

CONVERSION CHARTS

If center column value is °F, the °C equivalent is to the left. If center column value is °C, the °F equivalent is to the right.

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F							
-40.00	-40	-40.0		-2.22	28	82.4		35.56	96	204.8		73.33	164	327.2		111.11	232	449.6
-39.44	-39	-38.2		-1.67	29	84.2		36.11	97	206.6		73.89	165	329.0		111.67	233	451.4
-38.89	-38	-36.4		-1.11	30	86.0		36.67	98	208.4		74.44	166	330.8		112.22	234	453.2
-38.33	-37	-34.6		-0.56	31	87.8		37.22	99	210.2		75.00	167	332.6		112.78	235	455.0
-37.78	-36	-32.8		0.00	32	89.6		37.78	100	212.0		75.56	168	334.4		113.33	236	456.8
-37.22	-35	-31.0		0.56	33	91.4		38.33	101	213.8		76.11	169	336.2		113.89	237	458.6
-36.67	-34	-29.2		1.11	34	93.2		38.89	102	215.6		76.67	170	338.0		114.44	238	460.4
-36.11	-33	-27.4		1.67	35	95.0		39.44	103	217.4		77.22	171	339.8		115.00	239	462.2
-35.56	-32	-25.6		2.22	36	96.8		40.00	104	219.2		77.78	172	341.6		115.56	240	464.0
-35.00	-31	-23.8		2.78	37	98.6		40.56	105	221.0		78.33	173	343.4		116.11	241	465.8
-34.44	-30	-22.0		3.33	38	100.4		41.11	106	222.8		78.89	174	345.2		116.67	242	467.6
-33.89	-29	-20.2		3.89	39	102.2		41.67	107	224.6		79.44	175	347.0		117.22	243	469.4
-33.33	-28	-18.4		4.44	40	104.0		42.22	108	226.4		80.00	176	348.8		117.78	244	471.2
-32.78	-27	-16.6		5.00	41	105.8		42.78	109	228.2		80.56	177	350.6		118.33	245	473.0
-32.22	-26	-14.8		5.56	42	107.6		43.33	110	230.0		81.11	178	352.4		118.89	246	474.8
-31.67	-25	-13.0		6.11	43	109.4		43.89	111	231.8		81.67	179	354.2		119.44	247	476.6
-31.11	-24	-11.2		6.67	44	111.2		44.44	112	233.6		82.22	180	356.0		120.00	248	478.4
-30.56	-23	-9.4		7.22	45	113.0		45.00	113	235.4		82.78	181	357.8		120.56	249	480.2
-30.00	-22	-7.6		7.78	46	114.8		45.56	114	237.2		83.33	182	359.6		121.11	250	482.0
-29.44	-21	-5.8		8.33	47	116.6		46.11	115	239.0		83.89	183	361.4		121.67	251	483.8
-28.89	-20	-4.0		8.89	48	118.4		46.67	116	240.8		84.44	184	363.2		122.22	252	485.6
-28.33	-19	-2.2		9.44	49	120.2		47.22	117	242.6		85.00	185	365.0		122.78	253	487.4
-27.78	-18	-0.4		10.00	50	122.0		47.78	118	244.4		85.56	186	366.8		123.33	254	489.2
-27.22	-17	1.4		10.56	51	123.8		48.33	119	246.2		86.11	187	368.6		123.89	255	491.0
-26.67	-16	3.2		11.11	52	125.6		48.89	120	248.0		86.67	188	370.4		124.44	256	492.8
-26.11	-15	5.0		11.67	53	127.4		49.44	121	249.8		87.22	189	372.2		125.00	257	494.6
-25.56	-14	6.8		12.22	54	129.2		50.00	122	251.6		87.78	190	374.0		125.56	258	496.4
-25.00	-13	8.6		12.78	55	131.0		50.56	123	253.4		88.33	191	375.8		126.11	259	498.2
-24.44	-12	10.4		13.33	56	132.8		51.11	124	255.2		88.89	192	377.6		126.67	260	500.0
-23.89	-11	12.2		13.89	57	134.6		51.67	125	257.0		89.44	193	379.4		127.22	261	501.8
-23.33	-10	14.0		14.44	58	136.4		52.22	126	258.8		90.00	194	381.2		127.78	262	503.6
-22.78	-9	15.8		15.00	59	138.2		52.78	127	260.6		90.56	195	383.0		128.33	263	505.4
-22.22	-8	17.6		15.56	60	140.0		53.33	128	262.4		91.11	196	384.8		128.89	264	507.2
