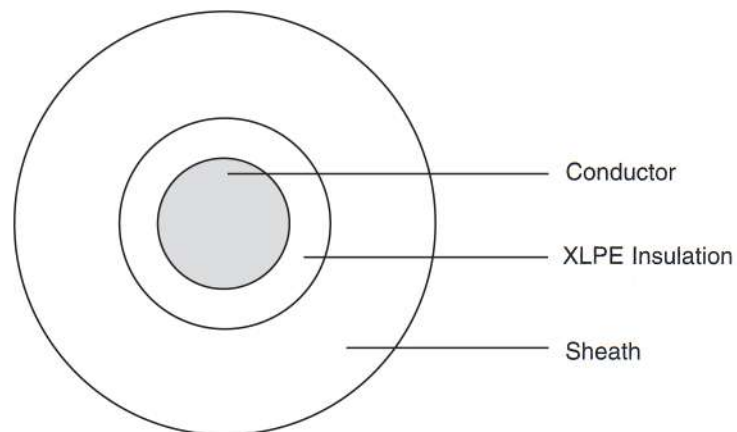


XLPE INSULATED CABLES

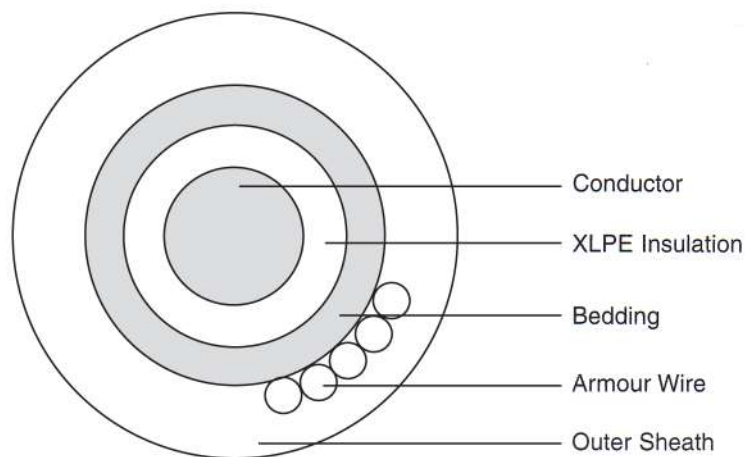
LOW VOLTAGE XLPE CABLES.

600/1000V SINGLE CORE XLPE INSULATED POWER CABLES

UNARMoured CABLES



ARMoured CABLES



BASIC CONSTRUCTION

CONDUCTOR	- COPPER OR ALUMINIUM
CONDUCTOR SHAPE	- ROUND CIRCULAR STRANDED OR COMPACTED CIRCULAR STRANDED
INSULATION	- XLPE
BEDDING	- PVC OR POLYETHYLENE
ARMOUR WIRE	- ALUMINIUM WIRES
SHEATH MATERIAL	- PVC OR POLYETHYLENE

BS 5467
IEC 60502-1

REFERENCE
12A-1N

LOW VOLTAGE XLPE INSULATED POWER CABLES

TABLE 1A SINGLE-CORE 600/1000V UNARMoured CABLES (COPPER CONDUCTOR)

