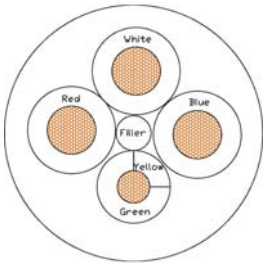
PVC Sheathed, Unarmoured Power Cables - 0.6/1kV

Applications

WW VIPERCON 0.6/1kV PVC sheathed power cables are mostly used for buildings, industrial plants, gantry wiring, and road transport depots where not subject to mechanical damage. The cables are suitable for installation indoor/outdoor, enclosed in conduit, in underground duct



Configuration

Conductor:	plain annealed copper or plain aluminium of the type specified in AS/NZS 1125.
Insulation:	1.5mm^2 ~ 70mm^2, polyvinylchloride compound PVC V90. 95mm^2 and above, cross-linked polyethylene compound XLPE
Laying-up:	cores are laid up together with a right-hand direction of lay, with non-hygroscopic filler where necessary to form a substantially compact and circular cross-section core assembly.
Sheath:	The laid-up core is sheathed with a continuous flame retardant polyvinylchloride compound PVC V90

Core identification

2C+E cable:	Phase core colour: Red,	Neutral core colour: Black	Earth core colour: Green/Yellow
3C+E cable:	Phase core colour: Red, White, and Blue		Earth core colour: Green/Yellow
4C+E cable:	Phase core colour: Red, White, and Blue	Neutral core colour: Black	Earth core colour: Green/Yellow

Sheath colour:	Standard - Orange Optional - Black (Ultraviolet radiation stabilised)

Technical data

Rated voltage:	0.6 / 1 kV	
Conductor operating range:	PVC insulated, -25°C ~ 75°C, MAX 90°C, short circuit temperature 160°C for 5 sec XLPE insulated, -40°C ~ 90°C, short circuit temperature 250°C for 5 sec	
Temperature at surface:	In operation, -25°C ~ 90°C	
Minimum ambient temp:	0°C, after installation and only when cable is in a fixed position	
Minimum bending radius:	Stranded conductors	9 x cable O.D during installation 6 x cable O.D after installation
	Compacted conductors	12 x cable O.D during installation 8 x cable O.D after installation

--The maximum conductor temperatures specified are based on the properties of the insulation material but in practice may need to be derated to take account of joints and terminations and environmental conditions.
--When installed in tunnels, they should be fixed on brackets and cannot bear large pulling tension or pressure.
--Thermoplastic PVC V90 insulation is subject to deformation at temperatures above 75°C.

Standards:

International	- IEC 60502, IEC 60228, IEC 60332
Australian/New Zealand	- AS/NZS 5000.1, AS/NZS 3808, AS/NZS 1125, AS/NZS 1660

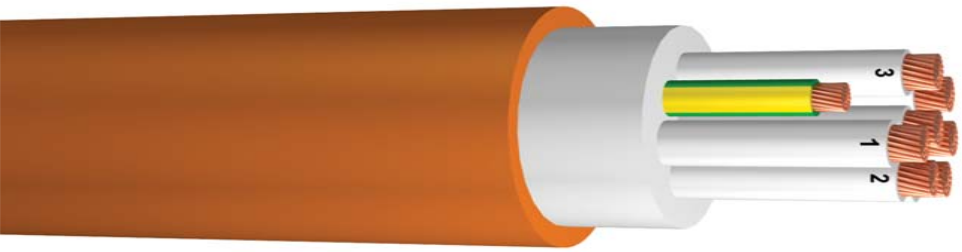
PVC Sheathed, Unarmoured Power Cables - 0.6/1kV

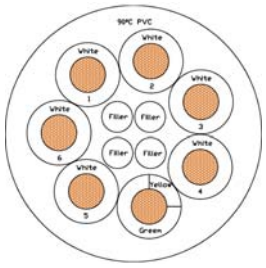
Type	Phase Cond. Area mm²	Phase Cond. Type	Core Dia. mm	Earth Cond. Area mm²	Core Dia mm	Avg. Cable Dia. mm	Copper conductor		Aluminium conductor	
							Product Code	Approx Weight kg/km	Product Code	Approx Weight kg/km
2C+E	1.5	Strand	3.2	1.5	3.2	9.7	1301UA	119	-	-
2C+E	2.5	Strand	3.7	2.5	3.7	10.8	1302UA	159	-	-
2C+E	4	Strand	4.6	2.5	3.5	11.8	1304UA	213	-	-
2C+E	6	Strand	5.2	2.5	3.5	12.7	1306UA	263	-	-
2C+E	10	Strand	6.2	4	4.6	15.1	1310UA	390	-	-
2C+E	16	Strand	7.3	6	5.2	17.2	1316UA	554	-	-
2C+E	25	Strand	9.1	6	5.2	20.0	1325UA	779	-	-
2C+E	35	Strand	10.3	10	6.2	22.6	1335UA	1049	-	-
2C+E	50	Strand	12.2	16	7.3	26.4	1305UA	1478	-	-
2C+E	70	Compact	14.0	25	9.1	30.5	1307UA	2029	-	-
2C+E	95	Compact	15.2	25	8.5	31.9	1309UA	2406	-	-
2C+E	120	Compact	17.1	35	9.7	35.7	1312UA	3047	1312AUA	1364
2C+E	150	Compact	19.2	50	11.4	40.4	1350UA	3870	1350AUA	1705
2C+E	185	Compact	21.4	70	13.4	45.2	1318UA	4854	1318AUA	2132
2C+E	240	Compact	24.1	95	15.2	50.9	1324UA	6268	1324AUA	2711
2C+E	300	Compact	26.8	120	17.1	56.4	1330UA	7791	1330AUA	3336
3C+E	1.5	Strand	3.2	1.5	3.2	10.6	1015UA	148	-	-
3C+E	2.5	Strand	3.7	2.5	3.7	11.8	1025UA	200	-	-
3C+E	4	Strand	4.6	2.5	3.5	13.3	1004UA	278	-	-
3C+E	6	Strand	5.2	2.5	3.5	14.4	1006UA	351	-	-
3C+E	10	Strand	6.2	4	4.6	17.0	1010UA	523	-	-
3C+E	16	Strand	7.3	6	5.2	19.5	1016UA	752	-	-
3C+E	25	Strand	9.1	6	5.2	23.0	1125UA	1084	-	-
3C+E	35	Strand	10.3	10	6.2	26.0	1035UA	1459	-	-
3C+E	50	Strand	12.2	16	7.3	30.5	1050UA	2057	-	-
3C+E	70	Compact	14.0	25	9.1	35.0	1070UA	2813	-	-
3C+E	95	Compact	15.2	25	8.5	37.0	1095UA	3392	-	-
3C+E	120	Compact	17.1	35	9.7	41.4	1120UA	4287	1120AUA	1843
3C+E	150	Compact	19.2	50	11.4	46.6	1150UA	5420	1150AUA	2327
3C+E	185	Compact	21.4	70	13.4	52.2	1185UA	6765	1185AUA	2898
3C+E	240	Compact	24.1	95	15.2	58.7	1124UA	8730	1124AUA	3688
3C+E	300	Compact	26.8	120	17.1	65.1	1130UA	10852	1130AUA	4542
4C+E	1.5	Strand	3.2	1.5	3.2	11.5	1505UA	178	-	-
4C+E	2.5	Strand	3.7	2.5	3.7	12.9	1502UA	243	-	-
4C+E	4	Strand	4.6	2.5	3.5	14.7	1504UA	346	-	-
4C+E	6	Strand	5.2	2.5	3.5	16.1	1506UA	444	-	-
4C+E	10	Strand	6.2	4	4.6	18.9	1510UA	661	-	-
4C+E	16	Strand	7.3	6	5.2	21.8	1516UA	956	-	-
4C+E	25	Strand	9.1	6	5.2	26.0	1525UA	1398	-	-
4C+E	35	Strand	10.3	10	6.2	29.3	1535UA	1881	-	-
4C+E	50	Strand	12.2	16	7.3	34.5	1550UA	2653	-	-
4C+E	70	Compact	14.0	25	9.1	39.5	1570UA	3619	-	-
4C+E	95	Compact	15.2	25	8.5	42.0	1595UA	4403	-	-
4C+E	120	Compact	17.1	35	9.7	47.0	1520UA	5559	1520AUA	2373
4C+E	150	Compact	19.2	50	11.4	52.9	1515UA	7013	1515AUA	2991
4C+E	185	Compact	21.4	70	13.4	59.2	1585UA	8731	1585AUA	3719
4C+E	240	Compact	24.1	95	15.2	66.6	1524UA	11262	1524AUA	4735
4C+E	300	Compact	26.8	120	17.1	73.8	1530UA	13999	1530AUA	5832

PVC Sheathed, Unarmoured Control Cables - 0.6/1kV

Applications

WW VIPERCON 0.6/1kV PVC sheathed multi-core control cables are mostly used for control circuit in buildings, industrial plants, gantry wiring, and road transport depots where not subject to mechanical damage. The cables are suitable for installation indoor/outdoor, enclosed in conduit, in underground duct,





Configuration

Conductor:	plain annealed copper (class 2 strands) of the type specified in AS/NZS 1125.
Insulation:	polyvinylchloride compound PVC V90.
Laying-up:	cores are laid up together with a right-hand direction of lay, with non-hygroscopic filler where necessary to form a substantially compact and circular cross-section core assembly.
Sheath:	the laid-up core is sheathed with a continuous flame retardant polyvinylchloride compound PVC V90

Core identification

Core:	Active core:	White core with black numbering
Earth core:		Green/Yellow
Sheath colour:	Standard - Orange	
	Optional - Black (Ultraviolet radiation stabilised)	

Technical data

Rated voltage:	0.6 / 1 kV
Conductor operating range:	-25°C ~ 75°C, MAX 90°C, short circuit temperature 160°C for 5 sec
Temperature at surface:	In operation, -25°C ~ 90°C
Minimum ambient temp:	0°C after installation and only when cable is in a fixed position
Minimum bending radius:	9 x cable O.D during installation
	6 x cable O.D after installation

--The maximum conductor temperatures specified are based on the properties of the insulation material but in practice may need to be derated to take account of joints and terminations and environmental conditions.
--When installed in tunnels, they should be fixed on brackets and cannot bear large pulling tension or pressure.
--Thermoplastic PVC V90 insulation is subject to deformation at temperatures above 75°C.