-21.67	-7	19.4		16.11	61	141.8		53.89	129	264.2		91.67	197	386.6		129.44	265	509.0
-21.11	-6	21.2		16.67	62	143.6		54.44	130	266.0		92.22	198	388.4		130.00	266	510.8
-20.56	-5	23.0		17.22	63	145.4		55.00	131	267.8		92.78	199	390.2		130.56	267	512.6
-20.00	-4	24.8		17.78	64	147.2		55.56	132	269.6		93.33	200	392.0		131.11	268	514.4
-19.44	-3	26.6		18.33	65	149.0		56.11	133	271.4		93.89	201	393.8		131.67	269	516.2
-18.89	-2	28.4		18.89	66	150.8		56.67	134	273.2		94.44	202	395.6		132.22	270	518.0
-18.33	-1	30.2		19.44	67	152.6		57.22	135	275.0		95.00	203	397.4		132.78	271	519.8
-17.78	0	32.0		20.00	68	154.4		57.78	136	276.8		95.56	204	399.2		133.33	272	521.6
-17.22	1	33.8		20.56	69	156.2		58.33	137	278.6		96.11	205	401.0		133.89	273	523.4
-16.67	2	35.6		21.11	70	158.0		58.89	138	280.4		96.67	206	402.8		134.44	274	525.2
-16.11	3	37.4		21.67	71	159.8		59.44	139	282.2		97.22	207	404.6		135.00	275	527.0
-15.56	4	39.2		22.22	72	161.6		60.00	140	284.0		97.78	208	406.4		135.56	276	528.8
-15.00	5	41.0		22.78	73	163.4		60.56	141	285.8		98.33	209	408.2		136.11	277	530.6
-14.44	6	42.8		23.33	74	165.2		61.11	142	287.6		98.89	210	410.0		136.67	278	532.4
-13.89	7	44.6		23.89	75	167.0		61.67	143	289.4		99.44	211	411.8		137.22	279	534.2
-13.33	8	46.4		24.44	76	168.8		62.22	144	291.2		100.00	212	413.6		137.78	280	536.0
-12.78	9	48.2		25.00	77	170.6		62.78	145	293.0		100.56	213	415.4		138.33	281	537.8
-12.22	10	50.0		25.56	78	172.4		63.33	146	294.8		101.11	214	417.2		138.89	282	539.6
-11.67	11	51.8		26.11	79	174.2		63.89	147	296.6		101.67	215	419.0		139.44	283	541.4
-11.11	12	53.6		26.67	80	176.0		64.44	148	298.4		102.22	216	420.8		140.00	284	543.2
-10.56	13	55.4		27.22	81	177.8		65.00	149	300.2		102.78	217	422.6		140.56	285	545.0
-10.00	14	57.2		27.78	82	179.6		65.56	150	302.0		103.33	218	424.4		141.11	286	546.8
-9.44	15	59.0		28.33	83	181.4		66.11	151	303.8		103.89	219	426.2		141.67	287	548.6
-8.89	16	60.8		28.89	84	183.2		66.67	152	305.6		104.44	220	428.0		142.22	288	550.4
-8.33	17	62.6		29.44	85	185.0		67.22	153	307.4		105.00	221	429.8		142.78	289	552.2
-7.78	18	64.4		30.00	86	186.8		67.78	154	309.2		105.56	222	431.6		143.33	290	554.0
-7.22	19	66.2		30.56	87	188.6		68.33	155	311.0		106.11	223	433.4		143.89	291	555.8
-6.67	20	68.0		31.11	88	190.4		68.89	156	312.8		106.67	224	435.2		144.44	292	557.6
-6.11	21	69.8		31.67	89	192.2		69.44	157	314.6		107.22	225	437.0		145.00	293	559.4
-5.56	22	71.6		32.22	90	194.0		69.99	158	316.4		107.78	226	438.8		145.56	294	561.2
-5.00	23	73.4		32.78	91	195.8		70.56	159	318.2		108.33	227	440.6		146.11	295	563.0
-4.44	24	75.2		33.33	92	197.6		71.11	160	320.0		108.89	228	442.4		146.67	296	564.8
-3.89	25	77.0		33.89	93	199.4		71.67	161	321.8		109.44	229	444.2		147.22	297	566.6
-3.33	26	78.8		34.44	94	201.2		72.22	162	323.6		110.00	230	446.0		147.78	298	568.4
-2.78	27	80.6		35.00	95	203.0		72.78	163	325.4		110.56	231	447.8		148.33	299	570.2
																148.89	300	572.0
																149.44	301	573.8
																150.00	302	575.6