CONDUCTOR		Thickness of Insulation	Thickness of Sheath	Overall Diameter	Approx. Weight	ELECTRICAL CHARACTERISTICS					
Nominal Area	Shape					Current Rating		Conductor Resistance		Reactance at 50Hz	Short Circuit Current for 1 sec
						In Air at 40°C	In Ground at 25°C	dc at 20°C	50Hz at 90°C		
sq. mm		mm	mm	mm	kg/km	amp	amp	Ω/km	Ω/km	Ω/km	kA
50	circular stranded	1.0	1.4	14.0	560	185	205	0.387	0.494	0.0905	7.15
70		1.1	1.4	15.8	770	235	250	0.268	0.342	0.0870	10.0
95		1.1	1.5	17.8	1020	290	295	0.193	0.247	0.0851	13.5
120		1.2	1.5	20.0	1310	340	340	0.153	0.196	0.0837	17.1
150		1.4	1.6	22.2	1600	390	380	0.124	0.160	0.0837	21.4
185	or	1.6	1.6	24.4	1980	455	430	0.0991	0.128	0.0826	26.4
240	circular compacted	1.7	1.7	27.5	2560	545	495	0.0754	0.0988	0.0812	34.3
300		1.8	1.8	30.3	3190	630	560	0.0601	0.0801	0.0801	42.9
400		2.0	1.9	33.9	4040	735	635	0.0470	0.0643	0.0792	57.2
500		2.2	2.0	37.7	5070	850	715	0.0366	0.0521	0.0785	71.5
630		2.4	2.2	42.6	6510	985	800	0.0283	0.0428	0.0776	90.0
800		2.6	2.3	47.5	8250	1150	895	0.0221	0.0363	0.0759	114.0
1000		2.8	2.4	52.6	10330	1280	970	0.0176	0.0317	0.0749	143.0

Black PVC Sheath

BS 5467
IEC 60502-1

REFERENCE
12A-1A

LOW VOLTAGE XLPE INSULATED POWER CABLES

TABLE 1B SINGLE-CORE 600/1000V ARMoured CABLES (COPPER CONDUCTOR)

CONDUCTOR		Thickness of Insulation	Thickness of Extruded Bedding	Nominal of Armour Diameter	Thickness of Outer Sheath	Overall Diameter	Approx. Weight	ELECTRICAL CHARACTERISTICS					
Nominal Area	Shape							Current Rating		Conductor Resistance		Reactance at 50Hz	Short Circuit Current for 1 sec
								In Air at 40°C	In Ground at 25°C	dc at 20°C	50Hz at 90°C		
sq. mm		mm	mm	mm	mm	mm	kg/km	amp	amp	Ω/km	Ω/km	Ω/km	kA
50	circular stranded	1.0	0.8	0.9	1.5	17.3	740	200	205	0.387	0.494	0.113	7.15
70		1.1	0.8	1.25	1.5	19.8	1020	255	250	0.268	0.342	0.107	10.0
95		1.1	0.8	1.25	1.6	21.9	1330	310	300	0.193	0.247	0.102	13.5
120		1.2	0.8	1.25	1.6	24	1610	365	340	0.153	0.196	0.101	17.1
150		1.4	0.8	1.6	1.7	27.1	2030	415	385	0.124	0.159	0.0999	21.4
185	or	1.6	1.0	1.6	1.8	29.6	2460	480	435	0.0991	0.128	0.0975	26.4
240	circular compacted	1.7	1.0	1.6	1.8	32.4	3080	570	500	0.0754	0.0982	0.0946	34.3
300		1.8	1.0	1.6	1.9	35.2	3750	650	565	0.0601	0.0793	0.0920	42.9
400		2.0	1.0	2.0	2.0	40.0	4830	760	635	0.0470	0.0642	0.0923	57.2
500		2.2	1.2	2.0	2.1	44.1	6040	870	715	0.0366	0.0509	0.0903	71.5
630		2.4	1.2	2.0	2.2	48.3	7430	995	800	0.0283	0.0415	0.0878	90.0
800		2.6	1.4	2.5	2.4	54.8	9550	1150	890	0.0221	0.0347	0.0863	114.1
1000		2.8	1.4	2.5	2.5	60.0	11750	1250	940	0.0176	0.0300	0.0847	143.0

