



D1 = Diameter over bedding sheath d = Diameter of armour wire D2 = Diameter over outer sheath

Electrical and physical properties of 3 and 4 core PVC insulated PVC bedded *SWA PVC sheathed 600/1000 V cables with aluminium or copper conductors and manufactured to SANS 1507-3.

* Where the armouring of cable is used as the earth continuity path, it may be necessary to replace some of the steel wires with tinned copper wires (ECC) or to use a supplementary earth continuity conductor.

Technical Data

Copper Conductors

Cable Size (mm ²)	Electrical Properties						Physical Properties							
	Current Rating			Impedance (Ω/km)	Volt Drop (mV/A/m)	1 Sec Short Circuit Rating (kA)	Nominal Diameters						Approx. Mass	
	Ground (A)	Ducts (A)	Air (A)				D1		d		D2		3c (kg/km)	4c (kg/km)
				3c (mm)	4c (mm)	3c (mm)	4c (mm)	3c (mm)	4c (mm)					
1,5	24	20	19	14,48	25,080	0,17	8,51	9,33	1,25	1,25	14,13	14,95	448	501
2,5	32	26	26	8,87	15,363	0,28	9,61	10,56	1,25	1,25	15,23	16,18	522	597
4	42	34	35	5,52	9,561	0,46	11,40	12,57	1,25	1,25	17,02	18,39	667	762
6	53	43	45	3,69	6,391	0,69	12,58	13,90	1,25	1,25	18,4	19,72	790	910
10	70	58	62	2,19	3,793	1,15	14,59	16,14	1,25	1,25	20,41	21,96	996	1169
16	91	75	83	1,38	2,390	1,84	16,55	19,18	1,25	1,25	22,37	25,92	1295	1768
25	119	96	110	0,8749	1,515	2,87	19,46	21,34	1,60	1,60	26,46	28,34	1838	2196
35	143	116	135	0,6335	1,097	4,02	20,89	23,97	1,60	1,60	27,89	31,17	2215	2732
50	169	138	163	0,4718	0,817	5,75	24,26	28,14	1,60	1,60	31,46	36,54	2871	3893
70	210	171	207	0,3325	0,576	8,05	27,07	31,29	2,00	2,00	35,47	40,09	3617	4837
95	251	205	251	0,2460	0,427	10,92	31,19	35,82	2,00	2,00	39,99	44,62	4901	6115
120	285	234	290	0,2012	0,348	13,80	33,38	38,10	2,00	2,00	42,18	47,40	5720	7269
150	320	263	332	0,1698	0,294	17,25	36,68	42,05	2,00	2,00	45,98	52,65	6908	9250
185	361	298	378	0,1445	0,250	21,27	40,82	46,75	2,50	2,50	51,12	57,45	8690	11039
240	416	344	445	0,1220	0,211	27,60	46,43	53,06	2,50	2,50	57,13	64,16	10767	13726
300	465	385	510	0,1090	0,189	34,50	51,10	58,53	2,50	2,50	62,20	70,13	12950	16544

Aluminium Conductors

Cable Size (mm ²)	Electrical Properties						Physical Properties							
	Current Rating			Impedance (Ω/km)	Volt Drop (mV/A/m)	1 Sec Short Circuit Rating (kA)	Nominal Diameters						Approx. Mass	
	Ground (A)	Ducts (A)	Air (A)				D1		d		D2		3c (kg/km)	4c (kg/km)
				3c (mm)	4c (mm)	3c (mm)	4c (mm)	3c (mm)	4c (mm)					
25	90	73	80	1,4446	2,502	1,80	17,76	20,65	1,60	1,60	24,76	27,65	1301	1554
35	108	87	99	1,0465	1,813	2,52	19,33	21,93	1,60	1,60	26,33	29,13	1477	1757
50	129	104	119	0,7749	1,342	3,61	21,87	25,05	1,60	1,60	29,07	32,25	1782	2150
70	158	130	151	0,5388	0,9333	5,05	24,76	29,27	1,60	1,60	31,96	37,67	2132	2930
95	192	157	186	0,3934	0,681	6,86	28,68	33,73	2,00	2,00	37,08	42,53	2908	3647
120	219	179	216	0,3148	0,545	8,66	31,09	35,44	2,00	2,00	39,89	44,24	3328	4023
150	245	201	250	0,2607	0,452	10,83	33,99	39,39	2,00	2,50	42,79	49,69	3837	5276
185	278	229	287	0,2133	0,369	13,35	37,80	44,51	2,00	2,50	47,10	54,81	4557	6231
240	324	268	342	0,1708	0,296	17,32	42,60	50,04	2,50	2,50	52,90	61,14	5977	7550

Under short circuit conditions a maximum conductor temperature of 160°C is allowed for a maximum of 1 second

PVC Current Ratings are Based on the following Environmental Parameters

Maximum Sustained Conductor Temperature	Ground Temperature	Ambient Air Temperature (Free Air Shaded)	Ground Thermal Resistivity	Depth of Laying to top of Cable or Duct
70°C	25°C	30°C	1,2 K.m/W	500mm