Standards:

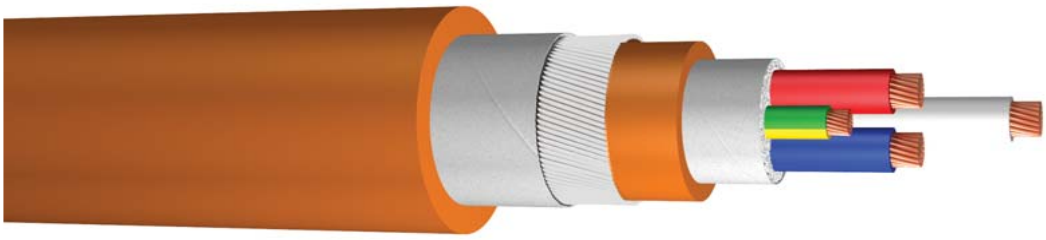
International	- IEC 60502, IEC 60228, IEC 60332
Australian/New Zealand	- AS/NZS 5000.1, AS/NZS 3808, AS/NZS 1125, AS/NZS 1660

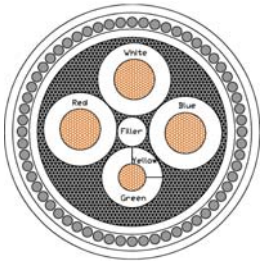
Type	Product Code	Conductor Area mm²	Core Dia. mm	Avg. Cable Dia. mm	Approx Weight kg/km	Product Code	Conductor Area mm²	Core Dia. mm	Avg. Cable Dia. mm	Approx Weight kg/km
2C+E	1031UA	1.5	3.2	9.7	119	1032UA	2.5	3.7	10.8	159
3C+E	1041UA	1.5	3.2	10.6	148	1042UA	2.5	3.7	11.8	200
4C+E	1051UA	1.5	3.2	11.5	178	1052UA	2.5	3.7	12.9	243
6C+E	1701UA	1.5	3.2	12.6	231	1702UA	2.5	3.7	14.1	319
8C+E	1901UA	1.5	3.2	15.4	300	1902UA	2.5	3.7	17.3	414
10C+E	1111UA	1.5	3.2	16.0	351	1112UA	2.5	3.7	18.1	488
12C+E	1131UA	1.5	3.2	17.5	409	1132UA	2.5	3.7	19.7	570
15C+E	1161UA	1.5	3.2	18.5	486	1162UA	2.5	3.7	20.8	681
20C+E	1211UA	1.5	3.2	20.6	621	1212UA	2.5	3.7	23.3	874
25C+E	1261UA	1.5	3.2	23.0	758	1262UA	2.5	3.7	26.0	1071
30C+E	1311UA	1.5	3.2	25.4	898	1312UA	2.5	3.7	28.8	1272
40C+E	1411UA	1.5	3.2	28.7	1164	1412UA	2.5	3.7	32.6	1655
50C+E	1511UA	1.5	3.2	30.4	1410	1512UA	2.5	3.7	34.5	2012

PVC Sheathed, Steel Wire Armoured Power Cables - 0.6/1kV

Applications

WW VIPERCON 0.6/1kV armoured power cables are mostly used for buildings, industrial plants, mining and petroleum industry where extra mechanical protection is required. The cables are suitable for installation indoor/outdoor, enclosed in conduit, in underground duct, and buried directly in earth.





Configuration

Conductor:	plain annealed copper or plain aluminium (class 2 strands) of the type specified in AS/NZS 1125.
Insulation:	$1.5mm^2 \sim 70mm^2$, polyvinylchloride compound PVC V90. $95mm^2$ and above, cross-linked polyethylene compound XLPE
Laying-up:	cores are laid up together with a right-hand direction of lay, with non-hygroscopic filler where necessary to form a substantially compact and circular cross-section core assembly.
Bedding:	flame retardant polyvinylchloride compound PVC V90
Armour:	single layer galvanized (Mild) steel wires helically applied over bedding.
Sheath:	The laid-up core is sheathed with a continuous flame retardant polyvinylchloride compound PVC V90 to AS/NZS 3808.

Core identification

2C+E cable:	Phase core colour: Red,	Neutral core colour: Black	Earth core colour: Green/Yellow
3C+E cable:	Phase core colour: Red, White, and Blue		Earth core colour: Green/Yellow
4C+E cable:	Phase core colour: Red, White, and Blue	Neutral core colour: Black	Earth core colour: Green/Yellow

Sheath colour:	Standard - Orange Optional - Black (Ultraviolet radiation stabilised)

Technical data

Rated voltage:	0.6 / 1 kV
Conductor operating range:	PVC insulated, -25°C ~ 75°C, MAX 90°C XLPE insulated, -40°C ~ 90°C
Temperature at surface:	In operation, -25°C ~ 90°C
Minimum ambient temp:	0°C after installation and only when cable is in a fixed position
Minimum bending radius:	18 x cable O.D during installation 12 x cable O.D after installation

--The maximum conductor temperatures specified are based on the properties of the insulation material but in practice may need to be derated to take account of joints and terminations and environmental conditions.
--When installed in tunnels, they should be fixed on brackets and cannot bear large pulling tension or pressure.
--Thermoplastic PVC V90 insulation is subject to deformation at temperature above 75°C.

Standards:

International	- IEC 60502, IEC 60228, IEC 60332
Australian/New Zealand	- AS/NZS 5000.1, AS/NZS 3808, AS/NZS 1125, AS/NZS 1660, AS/NZS 3863

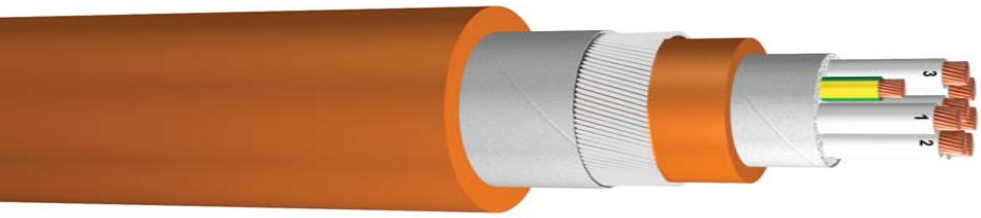
PVC Sheathed, Steel Wire Armoured Power Cables - 0.6/1kV

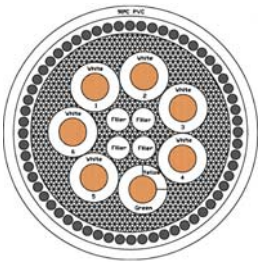
Type	Phase Cond. Area mm²	Phase Cond. Type	Core Dia. mm	Earth Cond. Area mm²	Core Dia mm	Over Bedding Dia. mm	Avg. Cable Dia. mm	Copper conductor		Aluminium conductor	
								Product Code	Approx Weight kg/km	Product Code	Approx Weight kg/km
2C+E	1.5	Strand	3.2	1.5	3.2	8.4	13.1	1301	313	-	-
2C+E	2.5	Strand	3.7	2.5	3.7	9.5	14.3	1302	379	-	-
2C+E	4	Strand	4.6	2.5	3.5	11.35	17.2	1304	586	-	-
2C+E	6	Strand	5.2	2.5	3.5	12.24	18.2	1306	663	-	-
2C+E	10	Strand	6.2	4	4.6	14.51	20.6	1310	861	-	-
2C+E	16	Strand	7.3	6	5.2	16.60	22.9	1316	1091	-	-
2C+E	25	Strand	9.1	6	5.2	19.29	26.5	1325	1548	-	-
2C+E	35	Strand	10.3	10	6.2	21.82	29.2	1335	1918	-	-
2C+E	50	Strand	12.2	16	7.3	25.56	33.2	1305	2494	-	-
2C+E	70	Compact	14.0	25	9.1	29.49	37.4	1307	3204	-	-
2C+E	95	Compact	15.2	25	8.5	30.89	39.8	1309	3914	-	-
2C+E	120	Compact	17.1	35	9.7	34.59	43.7	1312	4739	1312A	3038
2C+E	150	Compact	19.2	50	11.4	39.08	49.6	1350	6205	1350A	4040
2C+E	185	Compact	21.4	70	13.4	43.84	54.7	1318	7480	1318A	4758
2C+E	240	Compact	24.1	95	15.2	49.34	60.6	1324	9237	1324A	5680
2C+E	300	Compact	26.8	120	17.1	54.70	66.3	1330	11099	1330A	6644
3C+E	1.5	Strand	3.2	1.5	3.2	9.3	14.1	1015	360	-	-
3C+E	2.5	Strand	3.7	2.5	3.7	10.5	15.3	1025	442	-	-
3C+E	4	Strand	4.6	2.5	3.5	12.74	18.7	1004	681	-	-
3C+E	6	Strand	5.2	2.5	3.5	13.86	19.9	1006	789	-	-
3C+E	10	Strand	6.2	4	4.6	16.36	23.4	1010	1156	-	-
3C+E	16	Strand	7.3	6	5.2	18.81	26.0	1016	1481	-	-
3C+E	25	Strand	9.1	6	5.2	22.20	29.6	1125	1947	-	-
3C+E	35	Strand	10.3	10	6.2	25.10	32.7	1035	2439	-	-
3C+E	50	Strand	12.2	16	7.3	29.45	38.2	1050	3401	-	-
3C+E	70	Compact	14.0	25	9.1	33.84	42.9	1070	4425	-	-
3C+E	95	Compact	15.2	25	8.5	35.81	45.0	1095	5118	-	-
3C+E	120	Compact	17.1	35	9.7	40.08	50.7	1120	6634	1120A	4190
3C+E	150	Compact	19.2	50	11.4	45.20	56.1	1150	8087	1150A	4993
3C+E	185	Compact	21.4	70	13.4	50.58	61.9	1185	9774	1185A	5907
3C+E	240	Compact	24.1	95	15.2	56.94	68.7	1124	12151	1124A	7109
3C+E	300	Compact	26.8	120	17.1	63.11	76.7	1130	15495	1130A	9185
4C+E	1.5	Strand	3.2	1.5	3.2	10.2	15.1	1505	413	-	-
4C+E	2.5	Strand	3.7	2.5	3.7	11.5	16.5	1502	512	-	-
4C+E	4	Strand	4.6	2.5	3.5	14.17	20.3	1504	745	-	-
4C+E	6	Strand	5.2	2.5	3.5	15.50	21.7	1506	874	-	-
4C+E	10	Strand	6.2	4	4.6	18.26	25.4	1510	1176	-	-
4C+E	16	Strand	7.3	6	5.2	21.07	28.4	1516	1547	-	-
4C+E	25	Strand	9.1	6	5.2	25.10	32.7	1525	2230	-	-
4C+E	35	Strand	10.3	10	6.2	28.37	37.1	1535	2836	-	-
4C+E	50	Strand	12.2	16	7.3	33.35	42.4	1550	3778	-	-
4C+E	70	Compact	14.0	25	9.1	38.24	47.6	1570	4924	-	-
4C+E	95	Compact	15.2	25	8.5	40.69	51.3	1595	6075	-	-
4C+E	120	Compact	17.1	35	9.7	45.54	56.5	1520	7444	1520A	4257
4C+E	150	Compact	19.2	50	11.4	51.31	62.7	1515	9557	1515A	5536
4C+E	185	Compact	21.4	70	13.4	57.35	69.1	1585	11605	1585A	6593
4C+E	240	Compact	24.1	95	15.2	64.58	78.3	1524	14569	1524A	8042
4C+E	300	Compact	26.8	120	17.1	71.57	85.8	1530	17703	1530A	9536

