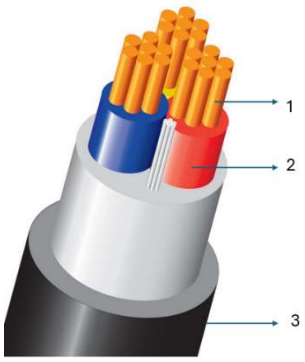
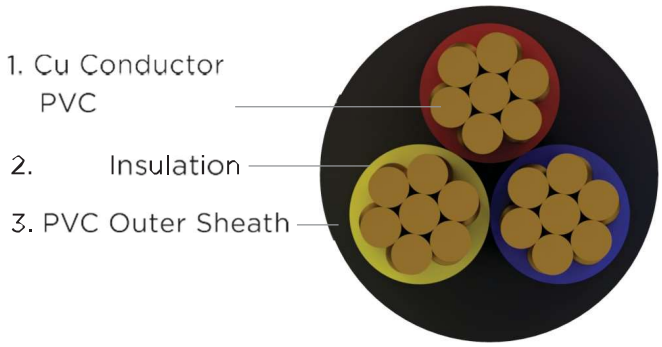
ETL SINAR SOLUTIONS SDN BHD (1344715-H)
10-G, Jalan LP 7/5B, Taman Lestari Perdana, 43300 Seri Kembangan, Selangor.
Tel : 018-3970397 www.etlss.com.my

Power Cable: 600/1000V **Non-Armoured** Power Cable





APPLICATION
PVC insulated and sheathed PVC cable. Suitable for use in power network, electrical wiring and energy distributions in underground, outdoor, indoor applications and in cable ducting.

STANDARDS	
Design Specification	MS 2112-4
Conductor	IEC 60228

CABLE CONSTRUCTION		
Conductor	Plain Annealed Copper, Class 2	
Insulation	Polyvinyl Chloride (PVC) compound; PVC/C	
Core Identification	Single Core	Black
	Two Cores	Red and Black
	Three Cores	Red, Yellow and Blue
	Four Cores	Red, Yellow, Blue and Black
Assembly	(i) Single Core	-
	(ii) 2, 3 or 4 Cores	Stranded together and the interstices may be filled with the sheathing compound or textile. A non-hygroscopic binder tape may be applied over the laid-up cores.
Outer Sheath	Polyvinyl Chloride (PVC) compound; ST4	
Outer Sheath Colour	Black	

SIRIM JKR

ETL SINAR SOLUTIONS SDN BHD (1344715-H)
10-G, Jalan LP 7/5B, Taman Lestari Perdana, 43300 Seri Kembangan, Selangor.
Tel : 018-3970397 www.etlss.com.my

Power Cable: 600/1000V Non-Armoured Power Cable

ELECTRICAL CHARACTERISTICS			
Operating Voltage, U_o/U	300/500 V	Test Voltage	2.0kV for 5 minutes
Operating Temperature	-15°C to 70°C	Max Conductor Temperature	70°C

CU/PVC/PVC 1 CORE

Nominal Area (mm^2)	Number / Wire Diameter (No./mm)	Thickness of Insulation (mm)	Thickness of Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
1.5	7/0.53	0.70	0.80	4.70	40
4	7/0.85	0.80	0.90	6.20	75
6	7/1.04	0.80	0.90	6.80	100
10	7/1.35	1.00	1.00	8.20	150

CU/PVC/PVC 2 CORE

Nominal Area (mm^2)	Number / Wire Diameter (No./mm)	Thickness of Insulation (mm)	Thickness of Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
1.5	7/0.53	0.70	1.20	8.60	115
4	7/0.85	0.80	1.20	11.00	200
6	7/1.04	0.80	1.20	12.30	270
10	7/1.35	1.00	1.40	15.30	415

SIRIM JKR

ETL SINAR SOLUTIONS SDN BHD (1344715-H)
10-G, Jalan LP 7/5B, Taman Lestari Perdana, 43300 Seri Kembangan, Selangor.
Tel : 018-3970397 www.etlss.com.my

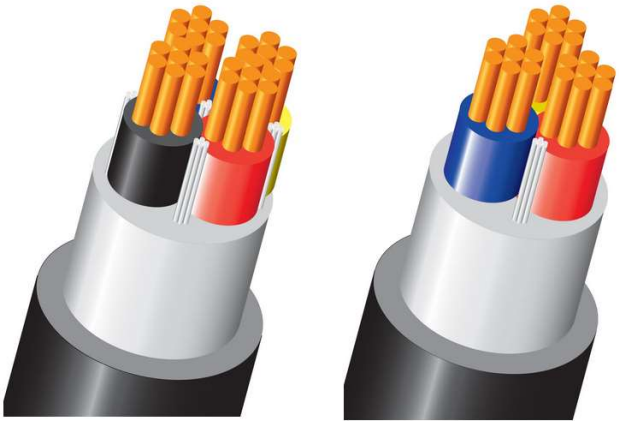
Power Cable: 600/1000V Non-Armoured Power Cable

