

## 600/1000V, XLPE Insulated Cables according to IEC 60502-1

### (unarmoured)

#### Application:

IEC 60502-1 cables are used for electricity supply in low voltage installation system, IEC 60502-1 cables are suitable for installation in indoors and outdoors, in cable ducts, under ground, in power and switching stations, local energy distributions, industrial plants, where there is no risk of mechanical damage.

#### Construction:

**Conductors:** Copper or Aluminium conductor, round stranded or Shaped, Class 2 to IEC 60228, BS EN 60228. For smaller sizes, a solid round conductor, Class 1 as per IEC 60228, BS EN 60228 can also be supplied upon request.

**Insulation:** XLPE material and thickness shall be as per IEC 60502 or BS 5467 rated for 90°C continuous operation.

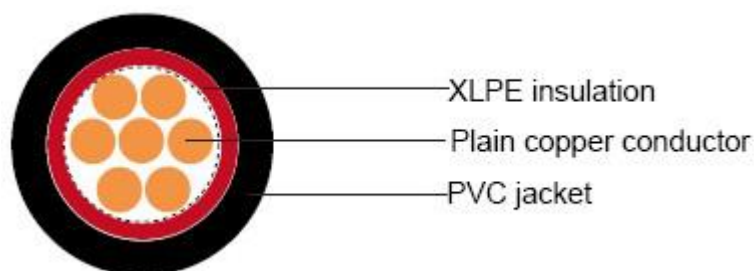
Colour Code	Colour Code (1) :		
	1 Core	:	Red or Black
	2 Cores	:	Red, Black
	3 Cores	:	Red, Yellow, Blue
	4 Cores	:	Red, Yellow, Blue, Black
	5 Cores	:	Red, Yellow, Blue, Black, Green
	Above 5 Cores:		Black Cores with White numerals
	Colour Code (2) :		
	1 Core	:	Brown or Blue
	2 Cores	:	Brown or Blue
	3 Cores	:	Brown, Black, Grey
	4 Cores	:	Blue, Brown, Black, Grey
	5 Cores	:	Green/Yellow, Blue, Brown, Black, Grey
	Above 5 Cores:		Black Cores with White numerals

Assembly /	Two, Three or Four insulated conductors are laid-up together with non-hygroscopic
Inner Sheath	fillers and the assembly is bedded with an extruded layer of PVC. In case of non
	armoured cables, this layer may be omitted
Armour	Aluminum/Galvanized Steel Wires applied helically over the bedding as per IEC
	60502 or as per BS 5467, BS 6346. Single core cables shall be Aluminium wire
	armour. Aluminum/Steel Tapes applied helically over the bedding of multi-core cables
	as per IEC 60502.
Outer	Outer sheath shall be of Extruded PVC Type ST2 as per IEC 60502-1 or Type 9 as
Sheath	BS 6346/5467.

	Special type of PVC sheathing material such as Fire Retardant PVC, Anti-Termite PVC, Anti-Rodent PVC, Sunlight resistant PVC, Oil Resistant PVC are available on special request. Also, special sheathing materials such as LLDPE, MDPE, HDPE, LSF, CPE are available on request.
Fire Performance of Cable Sheaths	Cables can be supplied with special flame retardant PVC outer sheath to comply with the flame test requirements of IEC 60332-3-22, IEC 60332-3-23 and IEC 60332-3-24, can also supply cables with Low Smoke Halogen Free (LSHF) material according to IEC 60502-1, BS 7211, BS 6724 or other equivalent standards.

### Cable Parameters:

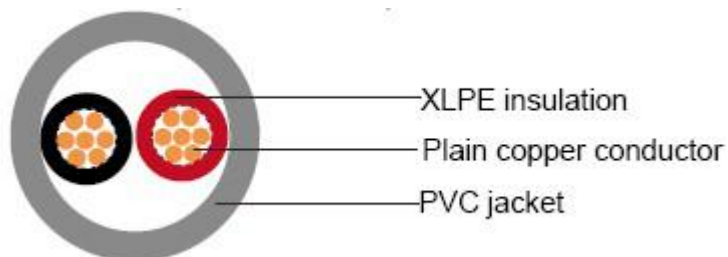
Single core( unarmoured)



Nominal Cross Section	Diameter of Conductor (Approx.)	Nominal Insulation Thickness	Nominal Sheath Thickness	Overall Diameter (Approx.)
mm <sup>2</sup>	mm	mm	mm	mm
1x1.5	1.4	0.7	1.4	5.6
1x2.5	1.8	0.7	1.4	6
1x4	2.3	0.7	1.4	6.5
1x6	2.8	0.7	1.4	7
1x10	3.6	0.7	1.4	7.8
1x16	4.5	0.7	1.4	8.7
1x25	5.6	0.9	1.4	10.2
1x35	6.7	0.9	1.4	11.3
1x50	8	1	1.4	12.8
1x70	9.4	1.1	1.4	14.4
1x95	11	1.1	1.5	16.1
1x120	12.4	1.2	1.5	17.8
1x150	13.8	1.4	1.6	19.8
1x185	15.3	1.6	1.6	21.8
1x240	17.5	1.7	1.7	24.4
1x300	19.5	1.8	1.8	26.7
1x400	22.6	2	1.9	30.5

