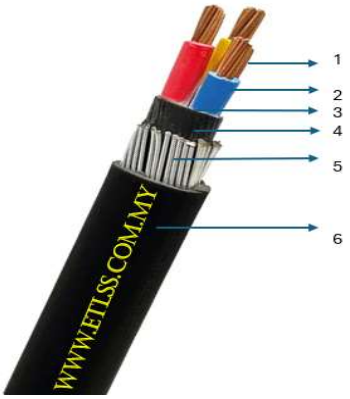
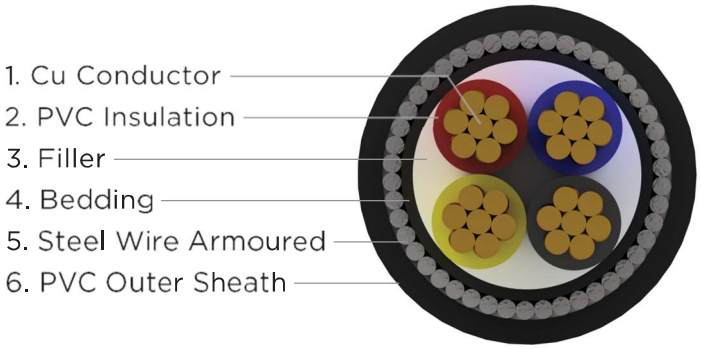
SCAN ME

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

PVC INSULATED, PVC SHEATHED ARMOURED CABLE – CU/PVC/SWA/PVC





APPLICATION
PVC insulated cable with steel wire armour (SWA) suitable for use in power networks, underground, indoor and outdoor applications and also in cable ducting.

STANDARDS	
Design Specification	MS 2103, BS 6346
Conductor	IEC 60228

CABLE CONSTRUCTION		
Conductor	Plain Annealed Copper, Class 2, Stranded Circular or Compacted	
Insulation	Polyvinyl Chloride (PVC) compound, PVC/A	
Core Identification	Two Cores	Red and Black
	Three Cores	Red, Yellow and Blue
	Four Cores	Red, Yellow, Blue and Black
	Five Cores	Red, Yellow, Blue, Black and Green/Yellow
Assembly	2, 3, 4 or 5 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.
Bedding	Polyvinyl Chloride (PVC) compound, PVC/ST-1	
Bedding Colour	Black	
Armour	Galvanised Steel Wire Armoured (SWA)	
Outer Sheath	Polyvinyl Chloride (PVC) compound, PVC/ST-1	
Outer Sheath Colour	Black	

SCAN ME

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

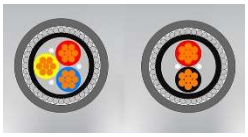
PVC INSULATED, PVC SHEATHED ARMOURED CABLE – CU/PVC/SWA/PVC

ELECTRICAL CHARACTERISTICS			
Operating Voltage, U_o/U	600/1000 V	Test Voltage	3.5kV for 5 minutes
Operating Temperature	-15°C to 70°C	Max Conductor Temperature	70°C

CU/PVC/SWA/PVC - 2 CORE

Nominal Area (mm^2)	Number / Wire Diameter (No./mm)	Thickness of Insulation (mm)	Armour Wire Diameter (mm)	Thickness of Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
1.5	7/0.53	0.80	0.90	1.80	13.80	370
2.5	7/0.67	0.80	0.90	1.80	14.60	420
4	7/0.85	1.00	0.90	1.80	16.60	530
6	7/1.04	1.00	1.25	1.80	18.30	700
10	7/1.35	1.00	1.25	1.80	20.10	860
16	7/1.70	1.00	1.60	1.80	22.30	1150
25	7/2.14	1.20	1.60	1.80	26.20	1620

CU/PVC/SWA/PVC - 3 CORE

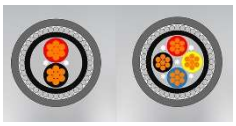


Nominal Area (mm^2)	Number / Wire Diameter (No./mm)	Thickness of Insulation (mm)	Armour Wire Diameter (mm)	Thickness of Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
1.5	7/0.53	0.80	0.90	1.80	14.30	395
2.5	7/0.67	0.80	0.90	1.80	15.10	445
4	7/0.85	1.00	1.25	1.80	18.00	670
6	7/1.04	1.00	1.25	1.80	19.00	770
10	7/1.35	1.00	1.25	1.80	20.70	970
16	7/1.70	1.00	1.60	1.80	23.00	1310
25	7/2.14	1.20	1.60	1.80	26.80	1850