PVC Sheathed, Steel Wire Armoured Multi-Core Control Cables - 0.6/1kV

Applications

WW VIPERCON 0.6/1kV armoured multi-core control cables are mostly used for control circuit in buildings, industrial plants, mining and petroleum industry where extra mechanical protection is required. The cables are suitable for installation indoor/outdoor, enclosed in conduit, in underground duct, and buried directly in earth.





Configuration

Conductor: plain annealed copper (class 2 strands) of the type specified in AS/NZS 1125.
Insulation: polyvinylchloride compound PVC V90.
Laying-up: cores are laid up together with a right-hand direction of lay, with non-hygroscopic filler where necessary to form a substantially compact and circular cross-section core assembly.
Bedding: flame retardant polyvinylchloride compound PVC V90
Armour: single layer galvanized (Mild) steel wires helically applied over bedding.
Sheath: the laid-up core is sheathed with a continuous flame retardant polyvinylchloride compound PVC V90 to AS/NZS 3808.

Core identification

Core: Active core: White core with black numbering,
Earth: Green/Yellow
Sheath colour: Standard - Orange
Optional - Black (Ultraviolet radiation stabilised)

Technical data

Rated voltage: 0.6 / 1 kV
Conductor operating range: -25°C ~ 75°C, MAX 90°C, short circuit temperature 160°C for 5 sec
Temperature at surface: In operation, -25°C ~ 90°C
Minimum ambient temp: 0°C after installation and only when cable is in a fixed position
Minimum bending radius: 18 x cable O.D during installation
12 x cable O.D after installation

--The maximum conductor temperatures specified are based on the properties of the insulation material but in practice may need to be derated to take account of joints and terminations and environmental conditions.
--When installed in tunnels, they should be fixed on brackets and cannot bear large pulling tension or pressure.
--Thermoplastic PVC V90 insulation is subject to deformation at temperature above 75°C.

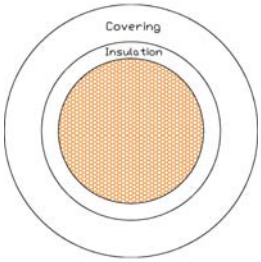
Standards:

International - IEC 60502, IEC 60228, IEC 60332
Australian/New Zealand - AS/NZS 5000.1, AS/NZS 3808, AS/NZS 1125, AS/NZS 1660, AS/NZS 3863

Type	Product Code	Conductor Area mm²	Core Dia. mm	Over Bedding Dia. mm	Avg. Cable Dia. mm	Approx Weight kg/km	Product Code	Conductor Area mm²	Core Dia. mm	Over Bedding Dia. mm	Avg. Cable Dia. mm	Approx Weight kg/km
2C+E	1031	1.5	3.2	8.4	13.1	313	1032	2.5	3.7	9.5	14.3	379
3C+E	1041	1.5	3.2	9.3	14.1	360	1042	2.5	3.7	10.5	15.3	442
4C+E	1051	1.5	3.2	10.2	15.1	413	1052	2.5	3.7	11.5	16.5	512
6C+E	1701	1.5	3.2	11.2	16.6	528	1702	2.5	3.7	12.7	18.7	705
8C+E	1901	1.5	3.2	13.9	20.0	771	1902	2.5	3.7	15.8	22.0	940
10C+E	1111	1.5	3.2	14.6	20.7	835	1112	2.5	3.7	16.5	22.8	1028
12C+E	1131	1.5	3.2	15.9	22.2	949	1132	2.5	3.7	18.1	25.2	1294
15C+E	1161	1.5	3.2	16.9	23.2	1049	1162	2.5	3.7	19.2	26.4	1439
20C+E	1211	1.5	3.2	19.0	26.2	1392	1212	2.5	3.7	21.6	29.0	1737
25C+E	1261	1.5	3.2	21.3	28.6	1640	1262	2.5	3.7	24.2	31.7	2038
30C+E	1311	1.5	3.2	23.6	31.1	1910	1312	2.5	3.7	26.9	34.6	2425
40C+E	1411	1.5	3.2	26.8	34.6	2340	1412	2.5	3.7	30.6	39.4	3228
50C+E	1511	1.5	3.2	28.4	37.1	2837	1512	2.5	3.7	32.4	41.4	3629

VIPERCON ELECTRIC CABLE

SDI Power Cable



Configuration

Conductor:	plain annealed copper or plain aluminium (class 2 strands) of the type specified in AS/NZS 1125.
Inner Insulation:	cross-linked polyethylene (XLPE).
Outer insulation:	flame retardant polyvinyl chloride PVC V90.
Outer Insulation colour:	Standard - Orange
	Optional - Black (Ultraviolet radiation stabilised)

Technical data

Rated voltage:	0.6 / 1 kV	
Conductor operating temp:	- 40°C ~ 90°C, short circuit: 250°C for 5 sec	
Minimum bending radius:	Stranded conductors	9 x cable O.D during installation
		6 x cable O.D after installation

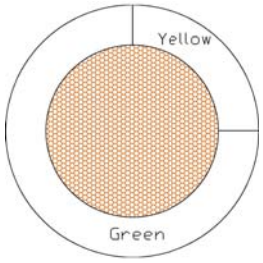
--The maximum conductor temperatures specified are based on the properties of the insulation material but in practice may need to be derated to take account of joints and terminations and environmental conditions.
--The cables should not be flexed when either the ambient or cable temperature is below 0°C

Standards:

International:	- IEC 60228, IEC 60332-1
Australian/New Zealand	- AS/NZS 5000.1, AS 1955, AS/NZS 3808, AS/NZS 1125, AS/NZS 1660

Nominal CSA mm^2	Cable Dia. mm	Copper conductor Product Code	Copper conductor Weight kg/km	Aluminium conductor Product Code	Aluminium conductor Weight kg/km
6	7.7	7806XV	98.2	-	-
10	9.1	7810XV	148.8	-	-
16	10.3	7816XV	213.6	-	-
25	12.2	7825XV	316.2	-	-
35	13.5	7835XV	419.4	SMAL35	180
50	15.6	7850XV	582.0	SMAL50	241
70	17.4	7870XV	782.9	SMAL70	320
95	19.8	7895XV	1044.1	SMAL95	410
120	21.6	7812XV	1290.7	SMAL120	505
150	23.9	7815XV	1600.4	SMAL150	624
185	26.2	7818XV	1959.6	SMAL185	762
240	29.4	7824XV	2514.1	SMAL240	961
300	32.4	7830XV	3117.2	SMAL300	1176

Earth Wire



Configuration

Conductor: plain annealed copper or plain aluminium (class 2 strands) of the type specified in AS/NZS 1125.
Insulation: polyvinylchloride compound PVC V90.
Insulation colour: Green/Yellow

Technical data

Rated voltage: 0.6 / 1 kV
Conductor operating temp: - 25°C ~ 90°C, short circuit: 160°C for 5 sec
Minimum bending radius: 12 x cable O.D

--The maximum conductor temperatures specified are based on the properties of the insulation material but in practice may need to be derated to take account of joints and terminations and environmental conditions.
--The cables should not be flexed when either the ambient or cable temperature is below 0°C
--Thermoplastic 90°C PVC insulation is subject to deformation at temperature above 75°C.

