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TECHNICAL TABLES

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AWG Conversion



A.W.G.(B&S)		Solid Wire		Stranded Wire Equivalent									
Gauge	Area mm ²	Size	mm ²	Size	mm ²	Size	mm ²	Size	mm ²	Size	mm ²	Size	mm ²
26	0.128			7/0.15	0.124	7/0.16	0.148						
25	0.162												
24	0.205	0.50	0.20	7/0.20	0.22	14/0.14	0.22						
23	0.255												
22	0.322	0.64	0.32	7/0.25	0.34	7/0.26	0.37						
21	0.411			14/0.20	0.44								
20	0.516	0.80	0.50	19/0.18	0.48	16/0.20	0.50	10/0.25	0.49	7/0.30	0.49	7/0.32	0.56
19	0.653			30/0.18	0.76	24/0.20	0.75	9/0.30	0.64				
18	0.823			19/0.24	0.86	16/0.26	0.85	11/0.30	0.78	11/0.32	0.88	7/0.40	0.88
17	1.039	1.13	1.00	32/0.20	1.00	16/0.30	1.13	14/0.32	1.13	7/0.43	1.00		
16	1.308			50/0.18	1.27	19/0.29	1.25	16/0.32	1.28	7/0.50	1.37		
15	1.652	1.38	1.50	84/0.15	1.48	30/0.25	1.47	26/0.30	1.84				
14	2.088			64/0.20	2.00	26/0.32	2.08						
13	2.629	1.78	2.50	140/0.15	2.48	84/0.20	2.60	50/0.25	2.48	41/0.30	2.90	7/0.67	2.47
12	3.302			41/0.32	3.30								
11	4.156			56/0.30	3.96	65/0.30	4.59	7/0.85	3.97				
10	5.271			84/0.30	5.93	65/0.32	5.22	7/1.04	5.90				
9	6.629												
8	8.350			112/0.30	7.90	94/0.32	7.56	100/0.32	8.00				
7	10.544			322/0.20	10.10	77/0.40	9.70	7/1.35	10.00				
6	13.292			192/0.30	13.60	189/0.30	13.36	171/0.32	13.7				
5	16.755			511/0.20	16.00	126/0.40	15.80	7/1.70	15.90				
4	21.137			287/0.30	20.30	247/0.32	19.80						
3	26.653			792/0.20	24.90	364/0.30	25.70	209/0.40	26.30				
2	33.606			1121/0.20	35.20	455/0.30	32.10						
1	42.384			492/0.32	39.50	560/0.30	39.55						
0	53.454			1596/0.20	50.20	700/0.30	49.15	612/0.32	49.20				
00	67.399			2212/0.20	69.50	910/0.30	64.30	988/0.30	69.80				
000	84.905			1204/0.30	85.10	1332/0.30	94.10						
0000	107.20			1330/0.32	106.9								

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Current Ratings 0.6/1KV V90 and V90HT Cables Three Phase Circuits



Three Single Core PVC or PVC/PVC Cables

CURRENT CARRYING CAPACITY A							
Conductor Size	Unenclosed		Enclosed Conduit in Air	Buried Direct	U/Ground Ducts	Three Phase Voltage Drop mV/A.m	
	Spaced from Surface	Touching					
mm ²	Cu	Cu	Cu	Cu	Cu	Cu	Cu
0.5	3	3	3	-	-	-	-
0.75	7.5	7.5	7.5	-	-	-	-
1	16	13	13	16	16	44.7	44.7
1.5	21	17	15	20	20	28.6	28.6
2.5	27	22	20	27	26	15.6	15.6
4	37	30	27	36	35	9.71	9.71
6	47	38	34	45	43	6.49	6.49
10	66	54	46	59	58	3.86	3.86
16	88	71	61	104	76	2.43	2.43
25	117	94	78	134	97	1.54	1.55
35	145	117	98	160	119	1.12	1.12
50	183	147	120	190	145	0.834	0.840
70	231	185	152	233	180	0.589	0.597
95	279	223	178	279	210	0.439	0.449
120	331	264	213	317	247	0.359	0.371
150	383	305	241	356	279	0.305	0.319
185	438	350	277	402	316	0.261	0.277
240	528	420	336	465	376	0.221	0.240

Current rating are in nominal Air = 40 C deg and Soil = 25 C deg

Current Ratings 0.6/1KV V90 and V90HT Cables Two Single Cores

TWO Single Core PVC or PVC/PVC Cables

CURRENT CARRYING CAPACITY A							
Conductor Size	Unenclosed		Enclosed Conduit in Air	Buried Direct	U/Ground Ducts	Three Phase Voltage Drop mV/A.m	
	Spaced from Surface	Touching					
mm ²	Cu	Cu	Cu	Cu	Cu	Cu	Cu
1	17	13	14	18	19	44.7	44.7
1.5	21	17	18	23	23	28.6	28.6
2.5	29	22	24	32	31	15.6	15.6
4	38	30	31	41	40	9.71	9.71
6	49	38	40	52	50	6.49	6.49
10	69	54	54	69	68	3.86	3.86
16	91	71	69	122	87	2.43	2.43
25	121	94	91	158	112	1.54	1.55
35	150	117	110	190	136	1.12	1.12
50	189	147	139	225	168	0.834	0.840
70	238	185	169	277	205	0.589	0.597
95	287	223	206	332	244	0.439	0.449
120	341	265	237	348	282	0.359	0.371
150	393	306	278	424	324	0.305	0.319
185	450	351	312	480	363	0.261	0.277
240	541	422	373	556	429	0.221	0.240

