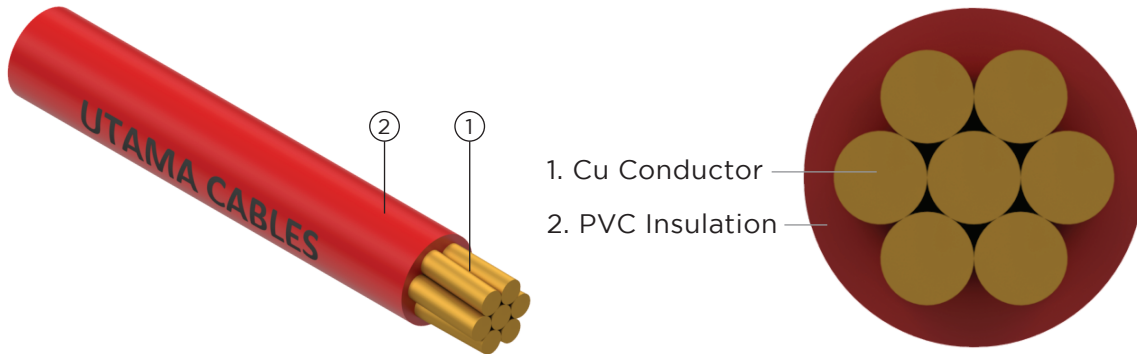




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PVC INSULATED CABLE – CU/PVC



APPLICATION

Main building internal wiring, for power and lighting networks. Also suitable for use as an earth wire.

STANDARDS

Design Specification	MS 2112-3, BS 6004
Conductor	IEC 60228

CONSTRUCTION

Conductor	Plain Annealed Copper, Class 2
Insulation	Polyvinyl Chloride (PVC) compound, PVC/C
Colour of Insulation	Red, Yellow, Blue, Black, Green, Green/Yellow, White. Other colours are upon request.

ELECTRICAL CHARACTERISTICS

Operating Voltage, U_0/U	450/750 V	Test Voltage	2.5kV for 5 minutes
Operating Temperature	-15°C to 70°C	Max Conductor Temperature	70°C



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PVC INSULATED CABLE – CU/PVC

CU/PVC - SINGLE CORE

Nominal Area (mm ²)	Number / Wire Diameter (No./mm)	Thickness of Insulation (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
1.5	7/0.53	0.70	3.10	25
2.5	7/0.67	0.80	3.70	35
4	7/0.85	0.80	4.30	55
6	7/1.04	0.80	4.80	75
10	7/1.35	1.00	6.20	120
16	7/1.70	1.00	7.00	180
25	7/2.14	1.20	8.50	285
35	19/1.53	1.20	9.70	380
50	19/1.78	1.40	11.40	510
70	19/2.14	1.40	13.00	720
95	19/2.52	1.60	15.20	990
120	37/2.03	1.60	16.70	1230
150	37/2.25	1.80	18.70	1520
185	37/2.52	2.00	20.50	1900
240	61/2.25	2.20	23.70	2500
300	61/2.52	2.40	26.20	3130
400	61/2.85	2.60	29.80	3980
500	61/3.20	2.80	33.40	4990
630	61/3.65	2.80	37.40	6380



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PVC INSULATED CABLE – CU/PVC