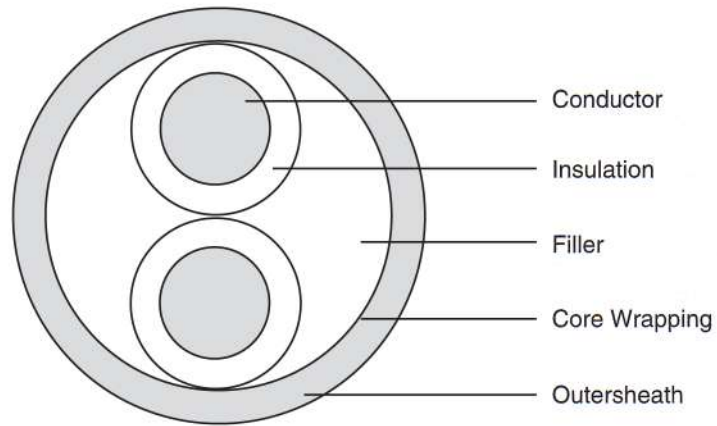
Black PVC Sheath

Armouring: hard drawn Aluminium wire

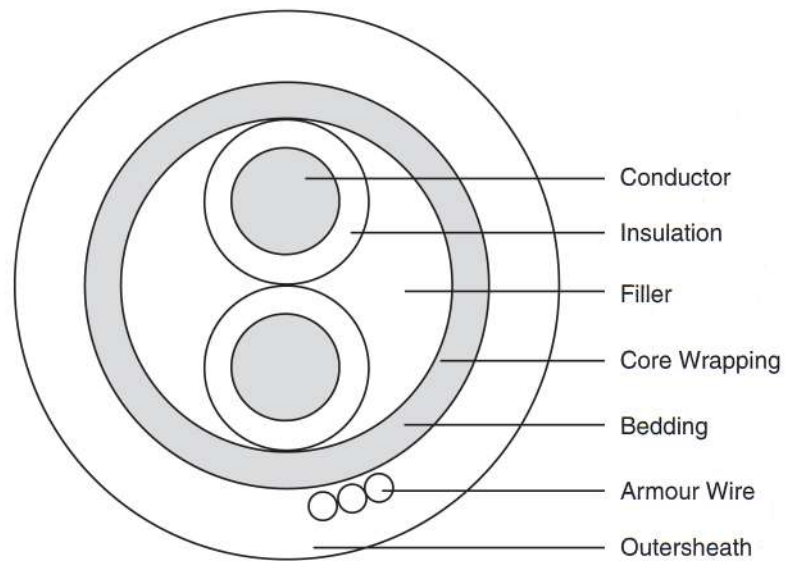
** In case of TAPED BEDDING: The thickness of taped bedding (approximately 0.8mm) need not be checked by measurement

600/1000V TWO-CORE XLPE-INSULATED POWER CABLES

UNARMoured CABLES



ARMoured CABLES



BASIC CONSTRUCTION

CONDUCTOR MATERIAL	- COPPER OR ALUMINIUM
CONDUCTOR SHAPE	- CIRCULAR STRANDED OR COMPACTED CIRCULAR STRANDED
INSULATION	- XLPE
BEDDING	- PVC OR POLYETHYLENE
ARMOUR WIRE	- GALVANISED STEEL WIRES
SHEATH MATERIAL	- PVC OR POLYETHYLENE

BS 5467
IEC 60502-1

REFERENCE
12A-2N

LOW VOLTAGE XLPE INSULATED POWER CABLES

TABLE 2A TWO-CORE 600/1000V UNARMoured CABLES (COPPER CONDUCTOR)

CONDUCTOR		Thickness of Insulation	Thickness of Sheath	Overall Diameter	Approx. Weight	ELECTRICAL CHARACTERISTICS					
Nominal Area	Shape					Current Rating		Conductor Resistance		Reactance	Short Circuit
						In Air at 40°C	In Ground at 25°C	dc at 20°C	50Hz at 90°C	at 50Hz	Current for 1 sec
sq. mm		mm	mm	mm	kg/km	amp	amp	Ω/km	Ω/km	Ω/km	kA
50	circular stranded	1.0	1.8	21.0	1150	205	230	0.387	0.494	0.0651	7.15
70		1.1	1.8	24.0	1545	255	285	0.268	0.342	0.0637	10.0
95		1.1	1.9	26.9	2070	315	340	0.193	0.247	0.0616	13.5
120		1.2	2.0	29.9	2580	370	380	0.153	0.196	0.0613	17.1
150	or	1.4	2.2	33.4	3200	420	435	0.124	0.160	0.0618	21.4
185		1.6	2.3	37.1	3955	485	490	0.0991	0.129	0.0623	26.4
240	circular compacted	1.7	2.5	41.7	5150	580	565	0.0754	0.0993	0.0612	34.3
300		1.8	2.6	45.8	6340	665	640	0.0601	0.0807	0.0605	42.9
400		2.0	2.9	51.6	8150	770	725	0.0470	0.0650	0.0603	57.2