Current rating are in nominal Air = 40 C deg and Soil = 25 C deg

NOTE:

Amperage ratings are as specified in AS/NZS 3008.1.1:2009

Derating factor may apply, refer to AS/NZS 3008.1.1:2009

Two Core PVC/PVC Cable

CURRENT CARRYING CAPACITY A						
Conductor Size mm ²	Unenclosed		Enclosed Conduit in Air Cu	Buried Direct Cu	U/Ground Ducts Cu	Three Phase Voltage Drop mV/A.m Cu
	Spaced from Surface Cu	Touching Cu				
1	18	17	15	19	20	41.1
1.5	23	21	19	23	24	28.0
2.5	30	29	26	33	32	16.8
4	40	38	33	43	42	10.4
6	51	48	43	55	53	6.95
10	72	67	58	73	72	4.03
16	95	89	78	125	94	2.55
25	125	119	99	162	119	1.65
35	156	146	124	196	146	1.18
50	195	184	153	232	179	0.827
70	245	230	193	285	222	0.591
95	293	275	226	342	260	0.457
120	347	325	269	391	305	0.367
150	397	372	304	438	344	0.306
185	450	422	348	494	388	0.264
240	536	500	420	572	461	0.219

Current rating are in nominal Air = 40 C deg and Soil = 25 C deg

NOTE:

Amperage ratings are as specified in AS/NZS 3008.1.1:2009

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Current Ratings

0.6/1KV X-HF-110, R-HF-110, HF-110-R Cables

Three Single Core X-HF-110

CURRENT CARRYING CAPACITY A							
Conductor Size	Unenclosed		Enclosed Conduit in Air	Buried Direct	U/Ground Ducts	Three Phase Voltage Drop mV/A.m	
	Spaced from Surface	Touching				Cu	Cu
mm ²	Cu	Cu	Cu	Cu	Cu	Cu	Cu
1	25	21	18	20	21	49.7	49.7
1.5	31	26	23	25	26	31.9	31.9
2.5	42	34	31	36	34	17.4	17.4
4	55	45	40	46	44	10.8	10.8
6	70	57	50	57	55	7.23	7.23
10	99	80	70	77	76	4.30	4.30
16	130	105	91	130	97	2.70	2.71
25	173	139	121	168	125	1.72	1.72
35	214	172	148	201	151	1.24	1.25
50	270	217	190	237	188	0.924	0.929
70	340	273	234	291	229	0.650	0.657
95	410	329	277	348	268	0.481	0.491
120	487	390	331	396	316	0.392	0.403
150	562	450	378	445	357	0.331	0.331
185	644	516	438	503	404	0.280	0.280
240	775	620	538	583	481	0.235	0.235
300	895	714	612	657	542	0.208	0.208

Current rating are in nominal Air = 40 C deg and Soil = 25 C deg

NOTE:

Amperage ratings are as specified in AS/NZS 3008.1.1:2009

Derating factor may apply, refer to AS/NZS 3008.1.1:2009

Three & Four Core HF-110, R-HF-110, HF-110-R Cable 0.6/1KV CABLE X-

CURRENT CARRYING CAPACITY A						
Conductor Size	Unenclosed		Enclosed Conduit in Air	Buried Direct	U/Ground Ducts	Three Phase Voltage Drop mV/A.m
	Spaced from Surface	Touching				
mm ²	Cu	Cu	Cu	Cu	Cu	Cu
1	21	19	17	19	20	49.7
1.5	26	24	21	24	24	31.9
2.5	34	32	27	33	31	17.4
4	45	42	36	43	41	10.8
6	57	54	46	53	51	7.22
10	80	75	65	71	71	4.29
16	106	99	84	122	91	2.70
25	140	131	112	158	118	1.71
35	173	162	137	190	143	1.24
50	218	204	175	226	178	0.92
70	273	255	217	277	217	0.645
95	327	306	263	333	259	0.475
120	387	360	306	379	298	0.385
150	444	413	356	426	341	0.322
185	505	470	402	481	381	0.271
240	602	559	489	558	453	0.224

Current rating are in nominal Air = 40 C deg and Soil = 25 C deg

NOTE:

Amperage ratings are as specified in AS/NZS 3008.1.1:2009

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Allowable Current (Amps)

for single Core Conductors

in free Air (50V DC)