CONDUIT CAPACITY*

Conduit Trade Size	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	
Internal Dia. Inches	0.622	0.824	1.047	1.388	1.610	2.067	2.469	3.068	3.548	4.026	
Permissible Area	0.12	0.21	0.34	0.60	0.82	1.34	1.92	2.95	3.96	5.09	
Cable O.D.	Cable Area Sq. In.										
0.125	0.0123	9	17	27	48	66	108	156	239	321	413
0.150	0.0177	6	11	19	33	46	75	108	166	223	287
0.175	0.0241	4	8	14	24	34	55	79	122	164	211
0.200	0.0315	3	6	10	19	26	42	61	93	126	162
0.225	0.0398	3	5	8	15	20	33	48	74	99	127
0.250	0.0491	2	4	6	12	16	27	39	60	89	103
0.275	0.0594	2	3	5	10	13	22	32	49	66	85
0.300	0.0707	1	2	4	8	11	18	27	41	56	71
0.325	0.0830	1	2	4	7	9	16	23	35	47	61
0.350	0.0963	1	2	3	6	8	13	19	30	41	52
0.375	0.1105	1	1	3	5	7	12	17	26	35	46
0.400	0.1257	-	1	2	4	6	10	15	23	31	40
0.425	0.1419	-	1	2	4	5	9	13	20	27	35
0.450	0.1591	-	1	2	3	5	8	12	18	24	32
0.475	0.1773	-	1	1	3	4	7	10	16	22	28
0.500	0.1964	-	1	1	3	4	6	9	15	20	25
0.525	0.2165	-	-	1	2	3	6	8	13	18	23
0.550	0.2376	-	-	1	2	3	5	8	12	16	21
0.575	0.2597	-	-	1	2	3	5	7	11	15	19
0.600	0.2828	-	-	1	2	2	4	6	10	14	18
0.625	0.3068	-	-	1	1	2	4	6	9	12	16
0.650	0.3319	-	-	-	1	2	4	5	8	11	15
0.675	0.3579	-	-	-	1	2	3	5	8	11	14
0.700	0.3849	-	-	-	1	2	3	4	7	10	13
0.725	0.4129	-	-	-	1	1	3	4	7	9	12
0.750	0.4418	-	-	-	1	1	3	4	6	8	11
0.775	0.4718	-	-	-	1	1	2	4	6	8	10
0.800	0.5027	-	-	-	1	1	2	3	5	7	10
0.825	0.5346	-	-	-	1	1	2	3	5	7	9
0.850	0.5675	-	-	-	1	1	2	3	5	6	8
0.875	0.6014	-	-	-	-	1	2	3	4	6	8
0.900	0.6362	-	-	-	-	1	2	3	4	6	8
0.925	0.6721	-	-	-	-	1	1	3	4	6	8
0.950	0.7089	-	-	-	-	1	1	2	4	5	7
0.975	0.7467	-	-	-	-	1	1	2	3	5	6
1.000	0.7854	-	-	-	-	1	1	2	3	5	6
1.025	0.8252	-	-	-	-	-	1	2	3	4	6
1.050	0.8660	-	-	-	-	-	1	2	3	4	5
1.075	0.9077	-	-	-	-	-	1	2	3	4	5
1.100	0.9504	-	-	-	-	-	1	2	3	4	5
1.125	0.9941	-	-	-	-	-	1	1	2	3	5
1.150	1.0387	-	-	-	-	-	1	1	2	3	4
1.175	1.0844	-	-	-	-	-	1	1	2	3	4
1.200	1.1310	-	-	-	-	-	1	1	2	3	4
1.225	1.1786	-	-	-	-	-	1	1	2	3	4
1.250	1.2272	-	-	-	-	-	1	1	2	3	4
1.275	1.2768	-	-	-	-	-	1	1	2	3	3
1.300	1.3274	-	-	-	-	-	1	1	2	2	3
1.325	1.3789	-	-	-	-	-	-	1	2	2	3
1.350	1.4314	-	-	-	-	-	-	1	2	2	3
1.375	1.4849	-	-	-	-	-	-	1	1	2	3
1.400	1.5394	-	-	-	-	-	-	1	1	2	3
1.425	1.5949	-	-	-	-	-	-	1	1	2	3
1.450	1.6513	-	-	-	-	-	-	1	1	2	2
1.475	1.7088	-	-	-	-	-	-	1	1	2	2
1.500	1.7672	-	-	-	-	-	-	1	1	2	2
1.525	1.8266	-	-	-	-	-	-	1	1	2	2
1.550	1.8870	-	-	-	-	-	-	1	1	2	2
1.575	1.9483	-	-	-	-	-	-	1	1	2	2
1.600	2.0107	-	-	-	-	-	-	1	1	2	2
1.625	2.0740	-	-	-	-	-	-	1	1	2	2
1.650	2.1383	-	-	-	-	-	-	1	1	2	2
1.675	2.2036	-	-	-	-	-	-	1	1	2	2
1.700	2.2699	-	-	-	-	-	-	1	1	2	2
1.725	2.3371	-	-	-	-	-	-	1	1	2	2
1.750	2.4053	-	-	-	-	-	-	1	1	2	2
1.775	2.4745	-	-	-	-	-	-	1	1	2	2
1.800	2.5447	-	-	-	-	-	-	1	1	2	2

