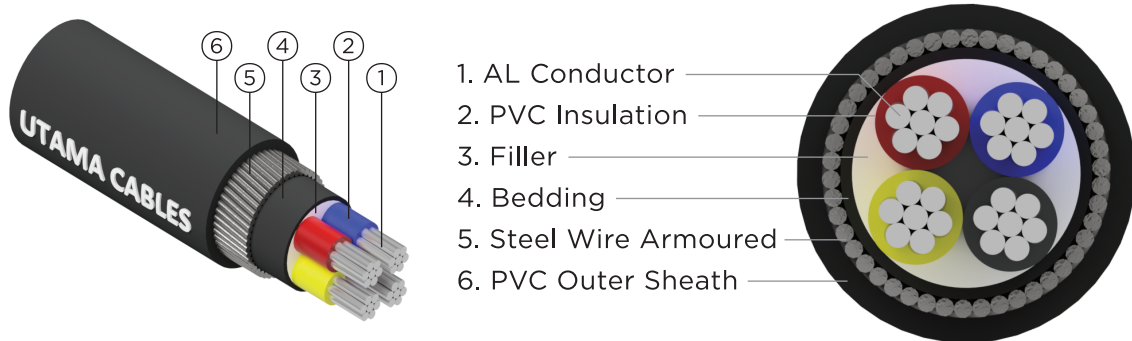




UTAMA CABLES
 稳达电缆工业有限公司

PVC INSULATED, PVC SHEATHED ARMoured CABLE – AL/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 Aluminium Conductor, 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
Assembly	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.
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	



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ELECTRICAL CHARACTERISTICS

Operating Voltage, U ₀ /U	600/1000 V	Test Voltage	3.5kV for 5 minutes
Operating Temperature	-15°C to 70°C	Max Conductor Temperature	70°C

AL/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)
16	7/1.70	1.00	1.25	1.80	22.30	960
25	7/2.14	1.20	1.60	1.80	26.40	1300

AL/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)
16	7/1.70	1.00	1.60	1.80	25.50	1300
25	7/2.14	1.20	1.60	1.80	29.20	1660



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PVC INSULATED, PVC SHEATHED ARMoured CABLE – AL/PVC/SWA/PVC

Electrical Characteristic – AL/PVC/SWA/PVC Steel Wire Armoured Cables

Table B1.1: 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)
16	68	58	71	61	-	-
25	89	76	94	80	77	64
35	109	94	115	99	93	77
50	131	113	139	119	109	91
70	165	143	175	151	135	112
95	199	174	211	186	159	132
120	-	202	-	216	-	150
150	-	232	-	250	-	169
185	-	265	-	287	-	190
240	-	312	-	342	-	218
300	-	360	-	399	-	247

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.



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Table B1.2: 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)		
		r	x	z	r	x	z
16	4.5						
25	2.900	2.900	0.175	2.9	2.500	0.150	2.500
35	2.100	2.100	0.170	2.10	1.800	0.150	1.800
50	1.550	1.550	0.170	1.55	1.350	0.145	1.350
70	1.050	1.050	0.165	1.05	0.900	0.140	0.920
95	0.770	0.770	0.160	0.79	0.670	0.140	0.680
120	-	-	-	-	0.530	0.135	0.550
150	-	-	-	-	0.420	0.135	0.440
185	-	-	-	-	0.340	0.135	0.370
240	-	-	-	-	0.260	0.130	0.300
300	-	-	-	-	0.210	0.130	0.250

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:

- 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.

Utama Cables has taken reasonable measures to ensure that the information and data represented in this catalogue is accurate and current. However, the manufacturer reserves the right to modify specification of any of the products at their discretion and without notice. The manufacturer can accept no responsibility as to the sustainability of any product for a particular use, or for any errors or omissions, unintentional or otherwise.