MEDIUM VOLTAGE CABLES

PRODUCT CATALOGUE

Tai Sin®

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INTRODUCTION

Tai Sin Electric Limited ("Tai Sin") was founded in 1980 as a cable manufacturing company and has since expanded and diversified to become the Tai Sin Group of Companies, listed on the Main Board of the Singapore Stock Exchange (SGX). Over the years, our product portfolio has grown to include busbar trunking systems, branch cable systems and distribution transformers, allowing us to meet a wide variety of electrical power distribution needs.

Tai Sin has built a reputation for manufacturing quality cables and wires, not just in Singapore, but also throughout Southeast Asia. Our dedication to quality is reflected in our ISO 9001, ISO 14001, ISO 45001, bizSAFE STAR and KEMA KEUR certifications, which attest to our commitment to safety, environmental guidelines, and product excellence.

In addition to our main office and factories located in Singapore, Malaysia, and Vietnam, Tai Sin has sales offices and a network of distributors across Southeast Asia, including Brunei, Cambodia, Indonesia, Myanmar, and Thailand. We work closely with our distributors to provide fast and reliable service to our customers, maintaining our reputation as a trusted supplier in the region.

At Tai Sin, we understand the importance of innovation and technology, which is why we are constantly exploring new solutions to meet the evolving needs of our customers. We are passionate about creating a better world for future generations and believe that sustainability and social responsibility are integral to our business philosophy.

Tai Sin's Quality, Environmental, and Occupational Health & Safety Management Systems are solid testimonies to our commitment to achieving excellent quality in both our manufacturing process and products, while ensuring the welfare of our employees. We believe that success is not just about profits but also about making a positive impact on society, which is why we strive to be a socially responsible corporate citizen in all that we do.

We are proud to be part of a community of forward-thinking organizations that are dedicated to creating a better future. Our sound business philosophy of providing quality products using leading edge technology, backed by unfailing excellence in customer service and faster turnaround time to maintain customer loyalty, has allowed us to steadily grow and succeed. These beliefs and values give us the strength and confidence to continue to excel and innovate in the future.

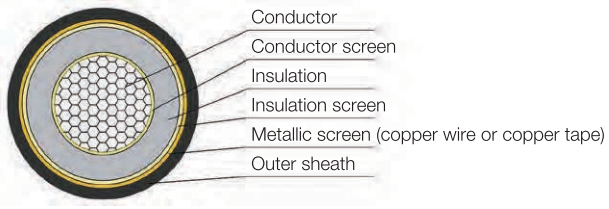
Singapore

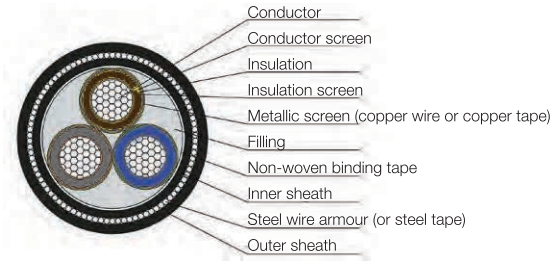
Malaysia

Vietnam

MV CABLES DESIGN & CONSTRUCTION

6.6 ~ 33 kV XLPE insulated PVC or LSZH sheathed cable construction





Single core and three core cables consist of the following components:

Conductor

Conductors are made of either copper or aluminium. Conductor design is usually circular stranded and compacted. Our conductor design is in compliance with the requirements of IEC 60228 and BS EN60228.

Conductor Screen

Conductor screen is non-metallic, extruded layer of semi conducting polyethylene to minimize electrical stresses due to the configuration of the stranded conductor.

Insulation

Cross-linked polyethylene (XLPE) insulation is as per IEC 60502-2. Triple extrusion process of inner semi-conductor screen, XLPE insulation and outer semi-conductor screen are applied. XLPE insulation is dry cured.

Insulation Screen

Insulation screen is non-metallic, extruded layer of semi conducting polyethylene to eliminate tangential and longitudinal stresses on the insulation surface.

Metallic Screen

The metallic screen is normally made of copper tape. Metallic screen can be of copper wires or combination of copper wires and tape, is available upon request.

Assembly

For three core cable - 3 insulated cores are laid together with interstices filled up by Polypropylene (PP) yarn fillers. A non-woven binder tape will be wrapped onto the practically round assembled core.

Inner Sheath

Cable inner sheath is made of extruded layer of PVC or low smoke halogen free (LSZH) material.

Armouring

Armouring is either aluminium material for single core or steel material for three core cables. Armouring can be either in wire or tape form.

Outer Sheath

Cable outer sheath is made of extruded layer of PVC or low smoke halogen free (LSZH) flame retardant polyolefin with anti-termite additives.

Testing of Medium Voltage Cable

All cables will go through the standard routine tests in accordance to IEC 60502-2 before delivery.

Routine Tests

Measurements of the Electrical Resistance of conductors
Partial Discharge Test
High Voltage Test

Sample Test

Conductor Examination
Check of Dimensions
Hot Set Test for XLPE Insulations

MV STANDARDS

Cable structure

Samples of 6.6～33 kV cross-linked polyethylene (XLPE) insulated polyvinyl-chloride (PVC) or low smoke zero halogen (LSZH) flame retardant sheathed cables

6.6~33 kV XLPE INSULATED POWER CABLE

Standards

General Types: IEC60502-2	equivalent to DIN VDE0276, BS7835 and BS6622
Flame retardant types: IEC60332	equivalent to DIN VDE0472-804 and BS4066
LSZH types: IEC60754, IEC61034	equivalent to DIN VDE0472-813, DIN VDE0472-816, BS6425, and BS7622

Conductor operating temperature	:	90 °C
Max. Short circuit temperature	:	250 °C,
Max. Duration	:	5s.

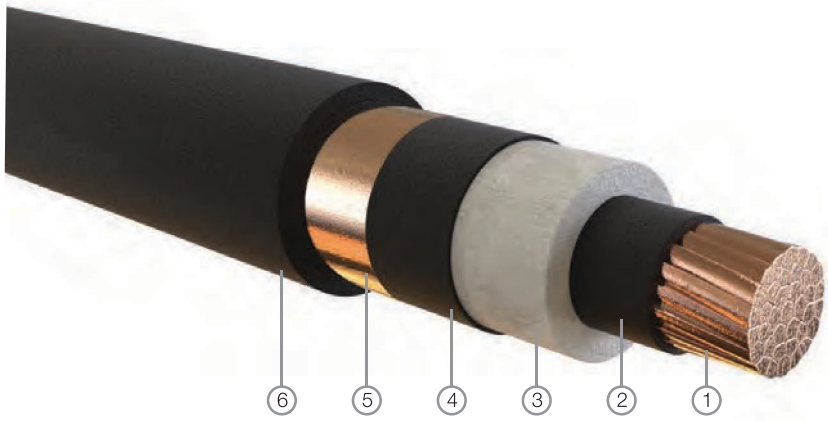
Voltage adopted:	Unit: kV
Rated power frequency voltage between conductors (U)	Maximum voltage of equipment (Um)
6.6	7.2
11	12
15	17.5
22	24
33	36

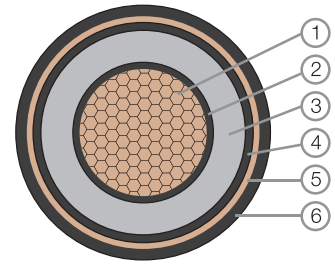
Minimum installation bending radius:		
	PVC sheathed MV cables	LSZH sheathed MV cables
Single-core cable	12D	12D
Multi-core cable	8D	8D

Note: D=Cable outer diameter, mm

XCTP Cu/XLPE/CTS/PVC (Single Core)