WIRE GAUGE

AWG	Diameter Inches	Diameter MM	CMA
4/0	0.460	(11.68)	212000
3/0	0.410	(10.41)	168000
2/0	0.365	(9.27)	133000
1/0	0.325	(8.26)	106000
1	0.289	(7.34)	83700
2	0.258	(6.55)	66400
3	0.229	(5.82)	52600
4	0.204	(5.18)	41700
5	0.182	(4.62)	33100
6	0.162	(4.11)	26300
7	0.144	(3.66)	20800
8	0.128	(3.25)	16500
9	0.114	(2.90)	13100
10	0.102	(2.59)	10400
11	0.091	(2.31)	8230
12	0.081	(2.06)	6530
13	0.072	(1.83)	5180
14	0.062	(1.57)	4110
15	0.057	(1.45)	3260
16	0.051	(1.30)	2580
17	0.045	(1.14)	2050
18	0.040	(1.02)	1620
19	0.036	(0.91)	1290
20	0.032	(0.81)	1020
21	0.0285	(0.72)	810
22	0.0253	(0.643)	642
23	0.0226	(0.574)	509
24	0.0201	(0.511)	404
25	0.0179	(0.45)	320
26	0.0159	(0.404)	254
27	0.0142	(0.361)	202
28	0.0126	(0.320)	106
29	0.0113	(0.29)	127
30	0.0100	(0.254)	101
31	0.0089	(0.23)	79.7
32	0.0080	(0.20)	63.2
33	0.0071	(0.18)	50.1
34	0.0063	(0.16)	39.8
35	0.0056	(0.14)	31.5
36	0.0050	(0.13)	25.0
37	0.0045	(0.114)	19.8
38	0.0040	(0.10)	15.7
39	0.0035	(0.09)	12.5
40	0.0031	(0.079)	9.9

Use to Convert American Wire Gauge to Diameter and Circular Mil Area.