Standards:

International - IEC 60502, IEC 60228, IEC 60332
Australian/New Zealand - AS/NZS 5000.1, AS/NZS 3808, AS/NZS 1125, AS/NZS 1660

Nominal Conductor Area (mm^2)	Insulation Thickness (mm)	Cable Dia. (mm)	Copper Product Code	Approximate Weight (kg/km)	Aluminium Product Code	Approximate Weight (kg/km)
4	1.0	4.6	E2V4	52	-	-
6	1.0	5.2	E2V6	73	-	-
10	1.0	6.2	E2V10	113	-	-
16	1.0	7.3	E2V16	171	-	-
25	1.2	9.1	E2V25	266	E2V25A	111
35	1.2	10.3	E2V35	361	E2V35A	145
50	1.4	12.2	E2V50	514	E2V50A	205
70	1.4	14.0	E2V70	703	E2V70A	270
95	1.6	16.2	E2V95	952	E2V95A	364
120	1.6	17.9	E2V120	1186	E2V120A	444
150	1.8	20.0	E2V150	1484	E2V150A	556
185	2.0	22.2	E2V185	1830	E2V185A	686
240	2.2	25.1	E2V240	2366	E2V240A	881
300	2.4	28.0	E2V300	2949	E2V300A	1093

Supplementary Technical Information

A. Rated voltage designation

Voltage rating for low voltage power cable is expressed in the form Uo/U (Um), the voltage designation takes into consideration the fact that the system voltage may vary up to 9.1% from the designated voltage.

0.6/1kV (1.2kV): Uo = 0.6kV, U = 1kV, Um = 1.2kv

Uo is the R.M.S power frequency voltage between phase conductor and earth conductor of the supply system.

U is the R.M.S power frequency voltage between phases conductor of the supply system.

Um is the maximum R.M.S power frequency voltage between any two phases conductor for which cables are designed. It is the highest voltage that can be sustained under normal operating conditions at any time and at any point in a system. It excludes transient voltage variation due to fault condition and sudden disconnection of large load.

The rated voltage of the cable for a given application shall be suitable for the operating condition in the system.

B. Conductor materials characteristics:

Conductor Material Type	Conductivity %	Resistivity at 20°C n Ω .m	Density g/cm^3	Temperature Constant °C
Copper:	100	17.07~17.24	8.92	234.5
Aluminium	61	28.264	2.73	228.1

C. Conductor maximum d.c resistance at 20°C and a.c resistance at 90°C (Multi-core):

Nominal Area mm^2	Max. d.c resistance of conductor at 20°C		a.c resistance of conductor at 90°C	
	Copper / km	Aluminium / km	Copper / km	Aluminium / km
1.5	13.6	-	17.3	-
2.5	7.41	-	9.45	-
4	4.61	-	5.88	-
6	3.08	-	3.93	-
10	1.83	-	2.33	-
16	1.15	-	1.47	-
25	0.7270	1.20	0.927	-
35	0.5238	0.8670	0.669	1.11
50	0.3661	0.6061	0.494	0.822
70	0.2604	0.4310	0.343	0.569
95	0.1931	0.3196	0.248	0.411
120	0.1528	0.2529	0.197	0.325
150	0.1222	0.2023	0.160	0.265
185	0.0991	0.1641	0.129	0.212
240	0.0761	0.1260	0.0998	0.162
300	0.0611	0.1012	0.0812	0.131

*Further conductor types and stranding configuration on request. Conductor compacted index is not less than 0.9.

D. Conversion factor for conductor temperatures:

Temperature Rating °C	Conversion Factor Copper	Aluminium
20	1.000	1.000
90	1.275	1.282
105	1.334	1.343
130	1.432	1.443
250	1.904	1.927

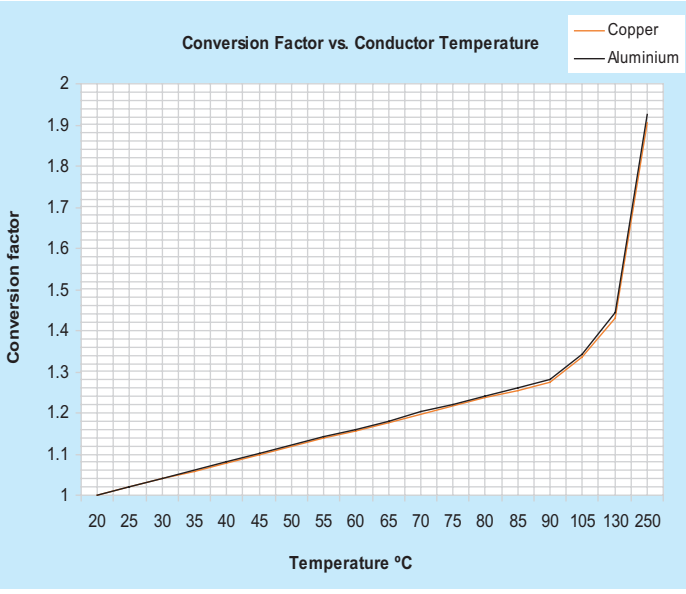
Conversion Example

50mm^2 Cable (Copper)

Max d.c resistance at 20°C = 0.3661 Ω / km.

Conversion factor for 50mm^2 at 90°C = 1.275

Max d.c resistance at 90°C = 0.3661 Ω / km * 1.275 = 0.4668 Ω / km



E. Conductor three phase voltage drop* at 50Hz. 90ºC (mV/A.m)

Nominal Area mm²	Copper		Aluminium	
	Max	0.8 power factor	Max	0.8 power factor
1.5	30.0	-	-	-
2.5	16.4	-	-	-
4	10.2	-	-	-
6	6.8	-	-	-
10	4.05	-	-	-
16	2.55	-	-	-
25	1.61	-	-	-
35	1.17	-	1.93	-
50	0.87	-	1.43	-
70	0.61	-	0.993	-
95	0.45	-	0.723	-
120	0.37	-	0.577	-
150	0.31	-	0.476	-
185	0.26	-	0.388	-
240	0.22	0.22	0.307	-
300	0.19	0.19	0.258	-

*Single phase voltage drop is multiplying the three phase values by 1.155.

F. Cable reactance at 50Hz (Ω /km)

Nominal Area mm²	PVC insulated Max	XLPE insulated Max
1.5	0.111	-
2.5	0.102	-
4	0.102	-
6	0.0967	-
10	0.0906	-
16	0.0861	-
25	0.0853	-
35	0.0826	-
50	0.0797	-
70	0.0770	-
95	-	0.0725
120	-	0.0713
150	-	0.0718
185	-	0.0720
240	-	0.0709
300	-	0.0704

G. Current carrying capacity

The current rating given in this catalogue has been calculated using the method described in IEC 60287 - Calculation of the current rating (All parts), and based on typical Australia installation condition:

Lay in air: Ambient air temperature 40°C

Lay in ground: Ambient soil temperature 25°C,
Specific thermal resistivity 1.2 K.m/W, Buried depth 0.75 ~ 0.8m

Lay in conduits: The current carrying capacity will be reduced by approximate 15 ~ 25%.

Other conditions: Balance load, Unexposed to the direct sunlight.

Multi - Core cables current rating

Nominal Phase CSA mm²	Insulated Material	3G(2C+E) - 2 loaded						4G(3C+E) or 5G(3C+N+E) - 3 loaded						Fault Current Rating	
		Unenclosed Touching		Buried direct		Buried in conduit		Unenclosed touching		Buried direct		Buried in conduit			
		Cu A	Al A	Cu A	Al A	Cu A	Al A	Cu A	Al A	Cu A	Al A	Cu A	Al A	Cu kA	Al kA
1.5	PVC	18	-	28	-	22	-	15	-	24	-	19	-	0.21	-
2.5	PVC	26	-	40	-	31	-	22	-	34	-	26	-	0.36	-
4	PVC	34	-	52	-	40	-	29	-	44	-	34	-	0.57	-
6	PVC	44	-	65	-	51	-	37	-	55	-	43	-	0.86	-
10	PVC	60	-	87	-	68	-	51	-	74	-	57	-	1.43	-
16	PVC	80	-	115	-	88	-	68	-	96	-	74	-	2.29	-
25	PVC	105	-	145	-	115	-	91	-	125	-	96	-	3.58	-
35	PVC	130	100	180	140	140	110	110	87	150	115	115	91	5.01	3.31
50	PVC	160	125	210	165	165	130	135	105	180	140	140	110	7.15	4.73
70	PVC	200	155	260	200	205	160	170	135	220	170	175	135	10.02	6.62
95	XLPE	310	240	360	280	285	220	265	205	300	235	240	185	13.59	8.98
120	XLPE	360	280	410	320	325	255	305	240	345	265	275	215	17.17	11.35
150	XLPE	410	320	460	355	375	290	350	270	385	300	310	240	21.46	14.18
185	XLPE	475	370	520	405	425	330	405	315	435	340	355	280	26.47	17.49
240	XLPE	560	440	600	470	500	390	480	375	500	395	420	330	34.34	22.69
300	XLPE	640	510	680	530	570	450	550	430	570	445	475	375	42.93	28.37

Single - Core & SDI cables current rating

Copper conductor

	Nominal Area	mm²	6	10	16	25	35	50	70	95	120	150	185	240	300
90°C PVC	Touching (laid flat)	A	40	54	72	97	120	145	185	230	265	310	355	425	490
	Enclosed in duct (trefoil)	A	34	47	62	87	100	125	155	185	220	250	285	340	390
XLPE	Touching (laid flat)	A	47	65	86	115	145	175	225	280	325	375	435	520	600
	Enclosed in duct (trefoil)	A	42	58	78	110	125	155	190	230	270	310	355	420	485

Aluminium conductor

	Nominal Area	mm²	6	10	16	25	35	50	70	95	120	150	185	240	300
XLPE	Touching (laid flat)	A	-	-	-	-	110	135	175	215	255	290	340	405	470
	Enclosed in duct (trefoil)	A	-	-	-	-	105	125	160	195	230	260	300	360	415

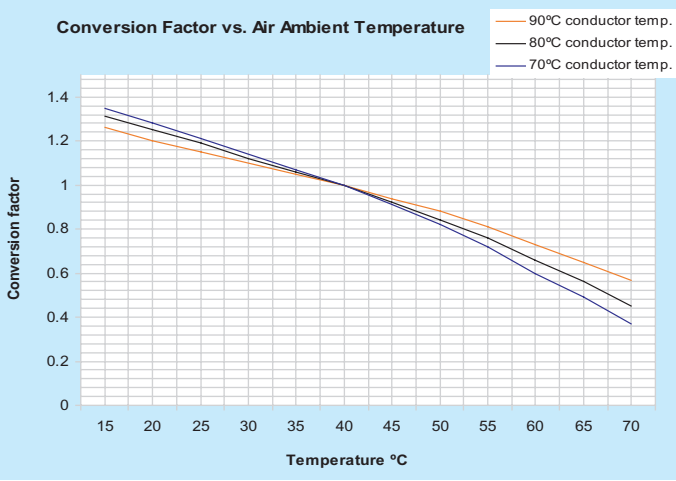
H. Current rating factor.