XLPE Insulated, PVC Sheathed Cable 3.8/6.6KV (Max 7.2), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded semi conductive compound
Metallic Screen:	Copper Tape Screen
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	3.8/6.6KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

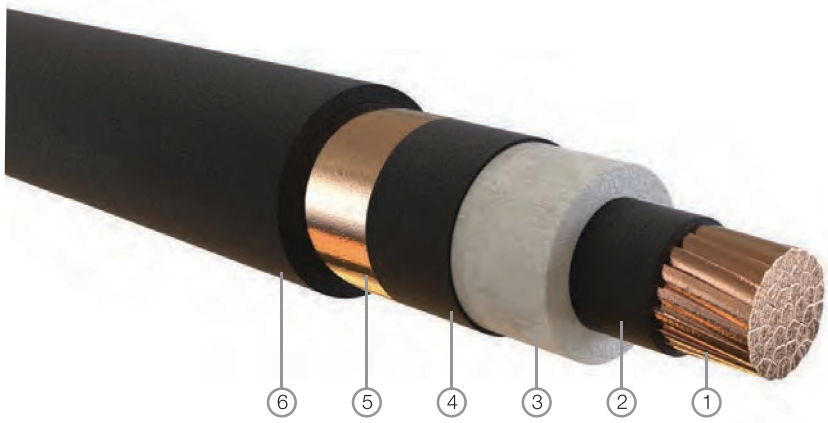
Cu/XLPE/CTS/PVC (Single Core)

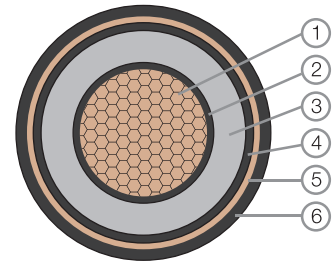
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	2.5	1.8	23	1,050
95	11.4	821	2.5	1.8	24	1,350
120	12.9	1,035	2.5	1.8	26	1,640
150	14.3	1,277	2.5	1.8	27	1,850
185	16.0	1,601	2.5	1.8	29	2,200
240	18.4	2,105	2.6	1.9	32	2,800
300	20.6	2,640	2.8	2.0	35	3,400
400	23.3	3,383	3.0	2.1	38	4,400
500	26.3	4,272	3.2	2.2	41	5,400
630	30.0	5,618	3.2	2.3	47	6,900
800	34.2	7,286	3.2	2.4	51	8,600
1,000	38.2	9,046	3.2	2.6	57	10,600
1,200	43.0	10,860	3.2	2.8	61	12,600

Table 1

XCTP Cu/XLPE/CTS/PVC (Single Core)

XLPE Insulated, PVC Sheathed Cable 6.35/11KV (Max 12), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded semi conductive compound
Metallic Screen:	Copper Tape Screen
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	6.35/11KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

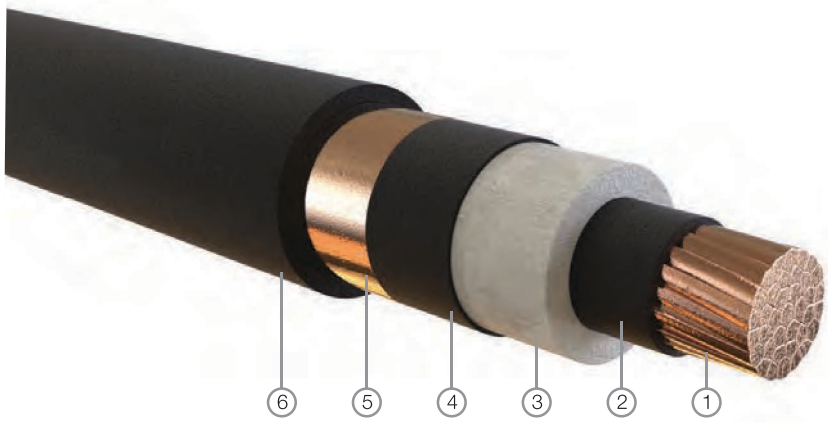
Cu/XLPE/CTS/PVC (Single Core)

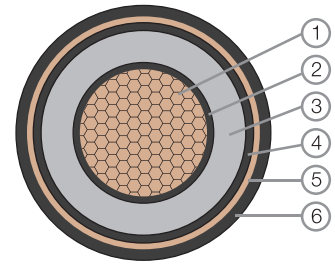
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	3.4	1.8	26	1,090
95	11.4	821	3.4	1.8	27	1,370
120	12.9	1,035	3.4	1.8	29	1,650
150	14.3	1,277	3.4	1.8	30	1,900
185	16.0	1,601	3.4	1.9	32	2,300
240	18.4	2,105	3.4	2.0	35	2,900
300	20.6	2,640	3.4	2.0	39	3,500
400	23.3	3,383	3.4	2.1	42	4,500
500	26.3	4,272	3.4	2.2	45	5,500
630	30.0	5,618	3.4	2.3	49	7,000
800	34.2	7,286	3.4	2.5	53	8,700
1,000	38.2	9,046	3.4	2.6	57	10,700
1,200	43.0	10,860	3.4	2.8	63	12,700

Table 2

XCTP Cu/XLPE/CTS/PVC (Single Core)

XLPE Insulated, PVC Sheathed Cable 8.7/15KV (Max 17.5), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded semi conductive compound
Metallic Screen:	Copper Tape Screen
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	8.7/15KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

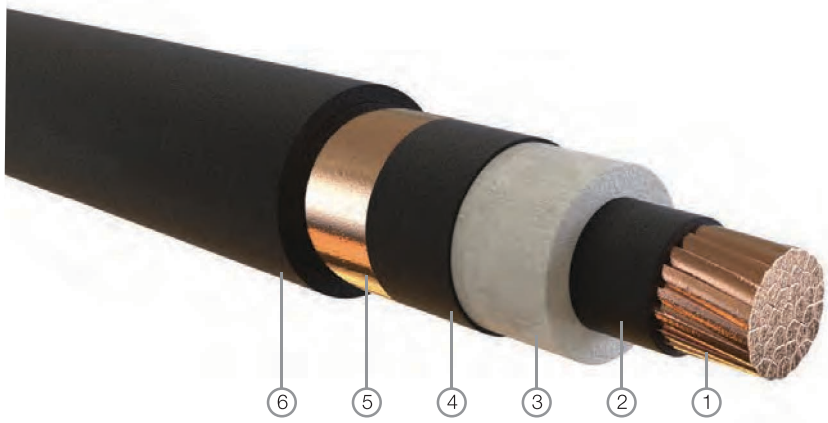
Cu/XLPE/CTS/PVC (Single Core)

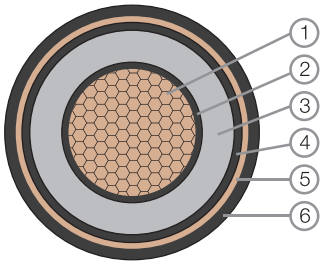
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	4.5	1.8	29	1,200
95	11.4	821	4.5	1.8	31	1,490
120	12.9	1,035	4.5	1.9	32	1,750
150	14.3	1,277	4.5	1.9	34	2,100
185	16.0	1,601	4.5	2.0	36	2,450
240	18.4	2,105	4.5	2.0	38	3,050
300	20.6	2,640	4.5	2.1	42	3,650
400	23.3	3,383	4.5	2.2	45	4,600
500	26.3	4,272	4.5	2.3	48	5,600
630	30.0	5,618	4.5	2.4	52	7,200
800	34.2	7,286	4.5	2.5	56	8,900
1,000	38.2	9,046	4.5	2.7	61	10,900
1,200	43.0	10,860	4.5	2.9	66	13,000

Table 3

XCTP Cu/XLPE/CTS/PVC (Single Core)

