

Conduit Fill Chart

Cable OD inch	Calc Cable Area sq.inch	Conduit Trade Size	1/2 INCH	3/4 inch	1 INCH	1 1/4 INCH	1 1/2 INCH	2 INCH	2 1/2 INCH	3 INCH	3 1/2 INCH	4 inch
		Internal Dia.	0.622	0.824	1.049	1.38	1.61	2.067	2.731	3.356	3.834	4.334
		Calc area 31%	0.0942	0.16531	0.26792	0.46367	0.63111	1.04024	1.81591	2.74217	3.57895	4.57329
		Calc area 40%	0.12154	0.21331	0.3457	0.59828	0.81433	1.34224	2.34311	3.53829	4.618	5.90102
		Calc area 53%	0.16104	0.28263	0.45805	0.79273	1.07899	1.77847	3.10462	4.68823	6.11885	7.81886
0.1	0.00785	MAX NO. OF CABLES	15	27	44	76	103	171	298	450	588	751
0.105	0.00866		14	24	40	69	94	155	270	408	533	681
0.11	0.0095		12	22	36	63	85	141	246	372	486	621
0.115	0.01039		11	20	33	57	78	129	225	340	444	568
0.12	0.01131		10	19	30	53	72	118	207	313	408	521
0.125	0.01227		10	17	28	48	66	109	191	288	376	481
0.13	0.01327		9	16	26	45	61	101	176	266	348	444
0.135	0.01431		8	15	24	41	57	93	163	247	322	412
0.14	0.01539		8	14	22	39	53	87	152	230	300	383
0.145	0.01651		7	13	21	36	49	81	142	214	279	357
0.15	0.01767		7	12	19	34	46	76	132	200	261	334
0.155	0.01887		6	11	18	31	43	71	124	187	244	312
0.16	0.02011		6	10	17	29	40	66	116	176	229	293
0.165	0.02138		5	10	16	28	38	62	109	165	216	276
0.17	0.0227		5	9	15	26	36	59	103	156	203	260
0.175	0.02405		5	9	14	25	34	56	97	147	192	245
0.18	0.02545		4	8	13	23	32	52	92	139	181	232
0.185	0.02688		4	8	13	22	30	50	87	131	171	219
0.19	0.02835		4	7	12	21	28	47	82	124	163	208
0.195	0.02986		4	7	11	20	27	45	78	118	154	197
0.2	0.03142		4	6	11	19	26	42	74	112	147	188
0.205	0.03301		3	6	10	18	24	40	71	107	140	178
0.21	0.03464		3	6	10	17	23	38	67	102	133	170
0.215	0.0363		3	6	9	16	22	37	64	97	127	162
0.22	0.03801		3	5	9	15	21	35	61	93	121	155
0.225	0.03976		3	5	8	15	20	33	59	89	116	148
0.23	0.04155		3	5	8	14	19	32	56	85	111	142
0.235	0.04337		3	5	8	13	18	31	54	81	106	136
0.24	0.04524		2	4	7	13	18	29	51	78	102	130
0.245	0.04714		2	4	7	12	17	28	49	75	98	125
0.25	0.04909		2	4	7	12	16	27	47	72	94	120
0.255	0.05107		2	4	6	11	16	26	46	69	90	115
0.26	0.05309		1	4	6	11	15	25	44	66	87	111
0.265	0.05515		1	4	6	11	14	24	42	64	83	107
0.27	0.05726		1	3	6	10	14	23	41	61	80	103
0.275	0.0594		1	3	6	10	13	22	39	59	77	99
0.28	0.06158		1	3	5	9	13	21	38	57	75	96
0.285	0.06379		1	3	5	9	12	21	36	55	72	92
0.29	0.06605		1	3	5	9	12	20	35	53	70	89
0.295	0.06835		1	3	5	8	12	19	34	51	67	86
0.3	0.07069		1	3	5	8	11	19	33	50	65	83
0.305	0.07306		1	3	4	8	11	18	32	48	63	80
0.31	0.07548		1	3	4	8	10	17	31	47	61	78
0.315	0.07793	1	2	4	7	10	17	30	45	59	75	
0.32	0.08042	1	2	4	7	10	16	29	44	57	73	
0.325	0.08296	1	2	4	7	10	16	28	42	55	71	
0.33	0.08553	1	2	4	7	9	15	27	41	54	69	
0.335	0.08814	1	2	4	6	9	15	26	40	52	67	
0.34	0.09079	1	2	4	6	9	14	26	39	51	65	
0.345	0.09348	1	1	3	6	8	14	25	38	49	63	
0.35	0.09621	1	1	3	6	8	14	24	36	48	61	
0.355	0.09898	1	1	3	6	8	13	23	35	46	59	
0.36	0.10179	1	1	3	6	8	13	23	34	45	58	
0.365	0.10463	1	1	3	5	7	13	22	34	44	56	
0.37	0.10752	1	1	3	5	7	12	21	33	43	55	
0.375	0.11045	1	1	3	5	7	12	21	32	42	53	
0.38	0.11341	1	1	3	5	7	12	20	31	40	52	
0.385	0.11642	1	1	3	5	7	11	20	30	39	50	
0.39	0.11946	1	1	3	5	7	11	19	29	38	49	
0.395	0.12254	1	1	3	5	6	11	19	29	37	48	
0.4	0.12566	1	1	2	4	6	10	18	28	36	47	
0.405	0.12882	1	1	2	4	6	10	18	27	36	46	
0.41	0.13203	1	1	2	4	6	10	17	27	35	44	
0.415	0.13527	1	1	2	4	6	10	17	26	34	43	
0.42	0.13854	1	1	2	4	6	9	17	25	33	42	
0.425	0.14186	1	1	2	4	5	9	16	25	32	41	
0.43	0.14522	1	1	2	4	5	9	16	24	32	40	

