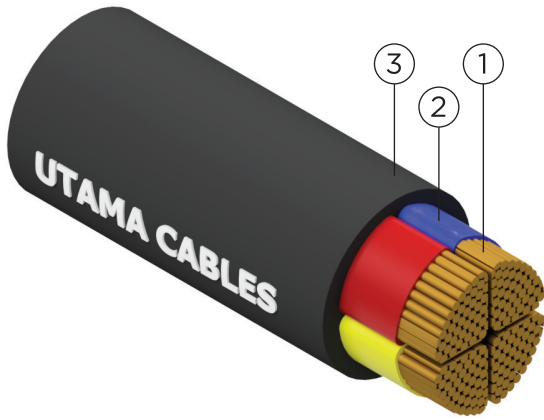


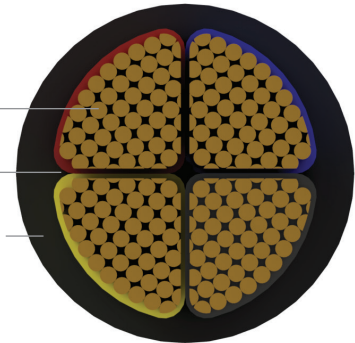


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# XLPE INSULATED, PVC SHEATHED, NON-ARMOURED CABLE – CU/XLPE/PVC



- 1. Cu Conductor
- 2. XLPE Insulation
- 3. PVC Outer Sheath



## APPLICATION

XLPE 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	IEC 60502-1
Conductor	IEC 60228

## CABLE CONSTRUCTION

Conductor	Plain Annealed Copper, Class 2, Stranded Circular, Compacted or Sectored	
Insulation	Cross-linked Polyethylene (XLPE) compound rated 90°C	
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	Insulated conductors are laid up together, if necessary, filled with non-hygroscopic material compatible with the insulation. The filling may be omitted provided the outer shape of the cable remains practically circular and no adhesion occurs between cores and sheath.
Outer Sheath	Polyvinyl Chloride (PVC) compound, PVC/ST-2	
Outer Sheath Colour	Black	



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# XLPE INSULATED, PVC SHEATHED, NON-ARMOURED CABLE – CU/XLPE/PVC

## ELECTRICAL CHARACTERISTICS

Operating Voltage, U <sub>0</sub> /U	600/1000 V	Test Voltage	3.5kV for 5 minutes
Operating Temperature	-15°C to 90°C	Max Conductor Temperature	90°C

## CU/XLPE/PVC - 2 CORE

Conductor		Number / Wire Diameter (No./mm)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
Nominal Cross-Sectional Area (mm <sup>2</sup> )	Shape					
16	c.c	7/1.70	0.70	1.80	16.60	490
25	c.c	7/2.14	0.90	1.80	19.60	655
35	s.s	19/1.53	0.90	1.80	17.80	845
50	s.s	19/1.78	1.00	1.80	19.90	1110
70	s.s	19/2.14	1.10	1.80	22.70	1540
95	s.s	19/2.52	1.10	2.00	25.70	2040
120	s.s	37/2.03	1.20	2.10	28.40	2570
150	s.s	37/2.25	1.40	2.20	31.40	3130
185	s.s	37/2.52	1.60	2.30	34.90	3920
240	s.s	61/2.25	1.70	2.50	39.10	5050
300	s.s	61/2.52	1.80	2.70	43.10	6350
400	s.s	61/2.85	2.00	2.90	48.30	8000

**NOTE:** **c.s.** - circular stranded conductor  
**c.c.** - circular compacted stranded conductor  
**s.s.** - sectoral stranded conductor, circular conductors can be produced on request.



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# XLPE INSULATED, PVC SHEATHED, NON-ARMoured CABLE — CU/XLPE/PVC

## CU/XLPE/PVC - 3 CORE

Conductor		Number / Wire Diameter (No./mm)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
Nominal Cross-Sectional Area (mm <sup>2</sup> )	Shape					
16	c.c	7/1.70	0.70	1.80	17.60	650
25	c.c	7/2.14	0.90	1.80	20.90	935
35	s.s	19/1.53	0.90	1.80	21.10	1235
50	s.s	19/1.78	1.00	1.80	24.20	1610
70	s.s	19/2.14	1.10	1.90	28.00	2285
95	s.s	19/2.52	1.10	2.00	33.80	3090
120	s.s	37/2.03	1.20	2.10	35.20	3875
150	s.s	37/2.25	1.40	2.30	39.20	4780
185	s.s	37/2.52	1.60	2.40	43.40	5960
240	s.s	61/2.25	1.70	2.60	48.00	7810
300	s.s	61/2.52	1.80	2.80	53.10	9700
400	s.s	61/2.85	2.00	3.10	61.40	12400

**NOTE:** **c.s.** - circular stranded conductor  
**c.c.** - circular compacted stranded conductor  
**s.s.** - sectoral stranded conductor, circular conductors can be produced on request.