XLPE Insulated, PVC Sheathed Cable 12.7/22KV (Max 24), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded semi conductive compound
Metallic Screen:	Copper Tape Screen
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	12.7/22KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

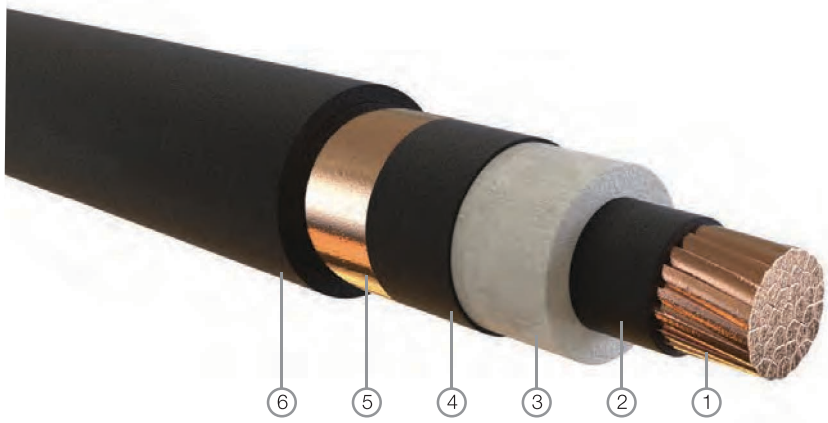
Cu/XLPE/CTS/PVC (Single Core)

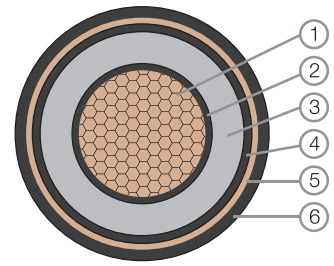
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	5.5	1.8	31	1,300
95	11.4	821	5.5	1.9	33	1,600
120	12.9	1,035	5.5	1.9	34	1,900
150	14.3	1,277	5.5	2.0	36	2,300
185	16.0	1,601	5.5	2.0	38	2,700
240	18.4	2,105	5.5	2.1	40	3,300
300	20.6	2,640	5.5	2.2	44	3,900
400	23.3	3,383	5.5	2.3	47	4,900
500	26.3	4,272	5.5	2.4	50	5,900
630	30.0	5,618	5.5	2.5	54	7,400
800	34.2	7,286	5.5	2.6	59	9,100
1,000	38.2	9,046	5.5	2.7	63	11,200
1,200	43.0	10,860	5.5	2.9	68	13,100

Table 4

XCTP Cu/XLPE/CTS/PVC (Single Core)

XLPE Insulated, PVC Sheathed Cable 19/33KV (Max 36), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded semi conductive compound
Metallic Screen:	Copper Tape Screen
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	19/33KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

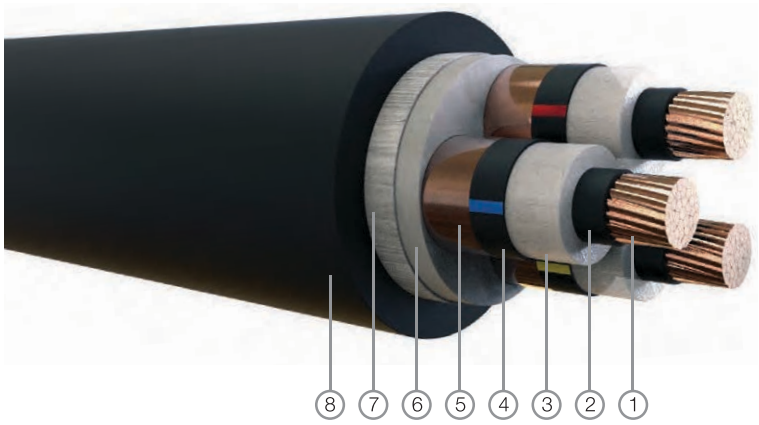
Cu/XLPE/CTS/PVC (Single Core)

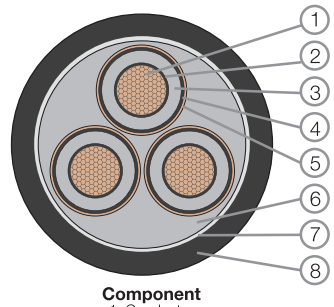
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	8.0	2.0	36	1,650
95	11.4	821	8.0	2.1	38	2,000
120	12.9	1,035	8.0	2.1	40	2,350
150	14.3	1,277	8.0	2.1	41	2,650
185	16.0	1,601	8.0	2.2	43	3,100
240	18.4	2,105	8.0	2.3	46	3,700
300	20.6	2,640	8.0	2.3	49	4,400
400	23.3	3,383	8.0	2.5	53	5,400
500	26.3	4,272	8.0	2.5	56	6,550
630	30.0	5,618	8.0	2.7	60	8,000
800	34.2	7,286	8.0	2.8	64	9,700
1,000	38.2	9,046	8.0	2.9	68	11,800
1,200	43.0	10,860	8.0	3.0	73	14,500

Table 5

XCTP Cu/XLPE/CTS/PVC (Three Core)

XLPE Insulated, PVC Sheathed Cable 3.8/6.6KV (Max 7.2), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Yarn fillers
7. Binder tape
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	3.8/6.6KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

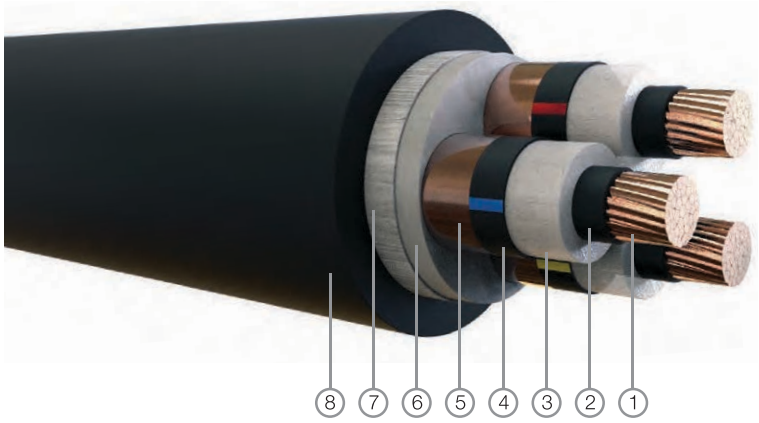
Cu/XLPE/CTS/PVC (Three Core)

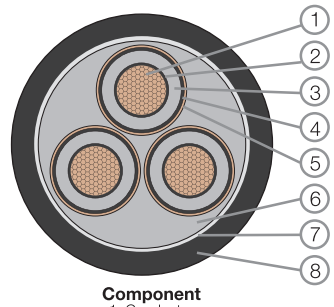
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	2.5	2.2	44	2,800
70	9.7	1,808	2.5	2.3	48	3,500
95	11.4	2,512	2.5	2.5	52	4,400
120	12.9	3,167	2.5	2.6	55	5,300
150	14.3	3,907	2.5	2.7	59	6,300
185	16.0	4,899	2.5	2.8	62	7,300
240	18.4	6,441	2.6	3.0	68	9,300
300	20.6	8,078	2.8	3.2	78	11,200
400	23.3	10,351	3.0	3.4	85	14,700

Table 6

XCTP Cu/XLPE/CTS/PVC (Three Core)

XLPE Insulated, PVC Sheathed Cable 6.35/11KV (Max 12), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Yarn fillers
7. Binder tape
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	6.35/11KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