Electrical Characteristic – PVC & PVC/PVC – Single Core Cables

Table A1.1: Current Carrying Capacity

Current Carrying Capacity											
Conductor Cross-Sectional Area (mm ²)	Reference Method A (Enclosed in Conduit In Thermally Insulating Wall etc.)		Reference Method B (Enclosed in Conduit On A Wall or in Trunking etc.)		Reference Method C (Clipped Direct)		Reference Method F (In Free Air or On A Perforated Cable Tray, Horizontal or Vertical)				
	2 Cables, Single-Phase AC or DC (Amp)	3 or 4 Cables, Three-Phase AC (Amp)	2 Cables, Single-Phase AC or DC (Amp)	3 or 4 Cables, Three-Phase AC (Amp)	2 Cables, Single-Phase AC or DC, Flat and Touching (Amp)	3 or 4 Cables, Three-Phase AC, Flat and Touching (Amp)	Touching			Spaced by 1 Cable Diameter	
							2 Cables, Single-Phase AC or DC, Flat or Touching (Amp)	3 or 4 Cables, Three-Phase AC, Touching (Amp)		2 Cables, Single-Phase AC or DC, or 3 Cables, Three-Phase AC, Flat (Amp)	
								Flat	Trefoil	Horizontal	Vertical
1	11	10.5	13.5	12	15.5	14	-	-	-	-	-
1.5	14.5	13.5	17.5	15.5	20	18	-	-	-	-	-
2.5	20	18	24	21	27	25	-	-	-	-	-
4	26	24	32	28	37	33	-	-	-	-	-
6	34	31	41	36	47	43	-	-	-	-	-
10	46	42	57	50	65	59	-	-	-	-	-
16	61	56	76	68	87	79	-	-	-	-	-
25	80	73	101	89	114	104	131	114	110	146	130
35	99	89	125	110	141	129	162	143	137	181	162
50	119	108	151	134	182	167	196	174	167	219	197
70	151	136	192	171	234	214	251	225	216	281	254
95	182	164	232	207	284	261	304	275	264	341	311
120	210	188	269	239	330	303	352	321	308	396	362
150	240	216	300	262	381	349	406	372	356	456	419
185	273	245	341	296	436	400	463	427	409	521	480
240	321	286	400	346	515	472	546	507	485	615	569
300	367	328	458	394	594	545	629	587	561	709	659
400	-	-	546	467	694	634	754	689	656	852	795
500	-	-	626	533	792	723	868	789	749	982	920
630	-	-	720	611	904	826	1005	905	855	1138	1070
800	-	-	-	-	1030	943	1086	1020	971	1265	1188
1000	-	-	-	-	1154	1058	1216	1149	1079	1420	1337

Ambient Air Temp: 30°C

Conductor Operating Temp: 70°C

Note: The above table is in accordance with 18th Edition of IEE Wiring Regulations.



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PVC INSULATED CABLE – CU/PVC