1. Depth of laying rating factor

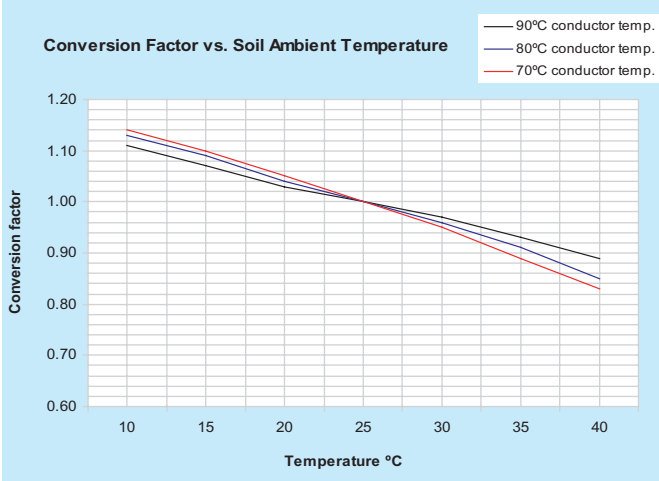
Nominal Area	Conductor area vs. Depth (Laid direct in ground)							
	0.8m	1m	1.25m	1.5m	1.75m	2m	2.5m	+3m
300 mm²	1	0.98	0.96	0.95	0.94	0.92	0.91	0.90

2. The current carrying capacity of a cable will vary dependent on the installation condition and the cable surrounding condition.

(I) ambient air temperature conversion factor



(II) ambient soil temperature conversion factor



Note: the current rating and the derating factor is referenced from AS/NZS 3008.1, please refer to AS/NZS 3008.1 or AS/NZS 3000 for current rating on other installation condition.

I. Cable testing criterias

The following test will be conducted at manufacturer's work, and testing method is in accordance with AS/NZS 1660

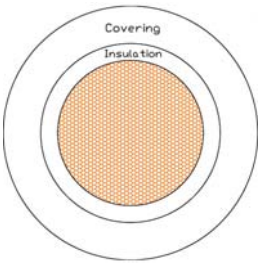
a. Cable construction test, sample test
b. Conductor resistance test, routine test
c. Insulation spark test (6kV a.c)
d. Cable A.C withstand voltage test (3.5kV a.c /5 min.)
e. Cable mechanical test, sample test on tensile strength, bending radius.

CONFLEX ELECTRIC CABLE

Flexible SDI Power/Welding Cables

Applications

WW Cables' SDI Power / Welding Cables are for use in switchboard wiring, load banks, welding, battery leads, battery chargers, jumper leads, etc



Configuration

Conductor:	plain annealed copper (class 5 strands) of the type specified in AS/NZS 1125.(Available in tinned copper on request)
Inner Insulation:	cross-linked polyethylene (XLPE). or flame retardant polyvinyl chloride PVC V90.
Outer insulation:	thermoplastic elastomer (TPE)
Outer Insulation colour:	Standard - Orange
	Optional - Black (Ultraviolet radiation stabilised)

Technical Data

Voltage Ranges:	0.6 / 1 kV
Conductor operating temp:	XLPE insulated: - 40°C ~ 90°C, short circuit: 250°C for 5 sec
	V90 insulated: - 25°C ~ 75°C, Max 90°C, short circuit: 140°C for 5 sec
Minimum bending radius:	7.5xcable O.D
Maximum pulling tension:	20N/mm^2 x total cross-sectional area of phase conductor

-The maximum conductor temperatures specified are based on the properties of the insulation material but in practice may need to be derated to take account of joints and terminations and environmental conditions.

--The cables should not be flexed when either the ambient or cable temperature is below 0°C

--Thermoplastic PVC V90 insulation is subject to deformation at temperature above 75°C.

Standards:

International:	- IEC 60228, IEC 60332-1
Australian/New Zealand	- AS/NZS 5000.1, AS 1995, AS/NZS 3808, AS/NZS 1125, AS/NZS 1660

Nominal CSA mm^2	Insulation Thickness mm	Cable Dia. mm	V90		XLPE		3-phase voltage drop	Max conductor Resist.	Currentrating of welding cables for 30sec period duty cycle			
			Product Code	Weight kg/km	Product Code	Weight kg/km	(trefoil) mV/A.m	At 20°C /km	100% A	60% A	30% A	25% A
16	1.5	10.3	7816	216.8	7816XT	201.6	2.68	1.21	125	160	225	245
25	1.8	12.2	7825	328.5	7825XT	305.9	1.63	0.780	165	210	300	330
35	1.8	13.5	7835	431.2	7835XT	405.4	1.23	0.554	205	265	375	410
50	1.8	15.6	7850	582.0	7850XT	552.0	0.906	0.386	260	335	475	520
70	2.0	17.4	7870	794.0	7870XT	754.9	0.612	0.272	325	415	590	645
95	2.0	19.8	7895	1044.2	7895XT	999.7	0.490	0.206	390	505	715	780
120	2.0	21.6	7812	1286.5	7812XT	1237.3	0.392	0.161	455	585	830	910
150	2.2	23.9	7815	1594.3	7815XT	1533.9	0.323	0.129	535	690	975	1070
185	2.2	26.2	7818	1929.6	7818XT	1863.2	0.282	0.106	600	775	1095	1200
240	2.2	29.4	7824	2452.2	7824XT	2377.5	0.239	0.0801	715	920	1305	1430
300	2.2	32.4	7830	3018.0	7830XT	2935.4	0.211	0.0641	-	-	-	-
400	2.8	36.7	7840	4597.3	7840XT	4329.5	0.186	0.0486	-	-	-	-
500	3.0	40.5	7850	5696.7	7850XT	5374.0	0.175	0.0384	-	-	-	-
630	3.0	44.5	7863	7069.0	7863XT	6684.6	0.168	0.0287	-	-	-	-

Current rating for fix installation

	Nominal Area	mm^2	16	25	35	50	70	95	120	150	185	240	300	400	500	630
V90	Touching (laid flat)	A	72	97	120	145	185	230	265	310	355	425	490	570	660	760
V90	Enclosed in duct (trefoil)	A	62	87	100	125	155	185	220	250	285	340	390	455	530	620
XLPE	Touching (laid flat)	A	86	115	145	175	225	280	325	375	435	520	600	700	810	940
XLPE	Enclosed in duct (trefoil)	A	78	110	125	155	190	230	270	310	355	420	485	560	650	760

300/500V Flexible Control Cables

Applications

WW Cables' CONFLEX PVC Flexible Control Cables are manufactured for use as control and connecting cables in machine tools, machinery production lines, conveyer belts, air-conditioning, and in all general production lines. The cables can be installed in dry, moist and wet indoor area and handling apparatus for low mechanical stress (ensuring the free-movement without tensile stress or forced movements).
The copper braiding screened EMC control cable is suitable for installation in the internal electric circuits and the environment where the protection from electromagnetic inferences is required.

Standard references

IEC 60228	- Conductors of insulated cables
VDE 0245	- Flexible PVC-insulated control cable
VDE 0295	- Conductors of cables, wires and flexible cords for power installation
VDE0293	- Core identification for cables and flexible cords used in power installation
AS/NZS 1125	- Conductor in insulated electric cables and flexible cords
AS/NZS 3808	- Insulating and sheathing materials for electric cables

Configurations

	Unscreened Control Cable	EMC Control Cable
Conductor:	plain annealed copper, class 5 fine wires stranded	plain annealed copper, class 5 fine wires stranded
Insulation:	flame retardant polyvinyl chloride PVC V75	flame retardant polyvinyl chloride PVC V75
Filler:	non-hygroscopic material	non-hygroscopic material
Bedding:	flame retardant polyvinyl chloride PVC V75	flame retardant polyvinyl chloride PVC V75
Screen:	-	tinned annealed copper braid (82%)
Sheath:	flame retardant polyvinyl chloride PVC V75	flame retardant polyvinyl chloride PVC V75
Sheath identification	Grey	Transparent

- Also available with PUR or Low Smoke & Halogen Free sheath.