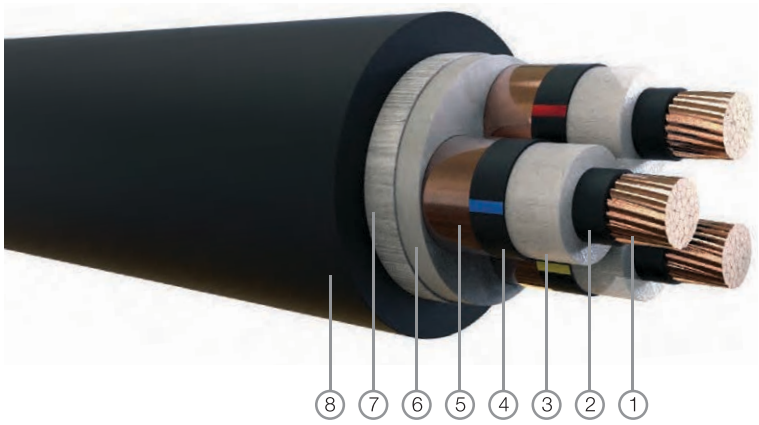
Cu/XLPE/CTS/PVC (Three Core)

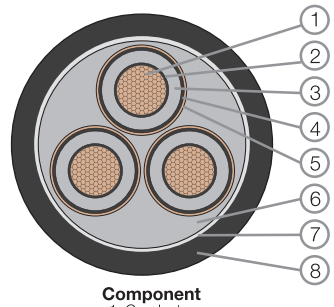
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	3.4	2.4	48	3,000
70	9.7	1,808	3.4	2.5	52	3,800
95	11.4	2,512	3.4	2.6	56	4,500
120	12.9	3,167	3.4	2.7	59	5,600
150	14.3	3,907	3.4	2.8	63	6,500
185	16.0	4,899	3.4	2.9	67	7,800
240	18.4	6,441	3.4	3.1	72	9,700
300	20.6	8,078	3.4	3.3	81	12,000
400	23.3	10,351	3.4	3.5	87	15,000

Table 7

XCTP Cu/XLPE/CTS/PVC (Three Core)

XLPE Insulated, PVC Sheathed Cable 8.7/15KV (Max 17.5), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Yarn fillers
7. Binder tape
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	8.7/15KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

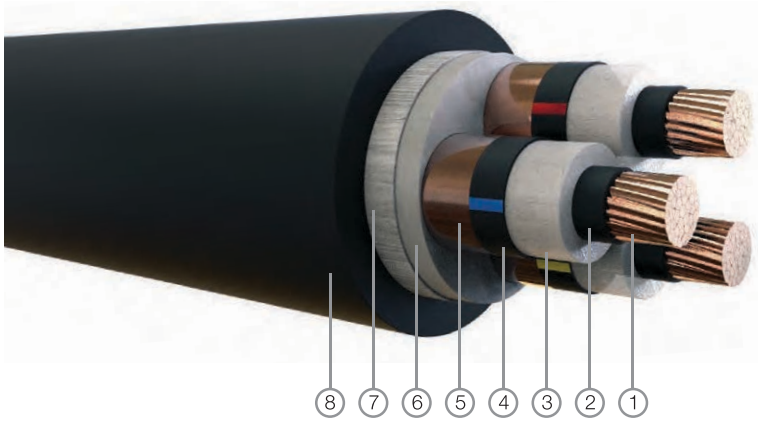
Cu/XLPE/CTS/PVC (Three Core)

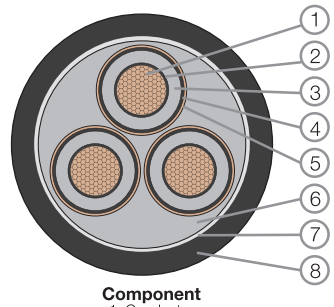
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	4.5	2.6	53	3,500
70	9.7	1,808	4.5	2.7	57	4,200
95	11.4	2,512	4.5	2.8	60	5,200
120	12.9	3,167	4.5	2.9	64	6,100
150	14.3	3,907	4.5	3.0	67	7,200
185	16.0	4,899	4.5	3.1	71	8,300
240	18.4	6,441	4.5	3.3	77	10,100
300	20.6	8,078	4.5	3.4	85	12,500
400	23.3	10,351	4.5	3.7	91	15,500

Table 8

XCTP Cu/XLPE/CTS/PVC (Three Core)

XLPE Insulated, PVC Sheathed Cable 12.7/22KV (Max 24), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Yarn fillers
7. Binder tape
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	12.7/22KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

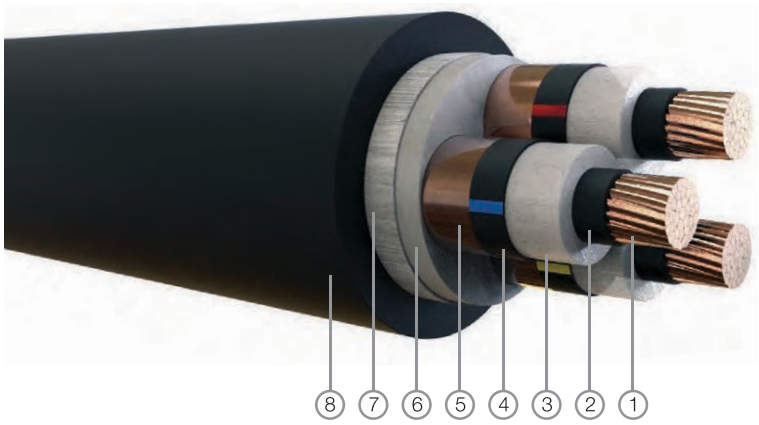
Cu/XLPE/CTS/PVC (Three Core)

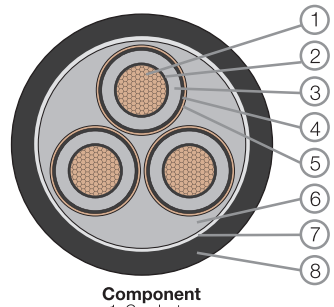
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	5.5	2.7	57	3,900
70	9.7	1,808	5.5	2.8	61	4,600
95	11.4	2,512	5.5	2.9	65	5,500
120	12.9	3,167	5.5	3.0	68	6,400
150	14.3	3,907	5.5	3.1	72	7,600
185	16.0	4,899	5.5	3.3	76	9,000
240	18.4	6,441	5.5	3.4	81	11,000
300	20.6	8,078	5.5	3.6	90	13,500
400	23.3	10,351	5.5	3.8	96	16,000

Table 9

XCTP Cu/XLPE/CTS/PVC (Three Core)

XLPE Insulated, PVC Sheathed Cable 19/33KV (Max 36), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Yarn fillers
7. Binder tape
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	19/33KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

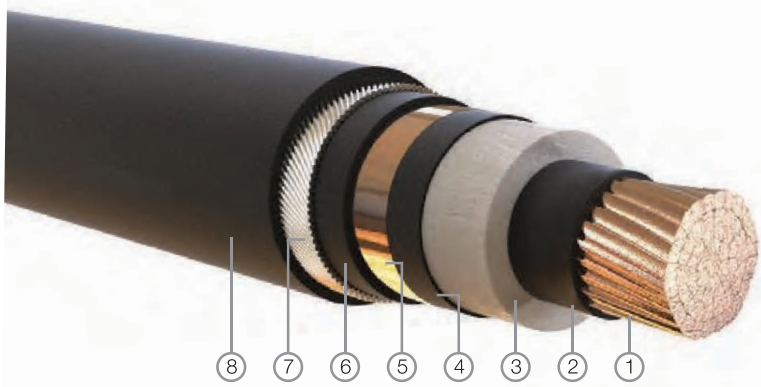
Cu/XLPE/CTS/PVC (Three Core)