CU/PVC/PVC - 3 CORE

Nominal Area (mm^2)	Number / Wire Diameter (No./mm)	Thickness of Insulation (mm)	Thickness of Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
1.5	7/0.53	0.70	1.20	9.00	130
2.5	7/0.67	0.80	1.20	10.30	180
4	7/0.85	0.80	1.20	11.60	240
6	7/1.04	0.80	1.40	13.30	320
10	7/1.35	1.00	1.40	16.30	530

CU/PVC/PVC - 4 CORE

Nominal Area (mm^2)	Number / Wire Diameter (No./mm)	Thickness of Insulation (mm)	Thickness of Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
1.5	7/0.53	0.70	1.20	9.80	160
2.5	7/0.67	0.80	1.20	11.30	220
4	7/0.85	0.80	1.40	13.20	310
6	7/1.04	0.80	1.40	15.00	420
10	7/1.35	1.00	1.40	18.20	605



Electrical Characteristic – PVC/PVC - Multi Core Sheathed Cables
Table A2.1a: Current Carrying Capacity

Conductor Cross-Sectional Area (mm²)	Reference Method A (Enclosed in Conduit in Thermally Insulating Wall etc.)		Reference Method B (Enclosed in Conduit on A Wall or In Trunking)		Reference Method C (Clipped Direct)		Reference Method E (In Free Air or On A Perforated Cable Tray etc, Horizontal or Vertical)	
	One 2-Core Cable*, Single-Phase AC or DC (Amp)	One 3 or 4-Core Cable*, Three-Phase AC (Amp)	One 2-Core Cable*, Single-Phase AC or DC (Amp)	One 3 or 4-Core Cable*, Three-Phase AC (Amp)	One 2-Core Cable*, Single-Phase AC or DC (Amp)	One 3 or 4-Core Cable*, Three-Phase AC (Amp)	One 2-Core Cable*, Single-Phase AC or DC (Amp)	One 3 or 4-Core Cable*, Three-Phase AC (Amp)
1	11	10	13	11.5	15	13.5	17	14.5
1.5	14	13	16.5	15	19.5	17.5	22	18.5
2.5	18.5	17.5	23	20	27	24	30	25
4	25	23	30	27	36	32	40	34
10	43	39	52	46	63	57	70	60
16	57	52	69	62	85	76	94	80
25	75	68	90	80	112	96	119	101
50	110	99	133	118	168	144	180	153
70	139	125	168	149	213	184	232	196
95	167	150	201	179	258	223	282	238
150	219	196	258	225	344	299	379	319
185	248	223	294	255	392	341	434	364
240	291	261	344	297	461	403	514	430
400	-	-	470	402	634	557	715	597

Ambient Temperature: 30°C
Conductor Operating Temperature: 70°C

Note:

1. *With or without a protective conductor.
2. The above table is in accordance with 18th Edition of IEE Wiring Regulations.

Table A2.2a: Voltage Drop

Conductor Cross-Sectional Area (mm^2)	2-Core Cable, DC (mV/A/m)	2-Core Cable, Single-Phase AC (mV/A/m)			3, 4-Core Cable, Three-Phase AC (mV/A/m)		
1.0	44	44			38		
1.5	29	29			25		
2.5	18	18			15		
4	11	11			9.5		
6	7.3	7.3			6.4		
10	4.4	4.4			3.8		
16	2.8	2.8			2.4		
		r	x	z	r	x	z
25	1.750	1.750	0.170	1.750	1.500	0.145	1.500
35	1.250	1.250	0.165	1.250	1.100	0.145	1.100
50	0.930	0.930	0.165	0.940	0.800	0.140	0.810
70	0.630	0.630	0.160	0.650	0.550	0.140	0.570
95	0.460	0.470	0.155	0.500	0.410	0.135	0.430
120	0.360	0.380	0.155	0.410	0.330	0.135	0.350
150	0.290	0.300	0.155	0.340	0.260	0.130	0.290
185	0.230	0.250	0.150	0.290	0.210	0.130	0.250
240	0.180	0.190	0.150	0.240	0.165	0.130	0.210
300	0.145	0.155	0.145	0.210	0.135	0.130	0.185
400	0.105	0.115	0.145	0.185	0.100	0.125	0.160

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

Note:

1. Correction factors for ambient temperature and group installation, please refer Derating Factor section.
2. r = Resistive Component, x = Reactive Component, z = Impedance Value
   The above table is in accordance with the 18th Edition of IEE Wiring Regulations.
3. For cables having conductors of $16mm^2$ 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 $16mm^2$, 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.