Black PVC Sheath

BS 5467
IEC 60502-1

REFERENCE
12A-2S

LOW VOLTAGE XLPE INSULATED POWER CABLES

TABLE 2B TWO-CORE 600/1000V ARMoured CABLES (COPPER CONDUCTOR)

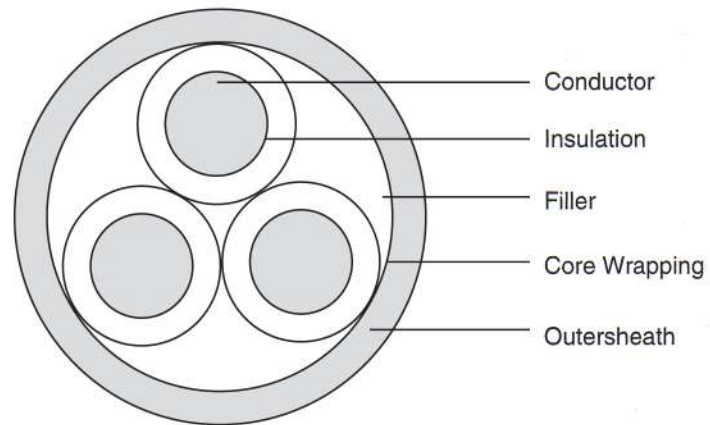
CONDUCTOR		Thickness of Insulation	Thickness of Extruded Bedding	Nominal of Armour Diameter	Thickness of Outer Sheath	Overall Diameter	Approx. Weight	ELECTRICAL CHARACTERISTICS					
Nominal Area	Shape							Current Rating		Conductor Resistance		Reactance at 50Hz	Short Circuit Current for 1 sec
								In Air at 40°C	In Ground at 25°C	dc at 20°C	50Hz at 90°C		
sq. mm		mm	mm	mm	mm	mm	kg/km	amp	amp	Ω/km	Ω/km	Ω/km	kA
50	circular stranded	1.0	1.0	1.6	1.8	26.5	1840	210	230	0.387	0.494	0.0648	7.15
70		1.1	1.0	1.6	1.9	29.5	2450	260	280	0.268	0.342	0.0633	10.0
95		1.1	1.2	2.0	2.0	33.1	3210	315	335	0.193	0.247	0.0612	13.5
120		1.2	1.2	2.0	2.1	36.1	3850	370	380	0.153	0.196	0.0609	17.1
150	or	1.4	1.2	2.0	2.2	39.3	4650	425	425	0.124	0.160	0.0618	21.4
185		1.6	1.4	2.5	2.4	44.7	5880	485	480	0.0991	0.129	0.0623	26.4
240	circular compacted	1.7	1.4	2.5	2.5	49.0	7300	570	555	0.0754	0.0993	0.0612	34.3
300		1.8	1.6	2.5	2.6	53.5	8740	650	620	0.0601	0.0807	0.0605	42.9
400		2.0	1.6	2.5	2.8	59.0	11000	745	695	0.0470	0.0650	0.0603	57.2