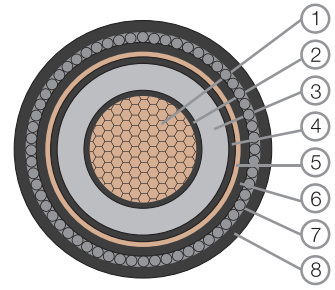
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	8.0	3.1	69	5,100
70	9.7	1,808	8.0	3.2	73	6,000
95	11.4	2,512	8.0	3.3	77	7,000
120	12.9	3,167	8.0	3.4	80	8,000
150	14.3	3,907	8.0	3.5	83	9,100
185	16.0	4,899	8.0	3.6	87	10,500
240	18.4	6,441	8.0	3.8	93	12,500
300	20.6	8,078	8.0	4.0	101	15,500
400	23.3	10,351	8.0	4.2	108	18,300

Table 10

XCTAP Cu/XLPE/CTS/PVC/AWA/PVC (Single Core)

XLPE Insulated, PVC Bedded, Aluminium Wire Armoured, PVC Sheathed Cable
3.8/6.6KV (Max 7.2), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Inner sheath
7. Armour
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Aluminium Wire Armour (AWA) (DATA upon request)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	3.8/6.6KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

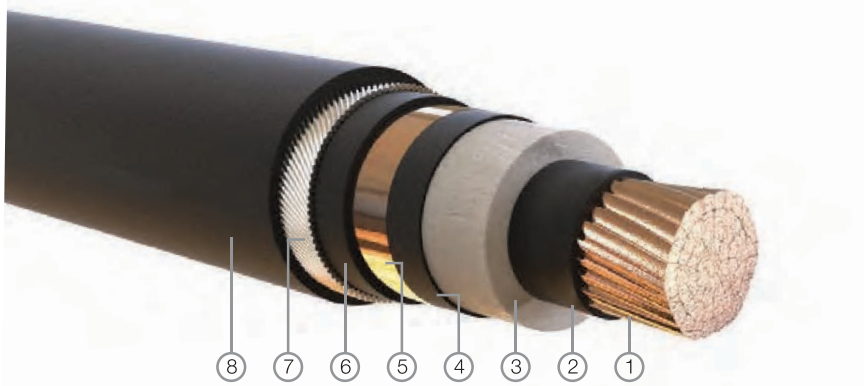
Cu/XLPE/CTS/AWA/PVC (Single Core)

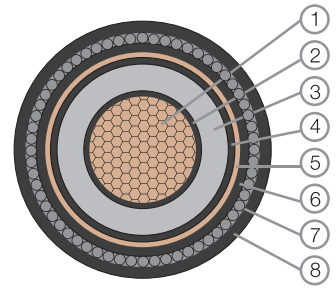
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	2.5	1.2	1.6	1.8	29	1,300
95	11.4	821	2.5	1.2	1.6	1.9	30	1,600
120	12.9	1,035	2.5	1.2	1.6	1.9	32	1,900
150	14.3	1,277	2.5	1.2	1.6	2.0	34	2,300
185	16.0	1,601	2.5	1.2	2.0	2.0	36	2,700
240	18.4	2,105	2.6	1.2	2.0	2.1	39	3,300
300	20.6	2,640	2.8	1.2	2.0	2.2	43	4,100
400	23.3	3,383	3.0	1.2	2.0	2.3	47	5,000
500	26.3	4,272	3.2	1.3	2.5	2.5	52	6,200
630	30.0	5,618	3.2	1.4	2.5	2.6	56	7,700
800	34.2	7,286	3.2	1.4	2.5	2.7	60	9,500
1,000	38.2	9,046	3.2	1.5	2.5	2.9	65	11,600
1,200	43.0	10,860	3.2	1.6	2.5	3.0	70	13,800

Table 11

XCTAP Cu/XLPE/CTS/PVC/AWA/PVC (Single Core)

XLPE Insulated, PVC Bedded, Aluminium Wire Armoured, PVC Sheathed Cable
6.35/11KV (Max 12), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Inner sheath
7. Armour
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Aluminium Wire Armour (AWA) (DATA upon request)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	6.35/11KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

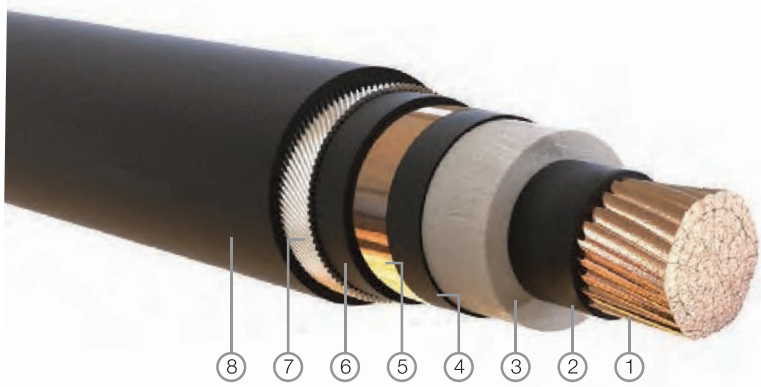
Cu/XLPE/CTS/AWA/PVC (Single Core)

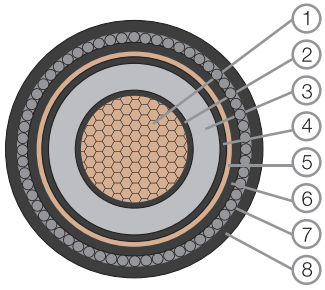
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	3.4	1.2	1.6	1.9	31	1,550
95	11.4	821	3.4	1.2	1.6	1.9	33	1,850
120	12.9	1,035	3.4	1.2	1.6	2.0	34	2,150
150	14.3	1,277	3.4	1.2	2.0	2.1	37	2,550
185	16.0	1,601	3.4	1.2	2.0	2.1	39	2,990
240	18.4	2,105	3.4	1.2	2.0	2.2	41	3,650
300	20.6	2,640	3.4	1.2	2.0	2.2	45	4,450
400	23.3	3,383	3.4	1.2	2.0	2.4	48	5,350
500	26.3	4,272	3.4	1.3	2.5	2.5	52	6,650
630	30.0	5,618	3.4	1.4	2.5	2.6	57	8,300
800	34.2	7,286	3.4	1.4	2.5	2.7	61	10,200
1,000	38.2	9,046	3.4	1.5	2.5	2.9	66	12,300
1,200	43.0	10,860	3.4	1.6	2.5	3.0	71	14,650

Table 12

XCTAP Cu/XLPE/CTS/PVC/AWA/PVC (Single Core)

XLPE Insulated, PVC Bedded, Aluminium Wire Armoured, PVC Sheathed Cable
8.7/15KV (Max 17.5), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Inner sheath
7. Armour
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Aluminium Wire Armour (AWA) (DATA upon request)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	8.7/15KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

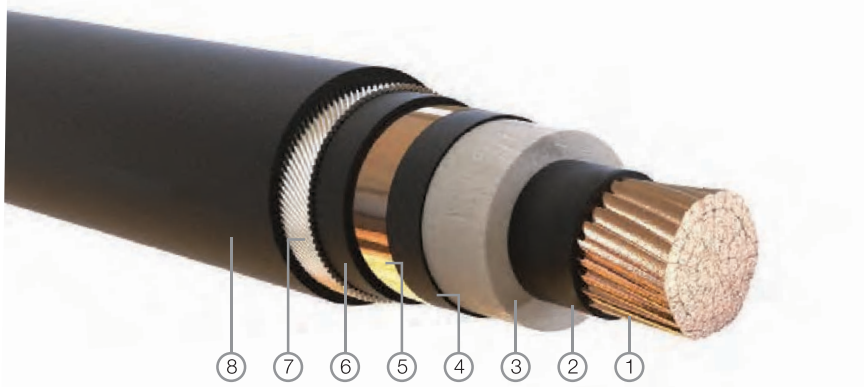
Cu/XLPE/CTS/AWA/PVC (Single Core)