Figures shown indicate number of cables of a given size O.D. that can be pulled through conduit size listed.

*Based on National Electrical Code for non-lead sheathed cables when 3 or more wires occupy the same conduit (40% fill).

CONVERSION FACTORS

MULTIPLY	BY	OBTAIN
acres	0.4047	hectares
atmospheres	1.10133	bars
atmospheres	0.0001033	kg per square meter
atmospheres	760	mm of mercury at 0°C
atmospheres	0.000010133	newtons per square meter
atmospheres	14.7	pounds per square inch
bars	0.9869	atmospheres
bars	100000	newtons per square meter
Btu	778.3	foot-pounds
Btu	0.000293	kilowatt-hours
Btu per hour	12.96	foot-pounds per minute
Btu per minute	17.58	watts
centimeters	0.03281	feet
centimeters	0.3937	inches
centimeters per second	1.969	feet per minute
centimeters per second	0.6	meters per minute
circular mils	0.000005067	square centimeters
circular mils	7.854E-07	square inches
circular mils	0.0005067	square millimeters
circular mils	0.7854	square mils
cubic centimeters	0.06102	cubic inches
cubic centimeters	0.001	liters
cubic feet	1728	cubic inches
cubic feet	0.02832	cubic meters
cubic feet	7.481	gallons (US liquid)
cubic feet	28.32	liters
cubic inches	16.393	cubic centimeters
cubic inches	0.0005787	cubic feet
cubic inches	0.00001639	cubic meters
cubic inches	0.01639	liters
cubic meters	35.31	cubic feet
cubic meters	1000	liters
dynes	0.00102	grams
dynes	0.00001	newtons
dynes	0.000002248	pounds
feet	30.48	centimeters
feet	12	inches
feet	0.0003048	kilometers
feet	0.06061	rods
feet of water (4°C)	0.8826	inches of mercury (0°C)
feet of water (4°C)	304.8	kg per square meter
feet of water (4°C)	62.43	pounds per square foot
feet per minute	0.508	centimeters per second
feet per minute	0.3048	meters per minute

MULTIPLY	BY	OBTAIN
feet per minute	0.01136	miles per hour
foot-pounds	0.001285	Btu
foot-pounds	1.356	joules
foot -pounds	0.1383	kilogram-meters
foot -pounds	3.766E-07	kilowatt-hours
foot-pounds	1.3557	newton-meters
foot-pounds per minute	0.07716	Btu per hour
foot-pounds per minute	0.0226	watts
gallons (US liquid)	0.1337	cubic feet
gallons (US liquid)	0.003785	cubic meters
gallons (US liquid)	4	quarts
grams	980.7	dynes
grams	0.03527	ounce
grams per cm	0.0056	pounds per inch
grams per cubic cm	0.03613	pounds per cubic inch
grams per sq cm	2.0481	pounds per square foot
hectares	2.471	acres
hectares	10000	square meters
horsepower	1.014	horsepower (metric)
horsepower (metric)	0.9863	horsepower
inches	2.54	centimeters
inches	0.08333	feet
inches	0.0254	meters
inches	25.4	millimeters
inches	1000	mils
inches	0.02778	yards
inches of mercury (0°C)	1.133	feet of water (4°C)
inches of mercury (0°C)	0.4912	pounds per square inch
inches of mercury (32°F)	33.86	millibars
inches of water (4°C)	0.07355	inches of mercury
inches of water (4°C)	25.4	kg per square meter
inches of water (4°C)	0.5782	ounces per square inch
inches of water (4°C)	5.202	pounds per square foot
joules	0.7376	foot-pounds
joules	9.81	kilogram-meters
kilograms	9.807	newtons
kilograms	2.2046	pounds
kilogram-calories per min.	69.77	watts
kilogram-force	9.81	newtons
kilogram-meters	7.233	foot -pounds
kilogram-meters	0.102	joules
kilograms per meter	0.672	pounds per foot
kilograms per meter	0.056	pounds per inch
kilograms per sq. meter	0.00009678	atmospheres