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# XLPE INSULATED, PVC SHEATHED, NON-ARMoured CABLE — CU/XLPE/PVC

## CU/XLPE/PVC - 4 CORE

Conductor		Number / Wire Diameter (No./mm)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
Nominal Cross-Sectional Area (mm <sup>2</sup> )	Shape					
16	c.c	7/1.70	0.70	1.80	19.40	830
25	c.c	7/2.14	0.90	1.80	23.40	1230
35	s.s	19/1.53	0.90	1.80	24.20	1630
50	s.s	19/1.78	1.00	1.90	27.80	2150
70	s.s	19/2.14	1.10	2.00	32.40	3050
95	s.s	19/2.52	1.10	2.10	36.20	4125
120	s.s	37/2.03	1.20	2.30	38.20	5160
150	s.s	37/2.25	1.40	2.40	42.70	6375
185	s.s	37/2.52	1.60	2.60	47.20	7980
240	s.s	61/2.25	1.70	2.80	54.00	10455
300	s.s	61/2.52	1.80	3.00	57.80	13020
400	s.s	61/2.85	2.00	3.30	70.00	16100

**NOTE:** **c.s.** - circular stranded conductor  
**c.c.** - circular compacted stranded conductor  
**s.s.** - sectoral stranded conductor, circular conductors can be produced on request.



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# XLPE INSULATED, PVC SHEATHED, NON-ARMoured CABLE – CU/XLPE/PVC

## Electrical Characteristic – XLPE/PVC Multi-Core Cables

Table A5.1: Current Carrying Capacity

Conductor Cross-Sectional Area (mm <sup>2</sup> )	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)		In Free Air or On A Perforated Cable Tray, Horizontal or Vertical (Reference Method E)	
	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	14.5	13	17	15	19	17	21	18
1.5	18.5	16.5	22	19.5	24	22	26	23
2.5	25	22	30	26	33	30	36	32
4	33	30	40	35	45	40	49	42
6	42	38	51	44	58	52	63	54
10	57	51	69	60	80	71	86	75
16	76	68	91	80	107	96	115	100
25	99	89	119	105	138	119	149	127
35	121	109	146	128	171	147	185	158
50	145	130	175	154	209	179	225	192
70	183	164	221	194	269	229	289	246
95	220	197	265	233	328	278	352	298
120	253	227	305	268	382	322	410	346
150	290	259	334	300	441	371	473	399
185	329	295	384	340	506	424	542	456
240	386	346	459	398	599	500	641	538
300	442	396	532	455	693	576	741	621
400	-	-	625	536	803	667	865	741

Ambient Air Temp 30°C  
 Conductor Operating Temp 90°C

**NOTE:**

- Where a conductor operates at a temperature exceeding 70°C it must be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature, see Regulation 512.1.2 of the 18<sup>th</sup> Edition of IEE Wiring Regulations).
- Where cables in this table are connected to equipment or accessories designed to operate at a temperature not exceeding 70°C, the current ratings given in the equivalent table for 70°C thermoplastic insulated cables must be used (see also Regulation 523.1 of the 18<sup>th</sup> Edition of IEE Wiring Regulations).
- The above table is in accordance with 18<sup>th</sup> Edition of IEE Wiring Regulations.



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# XLPE INSULATED, PVC SHEATHED, NON-ARMoured CABLE — CU/XLPE/PVC

**Table A5.2: Voltage Drop**

Conductor Cross-Sectional Area (mm <sup>2</sup> )	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	46.000	46.000			40.000		
1.5	31.000	31.000			27.000		
2.5	19.000	19.000			16.000		
4	12.000	12.000			10.000		
6	7.900	7.900			6.800		
10	4.700	4.700			4.000		
16	2.900	2.900			2.500		
		r	x	z	r	x	z
25	1.850	1.850	0.160	1.900	1.600	0.140	1.650
35	1.350	1.350	0.155	1.350	1.150	0.135	1.150
50	0.980	0.990	0.155	1.000	0.860	0.135	0.870
70	0.670	0.670	0.150	0.690	0.590	0.130	0.600
95	0.490	0.500	0.150	0.520	0.430	0.130	0.450
120	0.390	0.400	0.145	0.420	0.340	0.130	0.370
150	0.310	0.320	0.145	0.350	0.280	0.125	0.300
185	0.250	0.260	0.145	0.290	0.220	0.125	0.260
240	0.195	0.200	0.140	0.240	0.175	0.125	0.210
300	0.155	0.160	0.140	0.210	0.140	0.120	0.185
400	0.120	0.130	0.140	0.190	0.115	0.120	0.165

Ambient Air Temp 30°C  
Conductor Operating Temp 90°C

**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 18<sup>th</sup> Edition of IEE Wiring Regulations.
- For cables having conductors of 16mm<sup>2</sup> or less cross - sectional area their inductances can be ignored and (mV/A/m)<sub>r</sub> values only are tabulated. For cables having conductors greater than 16mm<sup>2</sup>, cross - sectional area the impedance values are given as (mV/A/m)<sub>z</sub>, together with the resistive component (mV/A/m)<sub>r</sub> and the reactive component (mV/A/m)<sub>x</sub>.  
The above paragraph is extracted from Appendix 4 of the 18<sup>th</sup> 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.