Table A1.2: Voltage Drop

Conductor Size (mm ²)	2 Cables, DC (mV/A/m)	2 Cables, Single-Phase AC									3 or 4 Cables, Three-Phase AC														
		Reference Methods A & B (Enclosed in Conduit/Trunking) (mV/A/m)			Reference Methods C & F (Clipped Direct, On Cable Tray or In Free Air)						Reference Methods A & B (Enclosed in Conduit/Trunking) (mV/A/m)			Reference Methods C & F (Clipped Direct, On Cable Tray or In Free Air)											
					Cable Touching (mV/A/m)			Cable Spaced* (mV/A/m)						Cables Touching, Trefoil (mV/A/m)			Cables Touching, Flat (mV/A/m)			Cables Spaced*, Flat (mV/A/m)					
1.0	44.000	44.000			44.000			44.000			38.000			38.000			38.000			38.000					
1.5	29.000	29.000			29.000			29.000			25.000			25.000			25.000			25.000					
2.5	18.000	18.000			18.000			18.000			15.000			15.000			15.000			15.000					
4	11.000	11.000			11.000			11.000			9.500			9.500			9.500			9.500					
6	7.300	7.300			7.300			7.300			6.400			6.400			6.400			6.400					
10	4.400	4.400			4.400			4.400			3.800			3.800			3.800			3.800					
16	2.800	2.800			2.800			2.800			2.400			2.400			2.400			2.400					
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.750	1.800	0.330	1.800	1.750	0.200	1.750	1.750	0.290	1.800	1.500	0.290	1.550	1.500	0.175	1.500	1.500	0.250	1.550	1.500	0.320	1.550			
35	1.250	1.300	0.310	1.300	1.250	0.195	1.250	1.250	0.280	1.300	1.100	0.270	1.100	1.100	0.170	1.100	1.100	0.240	1.100	1.100	0.320	1.150			
50	0.930	0.950	0.300	1.000	0.930	0.190	0.950	0.930	0.280	0.970	0.810	0.260	0.850	0.800	0.165	0.820	0.800	0.240	0.840	0.800	0.320	0.860			
70	0.630	0.650	0.290	0.720	0.630	0.185	0.660	0.630	0.270	0.690	0.560	0.250	0.610	0.550	0.160	0.570	0.550	0.240	0.600	0.550	0.310	0.630			
95	0.460	0.490	0.280	0.560	0.470	0.180	0.500	0.470	0.270	0.540	0.420	0.240	0.480	0.410	0.155	0.430	0.410	0.230	0.470	0.400	0.310	0.510			
120	0.360	0.390	0.270	0.470	0.370	0.175	0.410	0.370	0.260	0.450	0.330	0.230	0.410	0.320	0.150	0.360	0.320	0.230	0.400	0.320	0.300	0.440			
150	0.290	0.310	0.270	0.410	0.300	0.175	0.340	0.290	0.260	0.390	0.270	0.230	0.360	0.260	0.150	0.300	0.260	0.230	0.340	0.260	0.300	0.400			
185	0.230	0.250	0.270	0.370	0.240	0.170	0.290	0.240	0.260	0.350	0.220	0.230	0.320	0.210	0.145	0.260	0.210	0.220	0.310	0.210	0.300	0.360			
240	0.180	0.195	0.260	0.330	0.185	0.165	0.250	0.185	0.250	0.310	0.170	0.230	0.290	0.160	0.145	0.220	0.160	0.220	0.270	0.160	0.290	0.340			
300	0.145	0.160	0.260	0.310	0.150	0.165	0.220	0.150	0.250	0.290	0.140	0.230	0.270	0.130	0.140	0.190	0.130	0.220	0.250	0.130	0.290	0.320			
400	0.105	0.130	0.260	0.290	0.120	0.160	0.200	0.115	0.250	0.270	0.120	0.220	0.250	0.105	0.140	0.175	0.105	0.210	0.240	0.100	0.290	0.310			
500	0.086	0.110	0.260	0.280	0.098	0.155	0.185	0.093	0.240	0.260	0.100	0.220	0.250	0.086	0.135	0.160	0.086	0.210	0.230	0.081	0.290	0.300			
630	0.068	0.094	0.250	0.270	0.081	0.155	0.175	0.076	0.240	0.250	0.080	0.220	0.240	0.072	0.135	0.150	0.072	0.210	0.220	0.066	0.280	0.290			
800	0.053	-	-	-	0.068	0.150	0.165	0.061	0.240	0.250	-	-	-	0.060	0.130	0.145	0.060	0.210	0.220	0.053	0.280	0.290			
1000	0.042	-	-	-	0.059	0.150	0.160	0.050	0.240	0.240	-	-	-	0.052	0.130	0.140	0.052	0.200	0.210	0.044	0.280	0.280			

Ambient Air Temp: 30°C
 Conductor Operating Temp: 70°C

Note:

- *Spacings larger than one cable diameter will result in a larger voltage drop.
- Correction factors for ambient temperature and group installation, please refer Derating Factor section.
- r = Resistive Component, x = Reactive Component, z = Impedance Value
 The above table is in accordance with the 18th Edition of IEE Wiring Regulations.
- For cables having conductors of 16mm² or less cross sectional area their inductances can be ignored and (mV/A/m)_r values only are tabulated. For cables having conductors greater than 16mm², cross sectional area the impedance values are given as (mV/A/m)_z, together with the resistive component (mV/A/m)_r and the reactive component (mV/A/m)_x.

The above paragraph is extracted from Appendix 4 of the 18th Edition of IEE Wiring Regulations.

The information contained within this datasheet is for guidance only and is subject to change without notice or liability. All the information is provided in good faith and is believed to be correct at the time of publication. When selecting cable accessories, please note that actual cable dimensions may vary due to manufacturing tolerances.