CONVERSION FACTORS

MULTIPLY	BY	OBTAIN
kilograms per sq. meter	0.003281	feet of water (4°C)
kilograms per sq. meter	0.2048	pounds per square foot
kilograms per sq. meter	0.001422	pounds per square inch
kilometers	3281	feet
kilometers	0.62137	miles
kilometers per hour	0.9113	feet per second
kilometers per hour	16.67	meters per minute
kilometers per minute	37.28	miles per hour
kilowatt-hours	3413	Btu
kilowatt-hours	0.00002655	foot -pounds
liters	1000	cubic centimeters
liters	0.03531	cubic feet
liters	61.02	cubic inches
liters	0.001	cubic meters
liters	0.908	quarts (dry)
liters	1.0567	quarts (US liquid)
meters	39.37	inches
meters	0.000394	mils
meters	1.0936	yards
meters per minute	1.667	centimeters per second
meters per minute	3.281	feet per minute
meters per minute	0.06	kilometers per hour
metric tons	0.9842	English long ton (2240 lbs)
metric tons	1.102	tons, short (2000 lbs)
miles (statute)	1.6094	kilometers
miles per hour	88	feet per minute
miles per hour	0.02682	kilometers per minute
millibars	0.02953	inches of mercury (32°F)
millibars	2.089	pounds per square foot
millimeters	0.03937	inches
millimeters	0.3937	mils
mm of mercury at 0°C	0.001316	atmospheres
mils	0.001	inches
mils	0.0000254	meters
mils	0.0254	millimeters
newtons	100000	dynes
newtons	0.102	kilograms
newtons	0.22481	pounds force
newton-meters	0.7376	foot-pounds
newton-meters	8.8512	inch-pounds
newtons per sq meter	0.00009678	atmospheres
newtons per sq meter	0.00001	bars
ounce	28.35	grams
ounces per square inch	1.729	inches of water (4°C)

MULTIPLY	BY	OBTAIN
pints	0.5	quarts
pounds	0.00004448	dynes
pounds	0.4536	kilogram
pounds force	4.44822	newtons
pounds per cubic foot	0.0005787	pounds per cubic inch
pounds per cubic inch	27.68	gram per cubic cm
pounds per cubic inch	1728	pounds per cubic foot
pounds per foot	1.488	kg per meter
pounds per inch	178.6	grams per cm
pounds per inch	17.86	kg per meter
pounds per square foot	0.01602	feet of water (4°C)
pounds per square foot	0.4883	grams per sq cm
pounds per square foot	0.1922	inches of water (4°C)
pounds per square foot	4.882	kg per square meter
pounds per square foot	4.882	kg per square meter
pounds per square foot	0.4788	millibars
pounds per square foot	0.006944	pounds per sq inch
pounds per square inch	0.06804	atmospheres
pounds per square inch	2.036	inches mercury (0°C)
pounds per square inch	703.1	kg per square meter
pounds per square inch	144	pounds per sq foot
quarts	0.25	gallons (US liquid)
quarts (dry)	1.1	liters
quarts (US liquid)	0.9463	liters
quarts	2	pints
rods	16.5	feet
square centimeters	0.00001973	circular mils
square centimeters	0.155	square inches
square feet	0.0929	square meters
square inches	0.00001273	circular mils
square inches	6.452	square centimeters
square kilometers	0.386	square miles
square meters	0.0001	hectares
square meters	10.76	square feet
square miles	2.59	square kilometers
square millimeters	1973	circular mils
square mils	1.273	circular mils
tons, English long (2240 lbs)	1.016	metric tons
tons, short (2000 lbs)	0.9072	metric tons
watts	0.05689	Btu per minute
watts	44.26	foot-pound per minute
watts	0.01433	kg-calories per minute
yards	0.02778	inches
yards	1.0936	meters

Corporate Headquarters, Philadelphia, PA



North American Production Facility, South Bend, IN



European Headquarters and Production Facility, Southampton, UK



Zhuhai, China Production Facility



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