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

PVC INSULATED, PVC SHEATHED ARMOURED CABLE – CU/PVC/SWA/PVC

CU/PVC/SWA/PVC - 4 CORE



Nominal Area (mm^2)	Number / Wire Diameter (No./mm)	Thickness of Insulation (mm)	Armour Wire Diameter (mm)	Thickness of Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
1.5	7/0.53	0.80	0.90	1.80	15.10	440
2.5	7/0.67	0.80	0.90	1.80	16.10	515
4	7/0.85	1.00	1.25	1.80	19.20	770
6	7/1.04	1.00	1.25	1.80	20.40	900
10	7/1.35	1.00	1.25	1.80	22.30	1140
16	7/1.70	1.00	1.60	1.80	25.40	1680
25	7/2.14	1.20	1.60	1.80	29.20	2250

CU/PVC/SWA/PVC - 5 CORE

Nominal Area (mm^2)	Number / Wire Diameter (No./mm)	Thickness of Insulation (mm)	Armour Wire Diameter (mm)	Thickness of Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
1.5	7/0.53	0.80	0.90	1.80	16.60	560
2.5	7/0.67	0.80	0.90	1.80	17.10	580
4	7/0.85	1.00	1.25	1.80	20.50	920
6	7/1.04	1.00	1.25	1.80	21.90	1160
10	7/1.35	1.00	1.60	1.80	25.50	1585
16	7/1.70	1.00	1.60	1.80	27.80	1960
25	7/2.14	1.20	1.60	1.90	32.70	2790

SIRIM

JKR

SCAN ME

PVC INSULATED, PVC SHEATHED ARMOURED CABLE – CU/PVC/SWA/PVC

Electrical Characteristic – PVC/SWA/PVC Steel Wire Armoured Cables
Table A3.1: Current Carrying Capacity

Conductor Cross-Sectional Area (mm^2)	Reference Method C (Clipped Direct)		Reference Method E (In Free Air or On A Perforated Cable Tray, Horizontal or Vertical)		Reference Method D (Direct In Ground or In Ducting In Ground, In or Around Buildings)	
	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)
1.5	21	18	22	19	22	18
2.5	28	25	31	26	29	24
4	38	33	41	35	37	30
6	49	42	53	45	46	38
10	67	58	72	62	60	50
16	89	77	97	83	78	64
25	118	102	128	110	99	82
35	145	125	157	135	119	98
50	175	151	190	163	140	116
70	222	192	241	207	173	143
95	269	231	291	251	204	169
120	310	267	336	290	231	192
150	356	306	386	332	261	217
185	405	348	439	378	292	243
240	476	409	516	445	336	280
300	547	469	592	510	379	316
400	621	540	683	590	-	-

Ambient Air Temp 30°C
Ambient Ground Temp 20°C
Conductor Operating Temp 70°C
Soil Thermal Resistivity (cable buried in ground): 2.5 K.m/W
Note: The above table is in accordance with 18th Edition of IEE Wiring Regulations.

SCAN ME

PVC INSULATED, PVC SHEATHED ARMOURED CABLE – CU/PVC/SWA/PVC

Electrical Characteristic – PVC/SWA/PVC Steel Wire Armoured Cables
Table A3.2: 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)		
1.5	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	1.75	1.500	0.145	1.500
35	1.250	1.250	0.165	1.25	1.100	0.145	1.100
50	0.930	0.930	0.165	0.94	0.800	0.140	0.810
70	0.630	0.630	0.160	0.65	0.550	0.140	0.570
95	0.460	0.470	0.155	0.50	0.410	0.135	0.430
120	0.360	0.380	0.155	0.41	0.330	0.135	0.350
150	0.290	0.300	0.155	0.34	0.260	0.130	0.290
185	0.230	0.250	0.150	0.29	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
Ambient Ground Temp 20°C
Conductor Operating Temp 70°C
Soil Thermal Resistivity (cable buried in ground): 2.5 K.m/W

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.