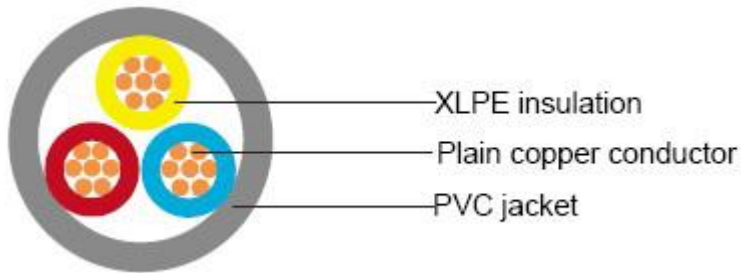
1x500	25.2	2.2	2	33.7
1x630	28.3	2.4	2.2	37.4
1x800	31.9	2.6	2.3	41.7
1x1000	35.7	2.8	2.4	46.2

Two cores(unarmoured)



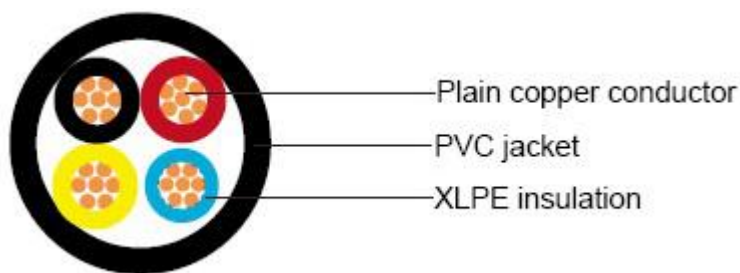
Nominal Cross Section	Diameter of Conductor (Approx.)	Nominal Insulation Thickness	Nominal Sheath Thickness	Overall Diameter (Approx.)
mm <sup>2</sup>	mm	mm	mm	mm
2x1.5	1.4	0.7	1.8	9.2
2x2.5	1.8	0.7	1.8	10
2x4	2.3	0.7	1.8	11
2x6	2.8	0.7	1.8	12
2x10	3.6	0.7	1.8	13.6
2x16	4.5	0.7	1.8	15.4
2x25	5.6	0.9	1.8	18.4
2x35	6.7	0.9	1.8	20.6
2x50	8	1	1.8	23.6
2x70	9.4	1.1	1.8	26.8
2x95	11	1.1	1.9	30.2
2x120	12.4	1.2	2	33.7
2x150	13.8	1.4	2.2	37.5
2x185	15.3	1.6	2.3	41.6
2x240	17.5	1.7	2.5	46.7
2x300	19.5	1.8	2.6	51.4
2x400	22.6	2	2.9	58.9

Three cores(unarmoured)



Nominal Cross Section	Diameter of Conductor (Approx.)	Nominal Insulation Thickness	Nominal Sheath Thickness	Overall Diameter (Approx.)
mm <sup>2</sup>	mm	mm	mm	mm
3x1.5	1.4	0.7	1.8	9.6
3x2.5	1.8	0.7	1.8	10.5
3x4	2.3	0.7	1.8	11.6
3x6	2.8	0.7	1.8	12.6
3x10	3.6	0.7	1.8	14.4
3x16	4.5	0.7	1.8	16.3
3x25	5.6	0.9	1.8	19.5
3x35	6.7	0.9	1.8	21.9
3x50	8	1	1.8	25.1
3x70	9.4	1.1	1.9	28.7
3x95	11	1.1	2	32.4
3x120	12.4	1.2	2.1	36.1
3x150	13.8	1.4	2.3	40.3
3x185	15.3	1.6	2.4	44.6
3x240	17.5	1.7	2.6	50.2
3x300	19.5	1.8	2.7	55.2
3x400	22.6	2	3	63.3

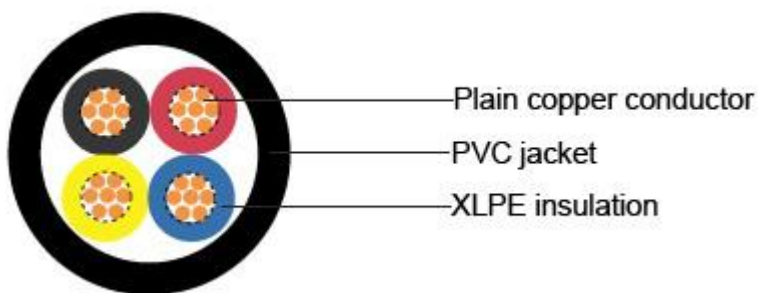
Three cores+1(unarmoured)