Black PVC Sheath

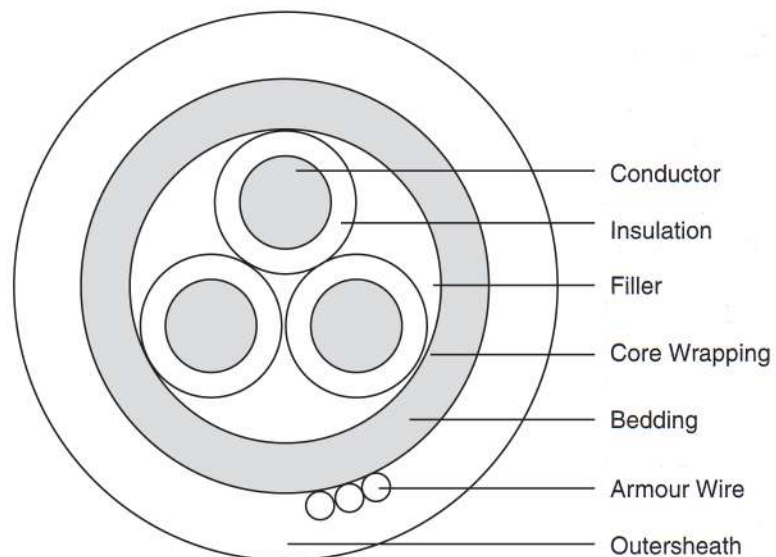
** In case of TAPED BEDDING: The thickness of taped bedding (approximately 0.8mm) need not be checked by measurement

600/1000V THREE CORE XLPE INSULATED POWER CABLES

UNARMoured CABLES



ARMoured CABLES



BASIC CONSTRUCTION

CONDUCTOR MATERIAL	- COPPER OR ALUMINIUM
CONDUCTOR SHAPE	- CIRCULAR STRANDED OR COMPACTED CIRCULAR STRANDED
INSULATION	- XLPE
BEDDING	- PVC OR POLYETHYLENE
ARMOUR WIRE	- GALVANISED STEEL WIRES
SHEATH MATERIAL	- PVC OR POLYETHYLENE

BS 5467
IEC 60502-1

REFERENCE
12A-3N

LOW VOLTAGE XLPE INSULATED POWER CABLES

TABLE 3A THREE-CORE 600/1000V UNARMoured CABLES (COPPER CONDUCTOR)

CONDUCTOR		Thickness of Insulation	Thickness of Sheath	Overall Diameter	Approx. Weight	ELECTRICAL CHARACTERISTICS					
Nominal Area	Shape					Current Rating		Conductor Resistance		Reactance at 50Hz	Short Circuit Current for 1 sec
						In Air at 40°C	In Ground at 25°C	dc at 20°C	50Hz at 90°C		
sq. mm		mm	mm	mm	kg/km	amp	amp	Ω/km	Ω/km	Ω/km	kA
50	circular stranded	1.0	1.8	24.0	1600	175	195	0.387	0.494	0.0651	7.15
70		1.1	1.9	27.5	2260	220	235	0.268	0.342	0.0637	10.0
95		1.1	2.0	31.0	3035	265	285	0.193	0.247	0.0616	13.5
120		1.2	2.1	34.2	3790	300	325	0.153	0.196	0.0613	17.1
150	or	1.4	2.2	37.9	4700	350	365	0.124	0.160	0.0618	21.4
185		1.6	2.4	42.5	5810	410	410	0.0991	0.129	0.0623	26.4
240	circular	1.7	2.6	47.8	7600	480	475	0.0754	0.0996	0.0612	34.3
300	compacted	1.8	2.7	52.6	9350	570	535	0.0601	0.0809	0.0605	42.9

Black PVC Sheath

BS 5467
IEC 60502-1

REFERENCE
12A-3S

LOW VOLTAGE XLPE INSULATED POWER CABLES

TABLE 3B THREE-CORE 600/1000V ARMoured CABLES (COPPER CONDUCTOR)