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		Calc area 40%	0.12154	0.21331	0.3457	0.59828	0.81433	1.34224	2.34311	3.53829	4.618	5.90102
		Calc area 53%	0.16104	0.28263	0.45805	0.79273	1.07899	1.77847	3.10462	4.68823	6.11885	7.81886
0.435	0.14862		1	1	2	4	5	9	15	24	31	39
0.44	0.15205		1	1	1	4	5	9	15	23	30	39
0.445	0.15553		1	1	1	4	5	8	15	22	29	38
0.45	0.15904		1	1	1	3	5	8	14	22	29	37
0.455	0.1626		1	1	1	3	5	8	14	21	28	36
0.46	0.16619		1	1	1	3	5	8	14	21	27	35
0.465	0.16982		1	1	1	3	4	8	13	21	27	34
0.47	0.17349		1	1	1	3	4	7	13	20	26	34
0.475	0.17721		1	1	1	3	4	7	13	20	26	33
0.48	0.18096		1	1	1	3	4	7	13	19	25	32
0.485	0.18475		1	1	1	3	4	7	12	19	25	32
0.49	0.18857		1	1	1	3	4	7	12	18	24	31
0.495	0.19244		1	1	1	3	4	7	12	18	24	30
0.5	0.19635		1	1	1	3	4	7	12	18	23	30
0.505	0.2003		1	1	1	3	4	6	11	17	23	29
0.51	0.20428		0	1	1	3	4	6	11	17	22	29
0.515	0.20831		0	1	1	3	4	6	11	17	22	28
0.52	0.21237		0	1	1	3	4	6	11	16	21	27
0.525	0.21648		0	1	1	2	3	6	11	16	21	27
0.53	0.22062		0	1	1	2	3	6	10	16	21	26
0.535	0.2248		0	1	1	2	3	6	10	15	20	26
0.54	0.22902		0	1	1	2	3	6	10	15	20	25
0.545	0.23328		0	1	1	2	3	5	10	15	19	25
0.55	0.23758		0	1	1	2	3	5	10	15	19	25
0.555	0.24192		0	1	1	2	3	5	9	14	19	24
0.56	0.2463		0	1	1	2	3	5	9	14	18	24
0.565	0.25072		0	1	1	2	3	5	9	14	18	23
0.57	0.25518		0	1	1	2	3	5	9	14	18	23
0.575	0.25967		0	1	1	1	3	5	9	13	17	22
0.58	0.26421		0	1	1	1	3	5	9	13	17	22
0.585	0.26878		0	1	1	1	3	5	8	13	17	22
0.59	0.2734		0	1	1	1	3	5	8	13	17	21
0.595	0.27805		0	1	1	1	3	5	8	12	16	21
0.6	0.28274		0	1	1	1	3	4	8	12	16	21
0.605	0.28748		0	1	1	1	3	4	8	12	16	20
0.61	0.29225		0	1	1	1	2	4	8	12	16	20
0.615	0.29706		0	1	1	1	2	4	8	12	15	20
0.62	0.30191		0	1	1	1	2	4	7	11	15	19
0.625	0.3068		0	1	1	1	2	4	7	11	15	19
0.63	0.31172		0	1	1	1	2	4	7	11	15	19
0.635	0.31669		0	1	1	1	2	4	7	11	14	18
0.64	0.3217		0	1	1	1	2	4	7	11	14	18
0.645	0.32674		0	1	1	1	2	4	7	11	14	18
0.65	0.33183		0	1	1	1	2	4	7	10	14	17
0.655	0.33696		0	1	1	1	2	4	7	10	13	17
0.66	0.34212		0	1	1	1	2	4	7	10	13	17
0.665	0.34732		0	1	1	1	2	4	6	10	13	17
0.67	0.35256		0	1	1	1	1	4	6	10	13	16
0.675	0.35785		0	0	1	1	1	3	6	10	13	16
0.68	0.36317		0	0	1	1	1	3	6	9	12	16
0.685	0.36853		0	0	1	1	1	3	6	9	12	16
0.69	0.37393		0	0	1	1	1	3	6	9	12	15
0.695	0.37937		0	0	1	1	1	3	6	9	12	15
0.7	0.38484		0	0	1	1	1	3	6	9	12	15
0.705	0.39036		0	0	1	1	1	3	6	9	12	15
0.71	0.39592		0	0	1	1	1	3	6	9	11	15
0.715	0.40151		0	0	1	1	1	3	6	9	11	14
0.72	0.40715		0	0	1	1	1	3	5	8	11	14
0.725	0.41282		0	0	1	1	1	3	5	8	11	14
0.73	0.41854		0	0	1	1	1	3	5	8	11	14
0.735	0.42429		0	0	1	1	1	3	5	8	11	14
0.74	0.43008		0	0	1	1	1	3	5	8	10	13
0.745	0.43592		0	0	1	1	1	3	5	8	10	13
0.75	0.44179		0	0	1	1	1	3	5	8	10	13
0.755	0.4477		0	0	1	1	1	3	5	8	10	13
0.76	0.45365		0	0	1	1	1	3	5	7	10	13
0.765	0.45963		0	0	1	1	1	3	5	7	10	13