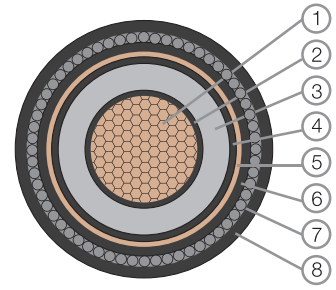
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	4.5	1.2	1.6	1.9	34	1,670
95	11.4	821	4.5	1.2	2.0	2.0	37	2,100
120	12.9	1,035	4.5	1.2	2.0	2.1	39	2,400
150	14.3	1,277	4.5	1.2	2.0	2.1	40	2,750
185	16.0	1,601	4.5	1.2	2.0	2.2	42	3,200
240	18.4	2,105	4.5	1.2	2.0	2.3	45	3,850
300	20.6	2,640	4.5	1.2	2.0	2.3	48	4,650
400	23.3	3,383	4.5	1.3	2.5	2.5	53	5,800
500	26.3	4,272	4.5	1.3	2.5	2.6	56	6,900
630	30.0	5,618	4.5	1.4	2.5	2.7	60	8,600
800	34.2	7,286	4.5	1.5	2.5	2.8	65	10,500
1,000	38.2	9,046	4.5	1.6	2.5	3.0	69	12,600
1,200	43.0	10,860	4.5	1.7	2.5	3.2	75	15,000

Table 13

XCTAP Cu/XLPE/CTS/PVC/AWA/PVC (Single Core)

XLPE Insulated, PVC Bedded, Aluminium Wire Armoured, PVC Sheathed Cable
12.7/22KV (Max 24), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Inner sheath
7. Armour
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Aluminium Wire Armour (AWA) (DATA upon request)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	12.7/22KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

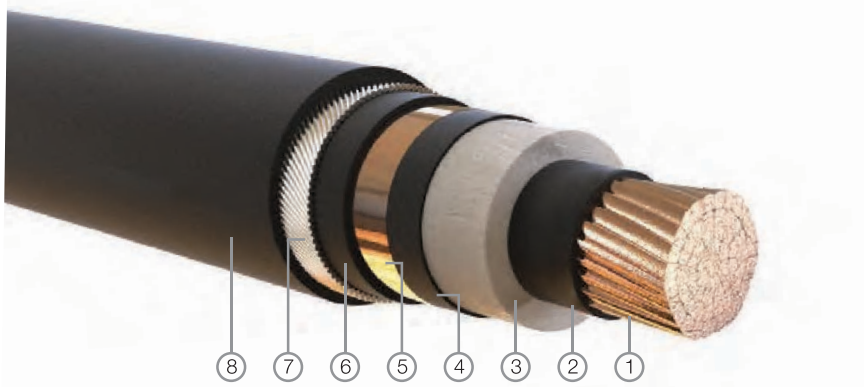
Cu/XLPE/CTS/AWA/PVC (Single Core)

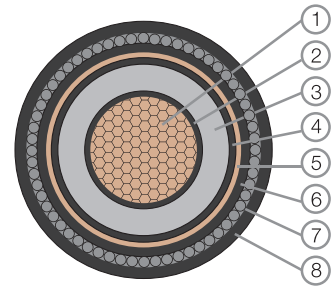
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	5.5	1.2	2.0	2.0	38	2,000
95	11.4	821	5.5	1.2	2.0	2.1	40	2,350
120	12.9	1,035	5.5	1.2	2.0	2.1	42	2,650
150	14.3	1,277	5.5	1.2	2.0	2.2	43	3,050
185	16.0	1,601	5.5	1.2	2.0	2.2	45	3,450
240	18.4	2,105	5.5	1.2	2.0	2.3	48	4,100
300	20.6	2,640	5.5	1.3	2.5	2.4	51	5,035
400	23.3	3,383	5.5	1.3	2.5	2.5	54	6,000
500	26.3	4,272	5.5	1.4	2.5	2.6	58	7,100
630	30.0	5,618	5.5	1.4	2.5	2.8	62	8,800
800	34.2	7,286	5.5	1.5	2.5	2.9	66	10,700
1,000	38.2	9,046	5.5	1.6	2.5	3.0	71	12,800
1,200	43.0	10,860	5.5	1.7	2.5	3.2	77	15,600

Table 14

XCTAP Cu/XLPE/CTS/PVC/AWA/PVC (Single Core)

XLPE Insulated, PVC Bedded, Aluminium Wire Armoured, PVC Sheathed Cable
19/33KV (Max 36), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Inner sheath
7. Armour
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Aluminium Wire Armour (AWA) (DATA upon request)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	19/33KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

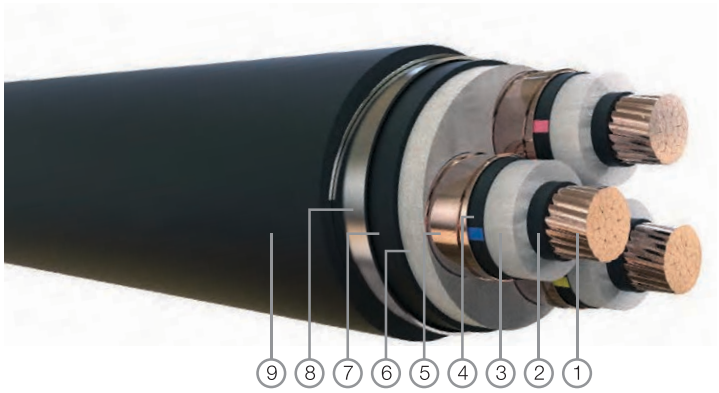
Cu/XLPE/CTS/AWA/PVC (Single Core)

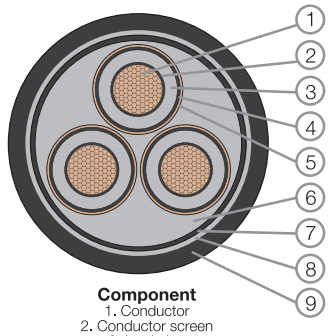
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	8.0	1.2	2.0	2.2	45	2,350
95	11.4	821	8.0	1.2	2.0	2.3	47	2,700
120	12.9	1,035	8.0	1.2	2.0	2.3	49	3,000
150	14.3	1,277	8.0	1.3	2.0	2.4	51	3,450
185	16.0	1,601	8.0	1.3	2.5	2.5	53	4,050
240	18.4	2,105	8.0	1.3	2.5	2.5	56	4,700
300	20.6	2,640	8.0	1.4	2.5	2.6	58	5,500
400	23.3	3,383	8.0	1.4	2.5	2.7	61	6,500
500	26.3	4,272	8.0	1.5	2.5	2.8	65	7,650
630	30.0	5,618	8.0	1.5	2.5	2.9	69	9,350
800	34.2	7,286	8.0	1.6	2.5	3.1	73	11,350
1,000	38.2	9,046	8.0	1.7	2.5	3.2	79	13,800
1,200	43.0	10,860	8.0	1.8	2.5	3.3	85	16,300

Table 15

XCTDP Cu/XLPE/CTS/PVC/DSTA/PVC (Three Core)

XLPE Insulated, PVC Bedded, Double Steel Tape Armoured, PVC Sheathed Cable
3.8/6.6KV (Max 7.2), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Double Steel Tape Armour (DSTA)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	3.8/6.6KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