Nominal Cross Section	Diameter of Conductor (Approx.)		Nominal Insulation Thickness		Nominal Sheath Thickness	Overall Diameter (Approx.)
	(3)mm	(1)mm	(3)mm	(1)mm		
mm <sup>2</sup>	(3)mm	(1)mm	(3)mm	(1)mm	mm	mm
3x 16/10	4.5	3.6	0.7	0.7	1.8	17.5

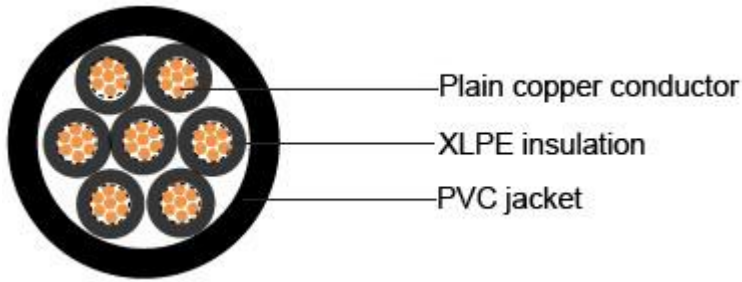
3x 25/16	5.6	4.5	0.9	0.7	1.8	21.2
3x 35/16	6.7	4.5	0.9	0.7	1.8	23.8
3x 50/25	8	5.6	1	0.9	1.8	27.5
3x 70/35	9.4	6.7	1.1	0.9	2	31.7
3x 95/50	11	8	1.1	1	2.1	35.8
3x120/70	12.4	9.4	1.2	1.1	2.3	39.9
3x150/70	13.8	9.4	1.4	1.1	2.4	44.6
3x185/95	15.3	11	1.6	1.1	2.6	49.5
3x240/120	17.5	12.4	1.7	1.2	2.8	55.7
3x300/150	19.5	13.8	1.8	1.4	3	61.4
3x400/185	22.6	15.3	2	1.6	3.2	70.4

Four cores(unarmoured)



Nominal Cross Section	Diameter of Conductor (Approx.)	Nominal Insulation Thickness	Nominal Sheath Thickness	Overall Diameter (Approx.)
mm <sup>2</sup>	mm	mm	mm	mm
4x1.5	1.4	0.7	1.8	10.4
4x2.5	1.8	0.7	1.8	11.3
4x4	2.3	0.7	1.8	12.5
4x6	2.8	0.7	1.8	13.7
4x10	3.6	0.7	1.8	15.7
4x16	4.5	0.7	1.8	17.8
4x25	5.6	0.9	1.8	21.5
4x35	6.7	0.9	1.8	24.1
4x50	8	1	1.8	27.8
4x70	9.4	1.1	2	32
4x95	11	1.1	2.1	36.1
4x120	12.4	1.2	2.3	40.2
4x150	13.8	1.4	2.4	44.9
4x185	15.3	1.6	2.6	49.8
4x240	17.5	1.7	2.8	56

4x300	19.5	1.8	3	61.7
4x400	22.6	2	3.2	70.7



Nominal Cross Section	Diameter of Conductor (Approx.)	Nominal Insulation Thickness	Nominal Sheath Thickness	Overall Diameter (Approx.)
mm <sup>2</sup>	mm	mm	mm	mm
5x1.5	1.4	0.7	1.8	11.2
7x1.5	1.4	0.7	1.8	12
10x1.5	1.4	0.7	1.8	14.8
12x1.5	1.4	0.7	1.8	15.2
14x1.5	1.4	0.7	1.8	16
19x1.5	1.4	0.7	1.8	17.6
21x1.5	1.4	0.7	1.8	18.4
24x1.5	1.4	0.7	1.8	20.4
30x1.5	1.4	0.7	1.8	21.6
40x1.5	1.4	0.7	1.8	26
48x1.5	1.4	0.7	1.8	26.4
61x1.5	1.4	0.7	1.9	29
5x2.5	1.8	0.7	1.8	12.2
7x2.5	1.8	0.7	1.8	13.2
10x2.5	1.8	0.7	1.8	16.4
12x2.5	1.8	0.7	1.8	16.9
14x2.5	1.8	0.7	1.8	17.7
19x2.5	1.8	0.7	1.8	19.6
21x2.5	1.8	0.7	1.8	20.6
24x2.5	1.8	0.7	1.8	22.8
30x2.5	1.8	0.7	1.8	24.1
40x2.5	1.8	0.7	1.9	29.4
48x2.5	1.8	0.7	1.9	29.9
61x2.5	1.8	0.7	2	32.8