Core identification: Phase core: Black core with white numbering, Earth: Green/Yellow

Technical data:

Rated voltage:	300 / 500V	
Test voltage:	1500V rms between conductors, between conductors and screen	
	4000V rms spark test	
Conductor operating temp:	Static:	-25°C ~ 75°C
	Flexing:	-5°C ~ 70°C
	During installation:	-5°C ~ 70°C
Short circuit temp:	140°C for 5 sec	
Minimum bending radius:	Flexing - 7.5xcable O.D	
	Static - 5xcable O.D	

Nominal Area mm^2	Max. wires Dia. Fine-wire strand mm	Conductor Diameter mm	Core Diameter mm	Conductor d.c. resistance at 20°C Ω / km	Specific insulation Resistance GΩ.cm	Current carrying Capacity A
0.5	0.20	0.85	1.8	39.0	>20	8
0.75	0.20	1.16	1.9	26.0	>20	11
1	0.20	1.34	2.3	19.5	>20	13
1.5	0.25	1.64	2.6	13.3	>20	16
2.5	0.25	2.12	3.1	7.98	>20	23

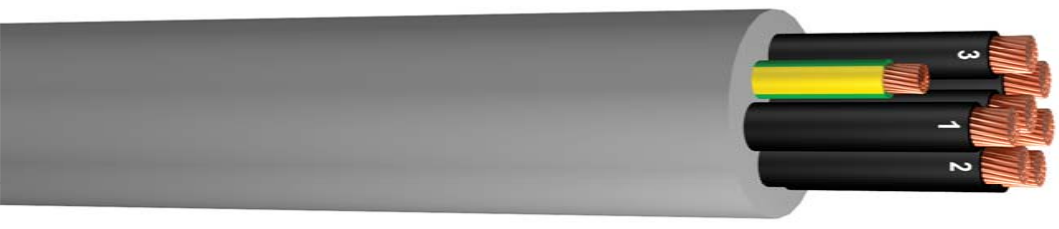
-- Further conductor types and stranding configuration on request.
-- Current rating is calculated based on ambient air temperature at 25°C.
-- The maximum conductor temperatures specified are based on the properties of the insulation material but in practice may need to be derated to take account of joints and terminations and environmental conditions.
-- The cables should not be flexed when either the ambient or cable temperature is below 0°C.
-- Thermoplastic PVC V75 insulation is subject to deformation at temperature above 70°C.

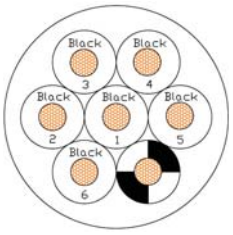
300/500V Flexible Control Cables

Unscreened PVC flexible control cable

Product Code	No. of Core	Nominal Area mm²	Cable Diameter mm	Cable Weight kg/km
7303	3C	0.5	5.2	40.5
7308	4C	0.5	5.6	48.0
9550	4C+E	0.5	6.1	56.9
2605	5C+E	0.5	6.8	69.5
9750	6C+E	0.5	6.8	76.5
2805	7C+E	0.5	8.3	94.1
2905	8C+E	0.5	8.3	101.1
1005	9C+E	0.5	8.7	112.2
1250	11C+E	0.5	9.6	135.3
1405	13C+E	0.5	9.6	149.4
1605	15C+E	0.5	10.2	170.4
1850	17C+E	0.5	11.6	201.0
2005	19C+E	0.5	11.6	215.0
2105	20C+E	0.5	11.6	222.1
2550	24C+E	0.5	13.1	270.1
3005	29C+E	0.5	13.1	305.2
3205	31C+E	0.5	14.6	342.6
3405	33C+E	0.5	14.6	356.6
3605	35C+E	0.5	16.7	405.1
4005	39C+E	0.5	16.7	433.2
2275	2C	0.75	5.6	36.9
7301	2C	0.75	5.6	36.9
2375	2C+E	0.75	5.6	46.8
7304	3C	0.75	5.6	46.8
7309	4C	0.75	6.2	61.1
9575	4C+E	0.75	7.0	76.3
2607	5C+E	0.75	7.7	92.5
9775	6C+E	0.75	7.7	102.3
2807	7C+E	0.75	9.8	132.2
2907	8C+E	0.75	9.8	142.1
1007	9C+E	0.75	10.3	157.8
1275	11C+E	0.75	11.4	190.2
1475	13C+E	0.75	11.4	210.0
1675	15C+E	0.75	12.1	239.5
1875	17C+E	0.75	13.8	282.5
2075	19C+E	0.75	13.8	302.3
2175	20C+E	0.75	13.8	312.2
2575	24C+E	0.75	15.5	379.7
3075	29C+E	0.75	15.5	429.1
3275	31C+E	0.75	17.3	481.6
3475	33C+E	0.75	17.3	501.4
3675	35C+E	0.75	19.2	542.1
2310	2C+E	1.0	6.1	57.9
7305	3C	1.0	6.1	57.9
7310	4C	1.0	6.8	75.7
9510	4C+E	1.0	7.6	94.4
7312	7C	1.0	8.5	126.9
9710	6C+E	1.0	8.5	126.9
1210	11C+E	1.0	12.4	235.2
1810	17C+E	1.0	15.0	349.5

Product Code	No. of Core	Nominal Area mm²	Cable Diameter mm	Cable Weight kg/km
2510	24C+E	1.0	16.9	448.5
3610	35C+E	1.0	21.6	694.1
2315	2C+E	1.5	7.3	79.3
7306	3C	1.5	7.3	79.3
2415	3C+E	1.5	7.9	103.6
7311	4C	1.5	7.9	103.6
9515	4C+E	1.5	8.6	129.4
2615	5C+E	1.5	9.5	156.7
9715	6C+E	1.5	9.5	174.2
2815	7C+E	1.5	11.9	222.8
2915	8C+E	1.5	11.9	240.4
1014	9C+E	1.5	12.4	266.9
1215	11C+E	1.5	13.5	321.6
1415	13C+E	1.5	13.5	356.7
1615	15C+E	1.5	14.3	406.9
1815	17C+E	1.5	15.2	478.1
1915	19C+E	1.5	15.9	513.2
2115	20C+E	1.5	15.9	530.7
2515	24C+E	1.5	17.6	644.3
3014	29C+E	1.5	17.6	732.0
3215	31C+E	1.5	19.5	817.9
3415	33C+E	1.5	19.5	853.0
3615	35C+E	1.5	22.0	967.7
3915	39C+E	1.5	22.0	1037.9
4916	49C+E	1.5	23.2	1256.7
7302	2C	2.5	8.9	101.6
2325	2C+E	2.5	8.9	130.6
7307	3C	2.5	8.9	130.6
2452	3C+E	2.5	9.7	170.7
9525	4C+E	2.5	11.0	213.1
2625	5C+E	2.5	12.0	258.0
2726	6C+E	2.5	12.0	287.0
2825	7C+E	2.5	14.7	366.8
2925	8C+E	2.5	14.7	395.8
1024	9C+E	2.5	15.3	439.4
1224	11C+E	2.5	16.7	529.6
1425	13C+E	2.5	16.7	587.5
1625	15C+E	2.5	17.7	670.2
1824	17C+E	2.5	19.8	787.2
1925	19C+E	2.5	19.8	845.2
2125	20C+E	2.5	19.8	874.2
2526	24C+E	2.5	22.0	1061.1
2925	29C+E	2.5	22.0	1206.0
3225	31C+E	2.5	24.3	1347.0
3425	33C+E	2.5	24.3	1405.0
3625	35C+E	2.5	27.6	1593.2
3925	39C+E	2.5	27.6	1709.2
4125	40C+E	2.5	27.6	1738.2
4925	49C+E	2.5	29.2	2070.0

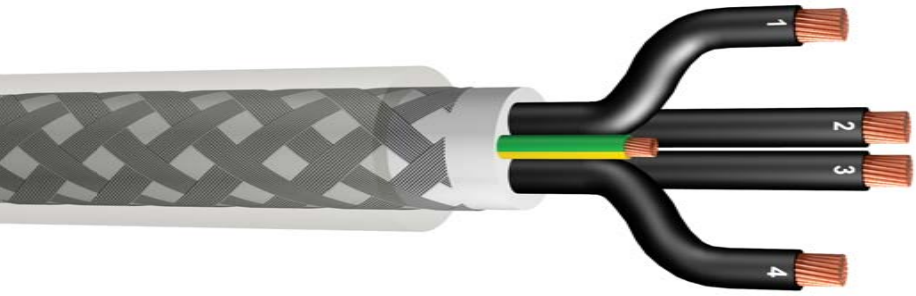


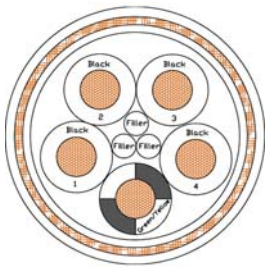


300/500V Flexible control cables

Screened PVC flexible EMC control cable

Product Code	No. of Core	Nominal Area mm²	Over bedding Diameter mm	Cable Diameter mm	Cable Weight kg/km
8200	2C+E	0.5	4.8	7.6	89.5
8201	3C+E	0.5	5.2	8.1	105.8
8202	4C+E	0.5	5.7	8.6	119.7
8203	6C+E	0.5	6.2	9.1	147.9
8204	11C+E	0.5	8.5	11.6	228.9
8205	24C+E	0.5	11.1	14.4	383.6
8206	3C+E	0.75	5.9	8.5	121.2
8207	6C+E	0.75	7.1	9.7	163.0
8208	11C+E	0.75	9.8	13.0	292.6
8209	17C+E	0.75	11.6	15.0	393.2
8210	2C+E	1.0	5.8	8.0	125.9
8211	3C+E	1.0	6.4	8.6	146.4
8212	6+E	1.0	7.6	10.0	201.2
8213	11C+E	1.0	10.6	13.4	343.4
8214	17C+E	1.0	12.6	15.4	479.5
8215	24C+E	1.0	14.2	17.7	604.8
8223	2C+E	1.5	6.5	9.1	153.3
8216	3C+E	1.5	7.1	9.7	180.9
8217	4C+E	1.5	7.8	10.4	211.1
8218	6C+E	1.5	8.5	11.1	262.6
8219	11C+E	1.5	11.9	15.3	480.9
8220	24C+E	1.5	16.0	19.6	837.6
8221	2C+E	2.5	7.9	10.7	206.4
8222	3C+E	2.5	8.7	11.9	262.1
8224	4C+E	2.5	9.6	13.0	313.2
8225	5C+E	2.5	10.5	14.0	364.9
8226	6C+E	2.5	10.5	14.0	383.5
8227	7C+E	2.5	13.2	16.8	511.2
8228	8C+E	2.5	13.2	16.8	529.9
8229	9C+E	2.5	13.9	17.5	576.9
8230	11C+E	2.5	15.3	19.1	704.7
8231	13C+E	2.5	15.3	19.1	742.0
8232	15C+E	2.5	16.2	20.0	827.4
8233	17C+E	2.5	18.6	22.5	977.7
8234	19C+E	2.5	18.6	22.5	1015.0





0.6/1kV Flexible Heavy Duty PVC Cable

Application

WW CABLES' Heavy Duty PVC flexible cables are manufacture based on AS 3191 with Electrical approval No. V99412. The cables are mainly for use as extension leads or light appliance leads.