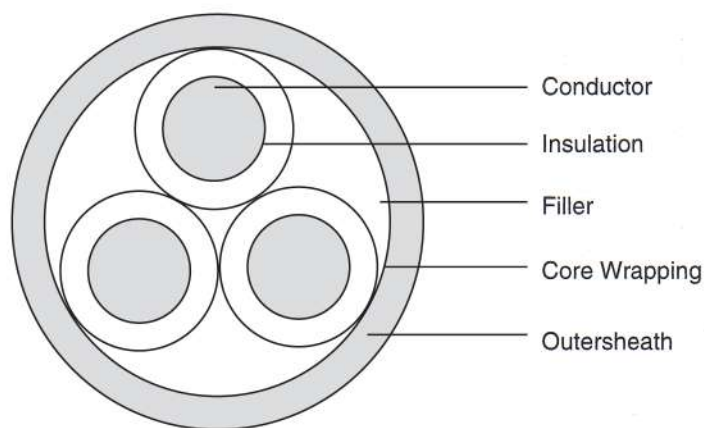
CONDUCTOR		Thickness of Insulation	Thickness of Extruded Bedding	Nominal of Armour Diameter	Thickness of Outer Sheath	Overall Diameter	Approx. Weight	ELECTRICAL CHARACTERISTICS					
Nominal Area	Shape							Current Rating		Conductor Resistance		Reactance at 50Hz	Short Circuit Current for 1 sec
								In Air at 40°C	In Ground at 25°C	dc at 20°C	50Hz at 90°C		
sq. mm		mm	mm	mm	mm	mm	kg/km	amp	amp	Ω/km	Ω/km	Ω/km	kA
50	circular stranded	1.0	1.0	1.6	1.8	29.5	2450	175	190	0.387	0.494	0.0648	7.15
70		1.1	1.0	1.6	1.9	34.0	3440	220	235	0.268	0.342	0.0633	10.0
95		1.1	1.2	2.0	2.1	37.5	4380	265	285	0.193	0.247	0.0612	13.5
120		1.2	1.2	2.0	2.2	40.0	5250	300	325	0.153	0.196	0.0609	17.1
150	or	1.4	1.4	2.5	2.3	45.0	6680	350	365	0.124	0.160	0.0618	21.4
185		1.6	1.4	2.5	2.4	49.5	8050	410	410	0.0991	0.129	0.0623	26.4
240	circular	1.7	1.4	2.5	2.6	55.0	10180	480	480	0.0754	0.0996	0.0612	34.3
300	compacted	1.8	1.6	2.5	2.7	59.5	12150	570	570	0.0601	0.0809	0.0605	42.9

Black PVC Sheath

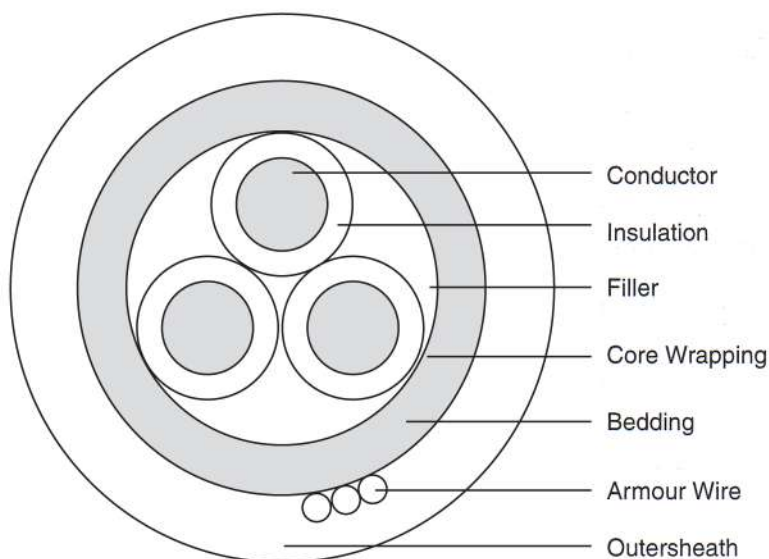
** In case of TAPED BEDDING: The thickness of taped bedding (approximately 0.8mm) need not be checked by measurement

600/1000V THREE CORE XLPE INSULATED POWER CABLES

UNARMoured CABLES



ARMoured CABLES



BASIC CONSTRUCTION

CONDUCTOR MATERIAL	- COPPER OR ALUMINIUM
CONDUCTOR SHAPE	- CIRCULAR STRANDED OR COMPACTED CIRCULAR STRANDED
INSULATION	- XLPE
BEDDING	- PVC OR POLYETHYLENE
ARMOUR WIRE	- GALVANISED STEEL WIRES
SHEATH MATERIAL	- PVC OR POLYETHYLENE