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		Calc area 53%	0.16104	0.28263	0.45805	0.79273	1.07899	1.77847	3.10462	4.68823	6.11885	7.81886
0.77	0.46566		0	0	1	1	1	3	5	7	10	12
0.775	0.47173		0	0	1	1	1	3	5	7	9	12
0.78	0.47784		0	0	1	1	1	3	5	7	9	12
0.785	0.48398		0	0	1	1	1	2	5	7	9	12
0.79	0.49017		0	0	1	1	1	2	4	7	9	12
0.795	0.49639		0	0	1	1	1	2	4	7	9	12
0.8	0.50265		0	0	1	1	1	2	4	7	9	11
0.805	0.50896		0	0	1	1	1	2	4	7	9	11
0.81	0.5153		0	0	1	1	1	2	4	7	9	11
0.815	0.52168		0	0	1	1	1	2	4	6	9	11
0.82	0.5281		0	0	1	1	1	2	4	6	8	11
0.825	0.53456		0	0	1	1	1	2	4	6	8	11
0.83	0.54106		0	0	1	1	1	2	4	6	8	11
0.835	0.5476		0	0	1	1	1	2	4	6	8	10
0.84	0.55418		0	0	1	1	1	2	4	6	8	10
0.845	0.56079		0	0	1	1	1	2	4	6	8	10
0.85	0.56745		0	0	1	1	1	2	4	6	8	10
0.855	0.57415		0	0	0	1	1	2	4	6	8	10
0.86	0.58088		0	0	0	1	1	1	4	6	8	10
0.865	0.58765		0	0	0	1	1	1	4	6	8	10
0.87	0.59447		0	0	0	1	1	1	4	6	7	10
0.875	0.60132		0	0	0	1	1	1	4	6	7	10
0.88	0.60821		0	0	0	1	1	1	4	6	7	9
0.885	0.61514		0	0	0	1	1	1	4	5	7	9
0.89	0.62211		0	0	0	1	1	1	3	5	7	9
0.895	0.62912		0	0	0	1	1	1	3	5	7	9
0.9	0.63617		0	0	0	1	1	1	3	5	7	9
0.905	0.64326		0	0	0	1	1	1	3	5	7	9
0.91	0.65039		0	0	0	1	1	1	3	5	7	9
0.915	0.65755		0	0	0	1	1	1	3	5	7	9
0.92	0.66476		0	0	0	1	1	1	3	5	7	9
0.925	0.67201		0	0	0	1	1	1	3	5	7	8
0.93	0.67929		0	0	0	1	1	1	3	5	6	8
0.935	0.68661		0	0	0	1	1	1	3	5	6	8
0.94	0.69398		0	0	0	1	1	1	3	5	6	8
0.945	0.70138		0	0	0	1	1	1	3	5	6	8
0.95	0.70882		0	0	0	1	1	1	3	5	6	8
0.955	0.7163		0	0	0	1	1	1	3	5	6	8
0.96	0.72382		0	0	0	1	1	1	3	5	6	8
0.965	0.73138		0	0	0	1	1	1	3	5	6	8
0.97	0.73898		0	0	0	1	1	1	3	4	6	8
0.975	0.74662		0	0	0	1	1	1	3	4	6	8
0.98	0.7543		0	0	0	1	1	1	3	4	6	8
0.985	0.76201		0	0	0	1	1	1	3	4	6	7
0.99	0.76977		0	0	0	1	1	1	3	4	6	7
0.995	0.77756		0	0	0	1	1	1	3	4	6	7
1	0.7854		0	0	0	1	1	1	3	4	6	7
1.025	0.825		0	0	0	0	0	1	2	3	4	6
1.05	0.866		0	0	0	0	0	1	2	3	4	5
1.075	0.908		0	0	0	0	0	1	2	3	4	5
1.1	0.95		0	0	0	0	0	1	2	3	4	5
1.25	0.994		0	0	0	0	0	1	1	2	3	5
1.15	1.039		0	0	0	0	0	1	1	2	3	4
1.175	1.084		0	0	0	0	0	1	1	2	3	4
1.2	1.131		0	0	0	0	0	1	1	2	3	4
1.225	1.179		0	0	0	0	0	1	1	2	3	4
1.25	1.227		0	0	0	0	0	1	1	2	3	4
1.275	1.277		0	0	0	0	0	1	1	2	3	3
1.3	1.327		0	0	0	0	0	1	1	2	2	3
1.325	1.379		0	0	0	0	0	0	1	2	2	3
1.35	1.431		0	0	0	0	0	0	1	2	2	3
1.375	1.485		0	0	0	0	0	0	1	1	2	3
1.4	1.539		0	0	0	0	0	0	1	1	2	3
1.425	1.595		0	0	0	0	0	0	1	1	2	3
1.45	1.651		0	0	0	0	0	0	1	1	2	3
1.475	1.709		0	0	0	0	0	0	1	1	2	2
1.5	1.767		0	0	0	0	0	0	1	1	2	2