Standard references

AS/NZS 3191:	Electric flexible cords
AS/NZS 1125:	Conductor in insulated electric cables and flexible cords
AS/NZS 3808:	Insulating and sheathing materials for electric cables
IEC 60228:	Conductors of insulated cables

Configuration

Conductor	- Fine wire stranded (Class 5) plain annealed copper to AS1125, IEC 60228
Insulation	- The conductor is insulated with a continuous self-extinguish and flame retardant heavy duty PVC type V75 sheath to AS 3808.
Sheath	- Continuous self-extinguish and flame retardant heavy duty PVC type V75 sheath to AS 3808.

Cable marking Imprint on cable

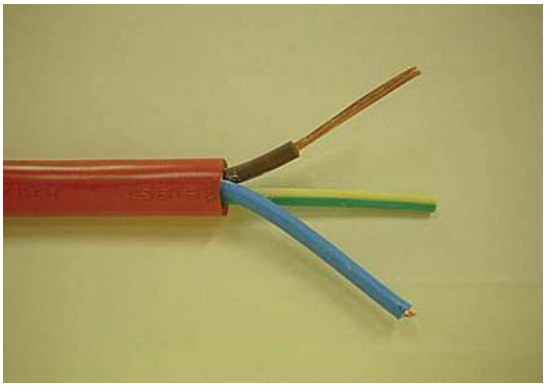
Technical data

Temperature at conductor:	-25^{o}C ~ 75^{o}C
Short circuit temperature	160^{o}C
Temperature at surface:	+5^{o}C ~ 75^{o}C
Rated voltage:	0.6 / 1kV
Minimum bending radius:	4 x Cable O.D for fixed used 6 x Cable O.D for flexible used (not under tension)
Pulling tension strength:	The safety pulling tension should be limited to 20N/mm^2 of the total cross-sectional area of conductor
Core colour code:	Brown, Blue, Green/Yellow

Part No	Nominal CSA mm^2	Conductor Strands mm	Core Dia. mm	Cable Dia. mm	Cable Weight kg/100m	Max. d.c Resistance Ω /km	Current rating A
1315	1.5	30/0.25	3.01	10.05	14.50	13.3	16

Cable Sheath Colour:
22 - Red, 24 - Yellow, 26 - Violet, 28 - Grey, 30 - Orange, 32 - Pink, 34 - Dark Blue.

Note: Thermoplastic PVC V75 insulation is subject to deformation at temperature above 75^{o}C.



Flexible Automotive Cables

Application

WW Cables' Automotive Cables are manufactured for general purpose automotive applications. They are suitable for Low Voltage, High Current use.

Temperature at conductor: -25ºC ~ 75ºC
Temperature at surface: +5ºC ~ 75ºC

FIGURE 8 AUTOMOTIVE CABLE

Configuration — Flexible stranded plain or tinned annealed copper conductor covered with PVC V75 sheath.
Core identifications - Red/Red with trace or Red/Black (other by request)

Product Code	Industry Standard Size mm	Cond. Strands No./mm	Insulation Thickness mm	Cable Avg Dia. mm	Approx Weight kg/km	Max. d.c. Resistance / km	Current Rating A
2163	3	16 / 0.30	0.6	2.8 x 6.0	32.5	15.76	10
2263	4	25 / 0.30	0.6	3.2 x 6.6	49.1	9.70	15

TWIN SHEATHED AUTOMOTIVE / MARINE CABLE

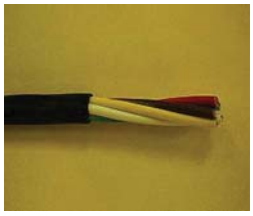
Configuration — Flexible stranded plain or tinned annealed copper conductor covered with PVC V75 sheath
Core identifications - Red/Black.

Product Code	Industry Standard Size mm	Cond. Strands No./mm	Insulation Thickness mm	Cable Avg Dia. mm	Approx Weight kg/km	Max. d.c. Resistance / km	Current Rating A
3163	3	16 / 0.30	0.4	6.6 x 3.2	40.3	15.76	10
3263	4	26 / 0.30	0.4	7.3 x 3.5	60.5	9.70	15
3413	5	41 / 0.30	0.6	8.6 x 4.2	86.5	6.15	27
3653	6	65 / 0.30	0.6	9.8 x 4.7	138.5	3.88	31

TRAILER CABLE

Configuration — Flexible stranded plain or tinned annealed copper conductor covered with PVC V75 sheath.

Product Code	Number Of Core	Cond. Strands No./mm	Insulation Thickness mm	Sheath Thickness Mm	Cable Avg Dia. mm	Approx Weight kg/km	Max. d.c. Resistance / km	Current Rating A
3593	5	9 / 0.30	0.4	0.6	6.2	63.3	28.02	5
5163	5	16 / 0.30	0.4	0.6	7.2	90.2	15.76	10
3793	7	9 / 0.30	0.4	0.6	7.0	81.2	28.02	5
7163	7	16 / 0.30	0.4	0.6	8.2	119.7	15.76	10



Core Identifications: 5 Core - White, Yellow, Brown, Red, Green,
7 Core - White, Yellow, Brown, Red, Green, Black, Blue

Note: WW Cables' Automotive Cables are not to be regarded as power cables or for the direct connection of equipment to main power supplies or low impedance source.

Flexible Single Core Cables

Application

WW Cables' single core flexible cables are mainly used for the wiring of communication electronic and allied equipment, as well as the internal wiring of switchboards.

Configuration

Conductor: plain annealed copper or tinned annealed (class 5 strands) of the type specified in AS/NZS 1125.
Insulation: polyvinylchloride compound PVC V90.
-- Full range of sheath colours and striping available on request

Technical data

Rated voltage: $0.5mm^2 \sim 1mm^2$: 240 V
$1.5mm^2 \sim 10mm^2$: 0.6 / 1 kV
Conductor operating temp: - 25°C ~ 90°C, short circuit: 160°C for 5 sec
Minimum bending radius: 5 x cable O.D

--The maximum conductor temperatures specified are based on the properties of the insulation material but in practice may need to be derated to take account of joints and terminations and environmental conditions.
--The cables should not be flexed when either the ambient or cable temperature is below 0°C
--Thermoplastic PVC V90 insulation is subject to deformation at temperature above 75°C.

Standards:

International - IEC 60502, IEC 60228, IEC 60332
Australian/New Zealand - AS/NZS 5000.1, AS/NZS 3808, AS/NZS 1125, AS/NZS 1660

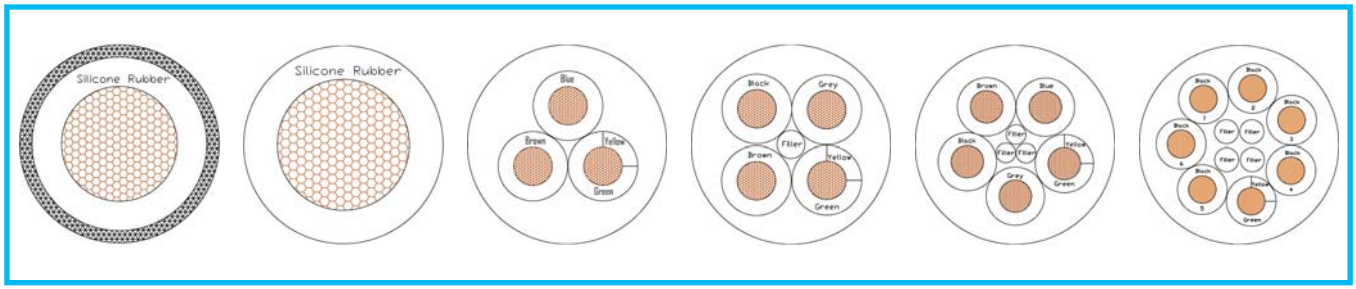
Produc Code	Nominal Conductor Area mm^2	Conductor Strands No. / mm	Cable Dia. mm	Approx. Weight kg/km	Current Rating A	Conductor d.c. resistance at 20°C / km	Cable Packing
7005	0.50	16 / 0.20	2.1	10	3	40.1	100m / spool or 500m / drum
7075	0.75	24 / 0.20	2.4	13	7	26.7	100m / spool or 500m / drum
7100	1.00	32 / 0.20	2.5	15	9	20.0	100m / spool or 500m / drum
7150	1.50	30 / 0.25	3.0	22	12	13.7	100m / spool or 500m / drum
7250	2.50	50 / 0.25	3.7	33	20	8.21	100m / spool or 500m / drum
7400	4.00	56 / 0.30	4.6	53	25	5.09	100m / spool or 500m / drum
7600	6.00	84 / 0.30	5.2	73	40	3.39	100m / spool or 500m / drum
7700	10.00	77 / 0.40	6.2	113	65	1.95	100m / spool or 500m / drum

Cable Sheath Colour:			
20 – Green/Yellow	24 – Yellow	28 – Grey	32 – Pink
21 – Black	25 – Green	29 – White	33 – Light Pink
22 - Red	26 – Violet	30 – Orange	34 – Dark Blue
23 – Blue	27 – Brown	31 – Dark Blue	