BS 5467
IEC 60502-1

REFERENCE
12A-4N

LOW VOLTAGE XLPE INSULATED POWER CABLES

TABLE 4A FOUR-CORE 600/1000V UNARMoured CABLES (COPPER CONDUCTOR)

CONDUCTOR		Thickness of Insulation	Thickness of Sheath	Overall Diameter	Approx. Weight	ELECTRICAL CHARACTERISTICS					
Nominal Area	Shape					Current Rating		Conductor Resistance		Reactance at 50Hz	Short Circuit Current for 1 sec
						In Air at 40°C	In Ground at 25°C	dc at 20°C	50Hz at 90°C		
sq. mm		mm	mm	mm	kg/km	amp	amp	Ω/km	Ω/km	Ω/km	kA
16	circular compacted	0.7	1.8	18.4	820	88	100	1.15	1.47	0.0761	2.28
25		0.9	1.8	26.9	1440	115	135	0.727	0.927	0.0683	3.57
35		0.9	1.8	29.5	1880	140	160	0.524	0.669	0.0656	5.00
50		1.0	1.8	33.3	2470	175	195	0.387	0.494	0.0651	7.15
70		1.1	2.0	38.8	3480	220	235	0.268	0.342	0.0637	10.0
95	or	1.1	2.1	44.2	4600	265	285	0.193	0.247	0.0616	13.5
120	shaped stranded	1.2	2.2	49.5	5900	300	325	0.153	0.196	0.0613	17.1
150		1.4	2.4	55.0	7250	350	365	0.124	0.160	0.0618	21.4
185		1.6	2.6	61.4	9080	410	410	0.0991	0.129	0.0623	26.4
240		1.7	2.8	69.2	11790	480	475	0.0754	0.0996	0.0612	34.3
300		1.8	3.0	79.6	14680	570	535	0.0601	0.0809	0.0605	42.9
400		2.0	3.2	85.2	18440	660	610	0.0470	0.0653	0.0603	57.2

Black PVC Sheath

BS 5467
IEC 60502-1

REFERENCE
12A-4S

LOW VOLTAGE XLPE INSULATED POWER CABLES

TABLE 4B FOUR-CORE 600/1000V ARMoured CABLES (COPPER CONDUCTOR)

CONDUCTOR		Thickness of Insulation	Thickness of Extruded Bedding	Nominal of Armour Diameter	Thickness of Outer Sheath	Overall Diameter	Approx. Weight	ELECTRICAL CHARACTERISTICS					
Nominal Area	Shape							Current Rating		Conductor Resistance		Reactance	Short Circuit
								In Air at 40°C	In Ground at 25°C	dc at 20°C	50Hz at 90°C	at 50Hz	Current for 1 sec
sq. mm		mm	mm	mm	mm	mm	kg/km	amp	amp	Ω/km	Ω/km	Ω/km	kA
1.5	circular stranded	0.7	0.8	0.9	1.4	13.1	380	23	29	12.1	15.4	0.1010	0.21
2.5		0.7	0.8	0.9	1.4	14.6	480	29	37	7.41	9.45	0.0930	0.36
4		0.7	0.8	0.9	1.4	15.9	580	38	49	4.61	5.88	0.0871	0.57
6		0.7	0.8	1.25	1.5	18.2	830	48	61	3.08	3.93	0.0828	0.85
10	or	0.7	0.8	1.25	1.5	20.4	1080	66	81	1.83	2.33	0.0780	1.42
16		0.7	0.8	1.25	1.6	21.4	1420	88	100	1.15	1.47	0.0761	2.28
25	circular compacted	0.9	1.0	1.6	1.7	25.4	1970	115	135	0.727	0.927	0.0679	3.57
35		0.9	1.0	1.6	1.8	27.9	2500	140	160	0.524	0.669	0.0652	5.00
50	or shaped stranded	1.0	1.0	1.6	1.9	30.8	3130	175	190	0.387	0.494	0.0648	7.15
70		1.1	1.2	2.0	2.1	36.1	4460	220	235	0.268	0.342	0.0633	10.0
95		1.1	1.2	2.0	2.2	40.0	5600	265	285	0.193	0.247	0.0612	13.5
120		1.2	1.4	2.5	2.3	45.0	7350	300	325	0.153	0.196	0.0609	17.1
150		1.4	1.4	2.5	2.4	49.2	8750	350	365	0.124	0.160	0.0618	21.4
185		1.6	1.4	2.5	2.6	53.7	10530	410	410	0.0991	0.129	0.0623	26.4
240		1.7	1.6	2.5	2.7	59.5	13230	480	475	0.0754	0.0996	0.0612	34.3
300	1.8	1.6	2.5	2.9	65.6	16100	570	535	0.0601	0.0809	0.0605	42.9	
400	2.0	1.8	3.15	3.2	79.3	21760	655	605	0.0470	0.0653	0.0603	57.2	