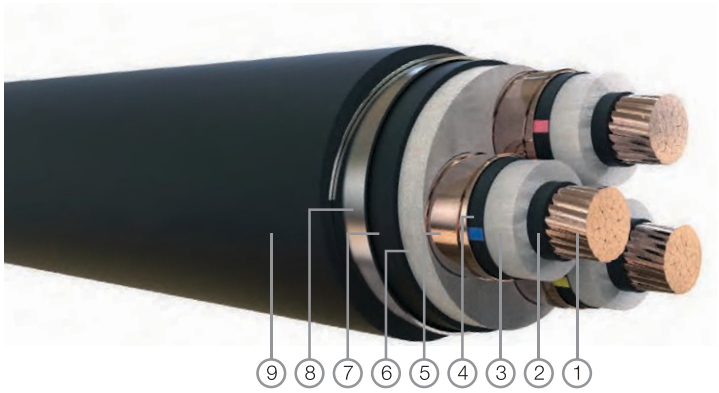
Cu/XLPE/CTS/DSTA/PVC (Three Core)

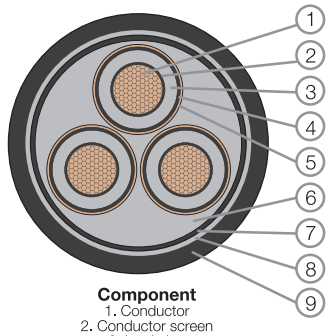
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	2.5	1.3	0.5	2.4	49	3,900
70	9.7	1,808	2.5	1.4	0.5	2.5	53	4,800
95	11.4	2,512	2.5	1.4	0.5	2.6	57	5,800
120	12.9	3,167	2.5	1.5	0.5	2.7	61	6,800
150	14.3	3,907	2.5	1.5	0.5	2.8	64	7,900
185	16.0	4,899	2.5	1.6	0.5	2.9	68	9,200
240	18.4	6,441	2.6	1.7	0.5	3.1	74	11,400
300	20.6	8,078	2.8	1.8	0.5	3.3	84	14,300
400	23.3	10,351	3.0	2.0	0.8	3.6	93	18,500

Table 16

XCTDP Cu/XLPE/CTS/PVC/DSTA/PVC (Three Core)

XLPE Insulated, PVC Bedded, Double Steel Tape Armoured, PVC Sheathed Cable
6.35/11KV (Max 12), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Double Steel Tape Armour (DSTA)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	6.35/11KV
Conductor Operating Temperature:	90℃
Final Short Circuit Temperature:	250℃
Test Voltage:	3.5Uo

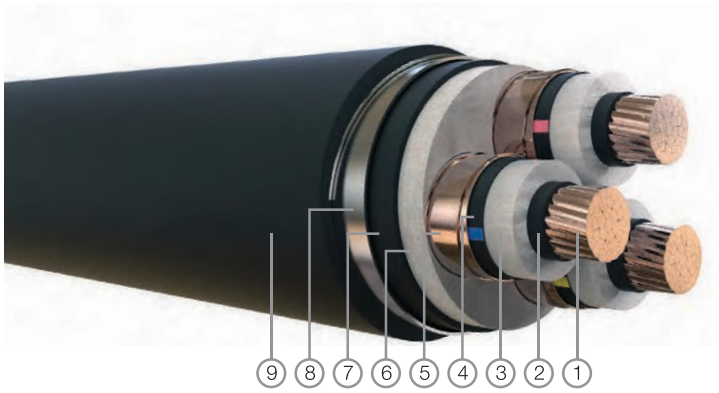
Cu/XLPE/CTS/DSTA/PVC (Three Core)

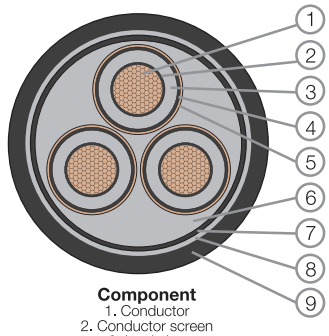
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	3.4	1.4	0.5	2.5	53	4,300
70	9.7	1,808	3.4	1.4	0.5	2.6	57	5,200
95	11.4	2,512	3.4	1.5	0.5	2.7	61	6,300
120	12.9	3,167	3.4	1.6	0.5	2.9	65	7,300
150	14.3	3,907	3.4	1.6	0.5	3.0	68	8,400
185	16.0	4,899	3.4	1.7	0.5	3.1	72	9,800
240	18.4	6,441	3.4	1.8	0.5	3.3	78	12,000
300	20.6	8,078	3.4	1.9	0.5	3.4	86	14,800
400	23.3	10,351	3.4	2.0	0.8	3.7	94	19,000

Table 17

XCTDP Cu/XLPE/CTS/PVC/DSTA/PVC (Three Core)

XLPE Insulated, PVC Bedded, Double Steel Tape Armoured, PVC Sheathed Cable
8.7/15KV (Max 17.5), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Double Steel Tape Armour (DSTA)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	8.7/15KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

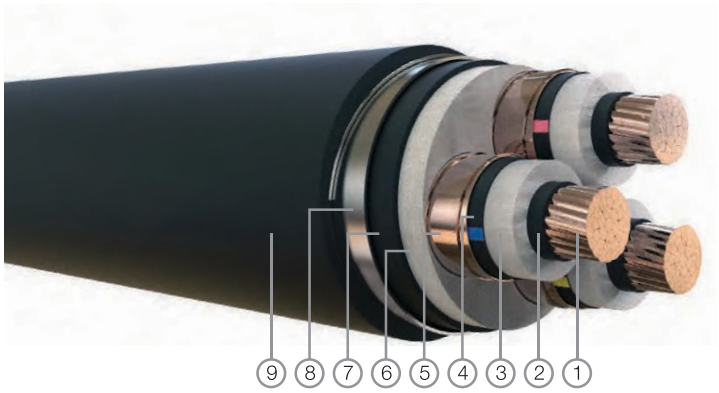
Cu/XLPE/CTS/DSTA/PVC (Three Core)

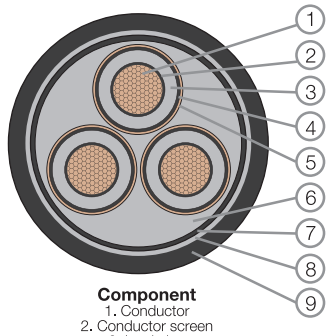
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	4.5	1.5	0.5	2.7	59	5,000
70	9.7	1,808	4.5	1.5	0.5	2.8	62	5,900
95	11.4	2,512	4.5	1.6	0.5	2.9	67	7,000
120	12.9	3,167	4.5	1.7	0.5	3.0	70	8,100
150	14.3	3,807	4.5	1.7	0.5	3.1	73	9,100
185	16.0	4,899	4.5	1.8	0.5	3.3	78	10,500
240	18.4	6,441	4.5	1.9	0.5	3.4	83	12,700
300	20.6	8,078	4.5	2.0	0.8	3.6	93	16,900
400	23.3	10,351	4.5	2.1	0.8	3.9	100	20,000

Table 18

XCTDP Cu/XLPE/CTS/PVC/DSTA/PVC (Three Core)

XLPE Insulated, PVC Bedded, Double Steel Tape Armoured, PVC Sheathed Cable
12.7/22KV (Max 24), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Double Steel Tape Armour (DSTA)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	12.7/22KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

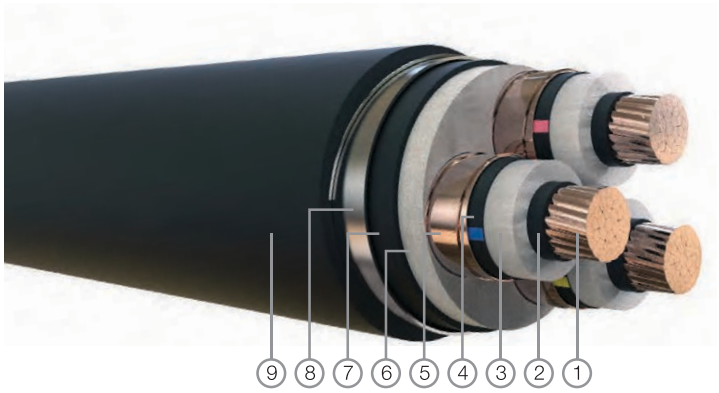
Cu/XLPE/CTS/DSTA/PVC (Three Core)