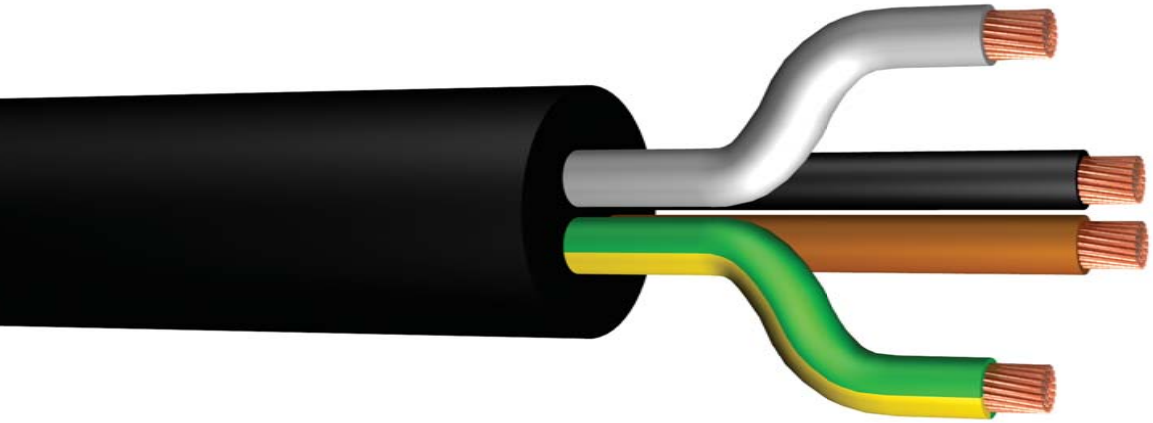
VIPERHITEMP

Flexible halogen-free Cable

(Silicone Rubber insulated)



Single Core (Glass Braid) | Single Core | 2-Core and Earth | 3-Core and Earth | 4-Core and Earth | Multi-Core and Earth



Standard references

IEC 60228	- Conductors of insulated cables
VDE 0295	- Conductors of cables, wires and flexible cords for power installation
AS/NZS 1125	- Conductor in insulated electric cables and flexible cords
AS/NZS 3808	- Insulating and sheathing materials for electric cables

300 / 500V Silicone Flexible Halogen Free Cables: Single-Core (180°C)

Applications

WW Cables' VIPERHITEMP Silicone Flexible Cables are manufactured for use as wiring of domestic electrical heating application, lighting or industrial wiring for hot environments. Silicone flexible cables with coated synthetic reinforcing braid have excellent mechanical strength.

Configuration

	Cables without braid reinforcement	Cable with braid reinforcement
Conductor:	plain annealed copper, class 5 fine wires stranded	plain annealed copper, class 5 fine wires stranded
Insulation:	Silicone rubber	Silicone rubber
Sheath:		Coated fibre glass reinforcing braid
Sheath identification	All colour	All colour

Technical data*:

Voltage Ranges: 300V / 500V
Test voltage: 1500V

Conductor operating temp: -60°C ~ +180°C
Short circuit temp: +200°C

Minimum bending radius: 5 x cable O.D

*Further conductor types and stranding configuration on request.
*The maximum conductor temperatures specified are based on the properties of the insulation material but in practice may need to be derated to take account of joints and terminations and environmental conditions

Product Code	Nominal Area mm²	Max. wires Dia. Fine-wire strand mm	Conductor Diameter mm	Insulation Thickness mm	Cable Overall Diameter mm	Cable Approx. Weight kg/km	Conductor d.c. resistance at 20°C Ω / km	Reinforcing braid
8805	0.5	0.20	0.85	0.6	2.4	8.6	39.0	●
8810	1	0.20	1.34	0.6	2.8	14.0	19.5	●
8815	1.5	0.25	1.64	0.7	3.3	20.3	13.3	●
8825	2.5	0.25	2.12	0.8	3.9	31.9	7.98	●
8805NB	0.5	0.20	0.85	0.6	2.0	8.1	39.0	-
8810NB	1	0.20	1.34	0.6	2.8	15.6	19.5	-
8815NB	1.5	0.25	1.64	0.7	3.1	21.0	13.3	-
8825NB	2.5	0.25	2.12	0.8	3.5	31.4	7.98	-

Cable Sheath Colour:			
20 – Green/Yellow	24 – Yellow	28 – Grey	32 – Pink
21 – Black	25 – Green	29 – White	33 – Light Pink
22 – Red	26 – Violet	30 – Orange	34 – Dark Blue
23 – Blue	27 – Brown	31 – Dark Blue	

300 / 500V Nickel-plated Core Flexible Cables: Single-Core (500°C)

Applications

WW Cables' VIPERHITEMP Flexible Nickel-plated Cables are manufactured for use as wiring of heating elements, cartridges, bands and hot plates or heavy industry: foundries, steelwork and glassworks, etc.

Configurations

	Cable with braid reinforcement
Conductor:	Class 5 strands Nickel -plated copper
Insulation:	Several mineral-impregnated glass lapping tapes
Sheath:	Silicone -coated mineral fibre braid
Sheath identification	Standard colour: White Any colour is available on request

Product Code	Nominal Area mm²	Max. wires Dia. Fine -wire strand mm	Conductor Diameter mm	Cable Overall Diameter mm	Cable Approx. Weight kg/km	Conductor d.c. resistance at 20°C Ω / km
8810N5	1	0.20	1.34	3.98	17.9	20.0
8815N5	1.5	0.25	1.64	4.17	25.9	13.9
8825N5	2.5	0.25	2.12	4.77	37.8	8.21
8804N5	4	0.30	2.66	5.32	57.7	5.09
8806N5	6	0.30	3.39	5.81	83.2	3.40

Technical data:

Rated voltage: 300 / 500V
Test voltage: 2000V

Conductor operating temp: -60°C ~ +450°C, Peaks at: 500°C

-- Further conductor types and stranding configuration on request.

-- The maximum conductor temperatures specified are based on the properties of the insulation material but in practice may need to be derated to take account of joints and terminations and environmental conditions

Silicone Flexible Halogen Free Cables (Cords): Multi-Core

Applications

WW Cables' VIPERHITEMP Silicone Flexible Cables are manufactured for use as wiring in metal industry, glassworks, lighting, and in hot environment up to 180°C.

Configuration

Conductor:	Tinned annealed copper, class 5 fine wires stranded
Insulation:	Silicone rubber
Sheath:	Silicone rubber
Sheath identification	Black

Core identification:

2 core and earth, 3 Core and earth, 4 core and earth:
Cords (0.75mm² ~ 2.5mm²) to AS/NZS 3191:

Active cores: Brown, White, Black	Neutral core:	Blue	Earth core:	Green/Yellow

Cables (4.0 mm² and above) to VDE0293:

Active cores: Brown, Grey, Black	Neutral core:	Blue	Earth core:	Green/Yellow

6 cores and above:

Active cores: Black core with white numbering			Earth core:	Green/Yellow

Technical data*:

Voltage Ranges: Cords: 450V / 750V, Cables: 600V / 1000V
Test voltage: 2000V
Conductor operating temp: -60°C ~ +180°C
Short circuit temp: +200°C
Minimum bending radius: 5 x cable O.D

*The maximum conductor temperatures specified are based on the properties of the insulation material but in practice may need to be derated to take account of joints and terminations and environmental conditions

Product Code	Nominal Area mm²	Number of cores	Max. wires Diameter mm	Conductor Diameter mm	Core Diameter mm	Cable Overall Diameter mm	Cable Approx. Weight kg/km	Conductor d.c. Resistance at 20°C Ω / km
CORDS								
6875	0.75	2C	0.20	1.16	2.4	6.3	53.9	26.7
6975	0.75	2C+E	0.20	1.16	2.4	6.7	64.4	26.7
6675	0.75	3C+E	0.20	1.16	2.4	7.3	78.9	26.7
6810	1	2C	0.20	1.34	2.5	6.7	62.6	20.0
6910	1	2C+E	0.20	1.34	2.5	7.1	75.6	20.0
6710	1	3C+E	0.20	1.34	2.5	7.9	96.6	20.0
6610	1	4C+E	0.20	1.34	2.5	8.6	116.4	20.0
6615	1.5	2C	0.20	1.64	3.0	7.7	84.1	13.7
6815	1.5	2C+E	0.20	1.64	3.0	8.2	103.7	13.7
6915	1.5	3C+E	0.20	1.64	3.0	9.4	136.8	13.7
6715	1.5	4C+E	0.20	1.64	3.0	10.4	169.9	13.7
6515	1.5	6C+E	0.20	1.64	3.0	12.7	247.4	13.7
6215	1.5	11C+E	0.20	1.64	3.0	17.4	451.8	13.7
6219	1.5	18C+E	0.20	1.64	3.0	17.4	533.4	13.7
6825	2.5	2C+E	0.20	2.12	3.7	10.2	169.9	8.21
6925	2.5	3C+E	0.20	2.12	3.7	11.2	211.4	8.21
6625	2.5	4C+E	0.20	2.12	3.7	12.4	262.0	8.21
6725	2.5	6C+E	0.20	2.12	3.7	15.2	383.2	8.21
6225	2.5	11C+E	0.20	2.12	3.7	21.0	703.1	8.21
6226	2.5	18C+E	0.20	2.12	3.7	21.0	837.8	8.21
CABLES								
6840	4	2C+E	0.30	2.68	4.7	12.8	268.3	5.09
6640	4	3C+E	0.30	2.68	4.7	14.1	336.6	5.09
6540	4	4C+E	0.30	2.68	4.7	15.5	411.9	5.09
6659	6	2C+E	0.30	3.28	5.3	14.2	354.9	3.39
6660	6	3C+E	0.30	3.28	5.3	15.7	448.1	3.39
6661	6	4C+E	0.30	3.28	5.3	17.3	550.1	3.39