Colours for core identification: red, yellow, blue and black

Black PVC Sheath

** In case of TAPED BEDDING: The thickness of taped bedding (approximately 0.8mm) need not be checked by measurement

**TNB
SPECIFICATION**

**REFERENCE
T13-4S**

LOW VOLTAGE XLPE INSULATED POWER CABLES

TABLE 4C FOUR-CORE 600/1000V ARMOURED CABLES (ALUMINIUM CONDUCTOR)

Nominal Area of Conductors	Thickness of Insulation	Thickness of Extruded Bedding	Nominal of Armour Diameter	Thickness of Outer Sheath	Overall Diameter	Approx. Weight	ELECTRICAL CHARACTERISTICS					
							Current Rating		Conductor Resistance		Reactance at 50Hz	Voltage Drop
							In Air at 40°C	In Ground at 25°C	dc at 20°C	50Hz at 90°C		
sq. mm	mm	mm	mm	mm	mm	kg/km	amp	amp	Ω/km	Ω/km	Ω/km	mV
25	0.9	1.2	1.6	1.8	29.9	1530	89	104	1.20	1.54	0.079	2.7
70	1.1	1.2	2.0	2.2	40.5	2880	166	180	0.443	0.568	0.075	0.99
120	1.2	1.3	2.5	2.5	48.8	4470	238	248	0.253	0.325	0.073	0.58
185	1.6	1.5	2.5	2.8	58.4	6060	315	315	0.164	0.211	0.073	0.39
300	1.8	1.7	2.5	3.3	71.6	9290	434	414	0.100	0.13	0.072	0.26

Core colour identification: Natural coloured insulation with red, yellow, blue and black tapes
Black PVC Sheath

**TNB
SPECIFICATION**

**REFERENCE
T13-4C**

LOW VOLTAGE XLPE INSULATED POWER CABLES

TABLE 4D FOUR-CORE 600/1000V COPPER TAPES SCREENED CABLES (ALUMINIUM CONDUCTOR)

Nominal Area of Conductors	Thickness of Insulation	Thickness of Extruded Bedding	Thickness of Outer Sheath	Overall Diameter	Approx. Weight	ELECTRICAL CHARACTERISTICS					
						Current Rating		Conductor Resistance		Reactance at 50Hz	Voltage Drop
						In Air at 40°C	In Ground at 25°C	dc at 20°C	50Hz at 90°C		
sq. mm	mm	mm	mm	mm	kg/km	amp	amp	Ω/km	Ω/km	Ω/km	mV
25	0.9	1.0	1.7	25.2	820	89	104	1.20	1.54	0.079	2.7
70	1.1	1.2	2.1	36.6	1725	166	180	0.443	0.568	0.075	0.99
120	1.2	1.3	2.4	45.9	2700	238	248	0.253	0.325	0.073	0.58
185	1.6	1.5	2.7	56.4	4020	315	315	0.164	0.211	0.073	0.39
300	1.8	1.7	3.1	69.0	6100	434	414	0.100	0.13	0.072	0.26

Core colour identification: red, yellow, blue and black
Black PE Sheath

* Copper Tapes shall be applied over the bedding