	1	1	2	4	6	9	14	21	28	37	57	80
	12	1	1	1	3	5	8	11	18	24	30	48	60
	10	1	1	1	3	4	6	9	14	19	25	40	50
	8	0	1	1	2	3	5	8	12	16	21	33	40
	6	0	1	1	1	2	4	6	10	13	17	27	33
	4	15	26	42	73	100	164	234	361	482	621	974	1400
	12	10	18	30	52	71	116	166	256	342	440	691	990
	10	6	11	18	32	43	71	102	157	209	269	423	610
	8	4	7	11	20	27	45	64	99	132	170	267	380
	6	3	5	8	14	19	31	45	69	93	120	188	270
	4	1	3	5	9	13	22	31	48	64	82	129	180
	3	1	2	4	7	9	16	22	35	47	60	94	130
	2	1	1	3	6	8	13	19	29	39	50	78	110
	1	1	1	2	5	6	10	15	23	31	40	63	80
XHH, XHHW, XHHW-2, ZW	14	9	15	25	44	59	98	140	216	288	370	581	839
	12	7	12	19	33	45	75	107	165	221	284	446	644
	10	5	9	14	25	34	56	80	123	164	212	332	480
	8	3	5	8	14	19	31	44	68	91	118	185	267
	6	1	3	6	10	14	23	33	51	68	87	137	190
	4	1	2	4	7	10	16	24	37	49	63	99	140
	3	1	1	3	6	8	14	20	31	41	53	83	110
	2	1	1	3	5	7	12	17	26	35	45	70	100
XIII, XHHW, XHHW-2	14	1	1	1	4	5	9	12	19	26	33	52	70
	12	1	1	1	3	4	7	10	16	22	28	44	60
	10	0	1	1									