CODE	mm 2	Maximum Duty Cycle, %					Voltage Drop mV/A.m
		100	80	60	40	20	
ABS8	7.92	69	77.14	89.08	109.10	154.29	5.80
ABS6	13.36	94	105.10	121.35	148.63	210.19	3.91
ABS4	20.25	120	134.16	154.92	189.74	268.33	2.38
ABS3	25.70	138	154.29	178.16	218.20	308.58	1.80
ABS2	32.15	166	185.59	214.31	262.47	371.19	1.73
ABS1	39.55	180	201.25	232.38	284.60	402.49	1.11
ABS0	49.45	215	240.38	277.56	339.94	480.75	1.01
ABS00	64.30	260	290.69	335.66	411.10	581.38	0.93
ABS000	85.00	308	344.35	397.63	486.99	688.71	0.65

CODE	mm 2	Maximum Duty Cycle, %					Voltage Drop mV/A.m
		100	80	60	40	20	
SIPF/DIPF10	10	79	88.32	114.03	124.91	176.65	4.68
SIPF/DIPF16	16	104	116.28	150.11	164.44	232.55	3.33
SIPF/DIPF25	25	138	154.29	199.19	218.20	308.58	1.87
SIPF/DIPF35	35	171	191.18	246.82	270.37	382.37	1.36
SIPF/DIPF50	50	215	240.38	310.33	339.94	480.75	1.02
SIPF/DIPF70	70	271	302.99	391.15	428.49	605.97	0.72
SIPF/DIPF95	95	327	365.60	471.98	517.03	731.19	0.54
SIPF/DIPF120	120	389	434.92	561.47	615.06	869.83	0.44
SIPF/DIPF150	150	448	500.88	646.63	708.35	1001.76	0.38
SIPF/DIPF185	185	513	573.55	740.45	811.12	1147.10	0.33

Note:

- 1 The current ratings are based on a conductor temperature of 80 ° C and an ambient air temperature of 30 ° C

NOTE:

Amperage ratings are as specified in JASO D609
Derating factor may apply, refer to JASO D609

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Allowable Voltage Drop for single Core Conductors in free Air (50V DC) based on AS/NZS3008

please note: derating factors apply according to these specifications

CODE	mm 2	Number of Strands / Size (mm)	AMP rating at 30° C	Voltage Drop @ 40°C mV/A.m
AS17032	0.56	7/0.32	13	83.00
AS19030	0.64	9/0.30	14	70.60
FHDT124020	0.75	24/0.20	16	57.10
AS11032 / AS16026	0.85	11/0.32 / 16/0.26	18	55.00
AS116030	1.13	16/0.30	20	40.00
AS126030	1.84	26/0.30	28	25.00
AS141030	2.90	41/0.30	37	15.50
FHDT156030	4.00	56/0.30	43	10.88
AS165030	4.59	65/0.30	51	10.00
SIPF10 / DIPF10	10.00	203/0.25	79	3.86
SIPF16 / DIPF16	16.00	322/0.25	104	2.43
SIPF25 / DIPF25	25.00	504/0.25	138	1.54

AMP RATING ARE BASED ON JASO D609:2001 single core AMBIENT TEMPERATURE AT 30°C

Amp Derating Factors for Bundling of Cable							
No of Cables	1	2	3	4	5	6 to 7	8 to 10
Derating Factor	1.00	0.8	0.70	0.60	0.55	0.50	0.45

Temperature Derating Factors (Amp)					
Temp ° C	30	40	50	60	70
Derating Factor	1.00	0.9	0.80	0.65	0.45

Note: Derating factors may apply

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Current Ratings 0.6/1KV V90 and V90HT Cables

Single Phase Circuits

Two Single Core PVC or PVC/PVC Cables

CURRENT CARRYING CAPACITY A						
Conductor Size mm ²	Unenclosed		Enclosed Conduit in Air	Buried Direct	U/Ground Ducts	Single Phase Voltage Drop mV/A.m
	Spaced from Surface	Touching				
	Cu	Cu	Cu	Cu	Cu	Cu
1	17	13	14	18	19	44.7
1.5	21	17	18	23	23	28.6
2.5	29	22	24	32	31	15.6
4	38	30	31	41	40	9.71
6	49	38	40	52	50	6.49
10	69	54	54	69	68	3.86
16	91	71	69	122	87	2.43
25	121	94	91	158	12	1.54
35	150	117	110	190	136	1.12
50	189	147	139	225	168	0.834
70	238	185	169	277	205	0.589
95	287	223	206	332	244	0.439
120	341	265	237	378	282	0.359
150	393	306	278	424	324	0.305
185	450	351	312	480	363	0.261
240	541	422	373	556	429	0.221

Current rating are in nominal Air = 40 C deg and Soil = 25 C deg

NOTE:

Amperage ratings are as specified in AS/NZS 3008.1.1:2009

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Current Ratings for Tinned Copper Fuse Wire

For semi-enclosed rewirable fuses

Amperage listed is approximated only

SWG	WIRE SIZE mm	AMPS.
33	0.254	6
30	0.315	8
28	0.376	10
26	0.457	12
25	0.510	16
24	0.560	20
23	0.610	25
22	0.710	27
21	0.810	32
20	0.910	40

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