HOW TO USE SELECTOR:

THE MAX NUMBER OF CABLES THAT EACH CONDUIT SIZE MAY CONTAIN TO CONFORM WITH NEC STANDARDS ARE GIVEN BELOW. THE FIND THE CONDUIT SIZE REQUIRED FOR CABLES OF O.D.s NOT SHOWN AND COMBINATIONS OF DIFFERENT SIZE CABLES, FOLLOW THESE STEPS.

1. SQUARE THE O.D. OF EACH CABLE AND TOTAL THE RESULT
2. MULTIPLY THE TOTAL BY .7854. THIS IS THE TOTAL AREA OF THE CABLES IN SQUARE INCHES. (SEE NOTES)
3. FROM ACTUAL AREA (*), SELECT A CONDUIT SIZE WITH AREA EQUAL TO OR GREATER THAN THE TOTAL AREA

NOTES:

ACTUAL AREA TO BE OCCUPIED (SQ.IN) NEC STANDARD BASED ON 40% FILL APPLIES TO INSTALLATION OF 3 OR MORE CABLES IN A CONDUIT. A SINGLE CABLE IS PERMITTED TO OCCUPY 53% AND TWO CABLES ARE LIMITED TO 31% CONDUIT FILL. FOR A SINGLE CABLE, USE .5927 IN STEP 2; FOR TWO CABLES, USE 1.0134; FOR THREE OR MORE CABLES, USE .7854