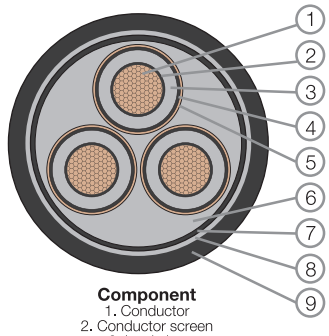
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	5.5	1.6	0.5	2.8	64	5,300
70	9.7	1,808	5.5	1.6	0.5	2.9	67	6,300
95	11.4	2,512	5.5	1.7	0.5	3.1	71	7,400
120	12.9	3,167	5.5	1.7	0.5	3.2	75	8,400
150	14.3	3,907	5.5	1.8	0.5	3.3	78	9,500
185	16.0	4,899	5.5	1.9	0.5	3.4	82	11,000
240	18.4	6,441	5.5	2.0	0.8	3.6	89	14,300
300	20.6	8,078	5.5	2.0	0.8	3.8	98	17,300
400	23.3	10,351	5.5	2.2	0.8	4.0	105	20,500

Table 19

XCTDP Cu/XLPE/CTS/PVC/DSTA/PVC (Three Core)

XLPE Insulated, PVC Bedded, Double Steel Tape Armoured, PVC Sheathed Cable
19/33KV (Max 36), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Double Steel Tape Armour (DSTA)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	19/33KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

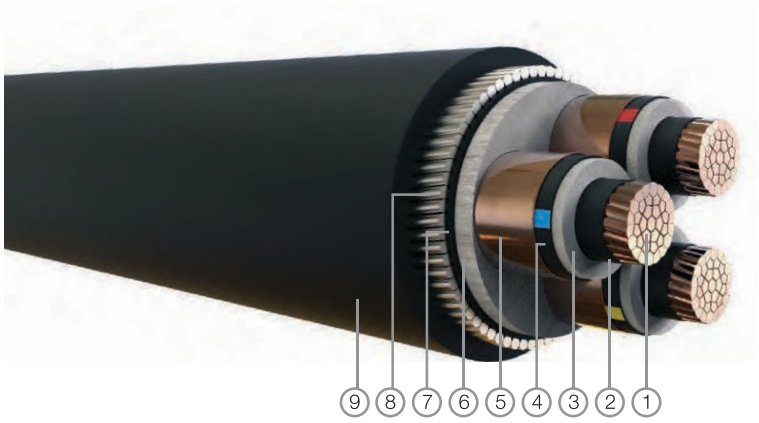
Cu/XLPE/CTS/DSTA/PVC (Three Core)

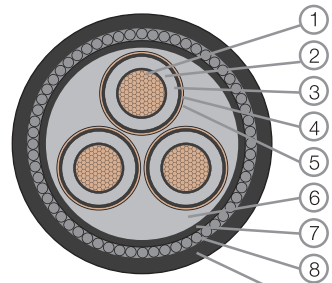
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	8.0	1.8	0.5	3.2	76	6,900
70	9.7	1,808	8.0	1.8	0.5	3.3	79	7,900
95	11.4	2,512	8.0	1.9	0.5	3.5	83	9,000
120	12.9	3,167	8.0	2.0	0.8	3.6	88	11,000
150	14.3	3,907	8.0	2.0	0.8	3.7	92	12,000
185	16.0	4,899	8.0	2.1	0.8	3.9	96	14,000
240	18.4	6,441	8.0	2.2	0.8	4.0	101	16,000
300	20.6	8,078	8.0	2.3	0.8	4.2	110	19,000
400	23.3	10,351	8.0	2.4	0.8	4.4	117	22,000

Table 20

XCTSP Cu/XLPE/CTS/PVC/SWA/PVC (Three Core)

XLPE Insulated, PVC Bedded, Steel Wire Armoured, PVC Sheathed Cable
3.8/6.6KV (Max 7.2), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Steel Wire Armour (SWA)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	3.8/6.6KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

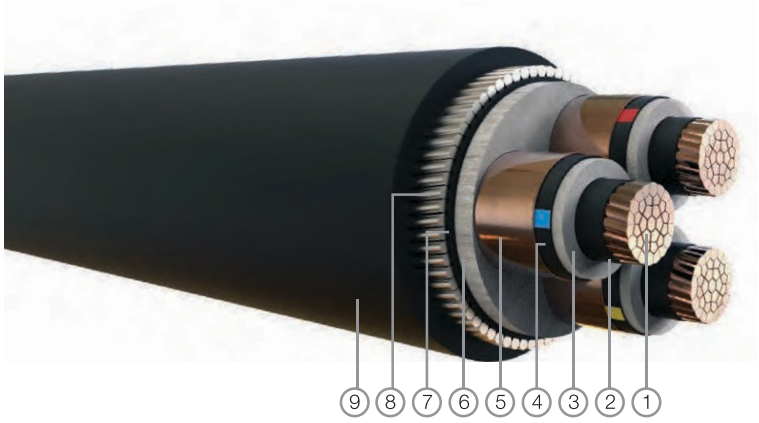
Cu/XLPE/CTS/SWA/PVC (Three Core)

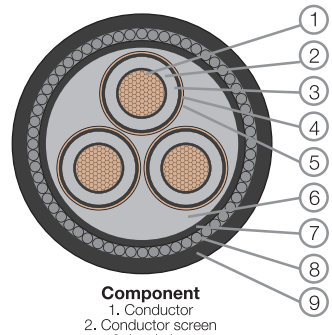
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	2.5	1.3	2.5	2.5	52	5,300
70	9.7	1,808	2.5	1.4	2.5	2.6	56	6,300
95	11.4	2,512	2.5	1.4	2.5	2.7	60	7,500
120	12.9	3,167	2.5	1.5	2.5	2.8	64	8,600
150	14.3	3,907	2.5	1.5	2.5	2.9	67	9,800
185	16.0	4,899	2.5	1.6	2.5	3.0	71	11,400
240	18.4	6,441	2.6	1.7	2.5	3.2	77	13,800
300	20.6	8,078	2.8	1.8	3.15	3.5	88	18,000
400	23.3	10,351	3.0	2.0	3.15	3.8	96	21,500

Table 21

XCTSP Cu/XLPE/CTS/PVC/SWA/PVC (Three Core)

XLPE Insulated, PVC Bedded, Steel Wire Armoured, PVC Sheathed Cable
6.35/11KV (Max 12), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Steel Wire Armour (SWA)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	6.35/11KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

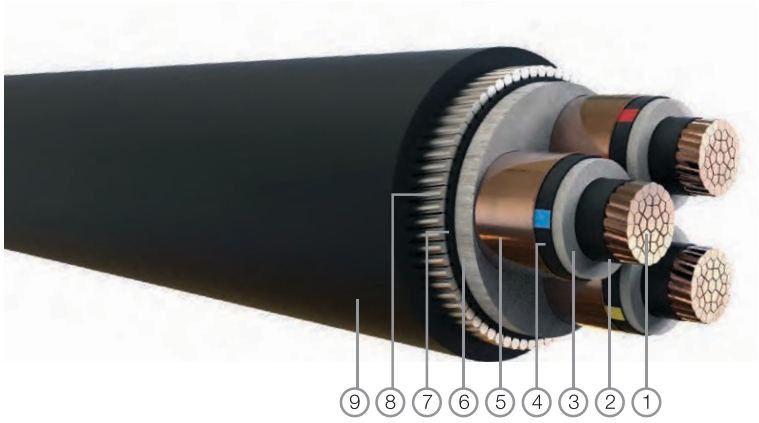
Cu/XLPE/CTS/SWA/PVC (Three Core)

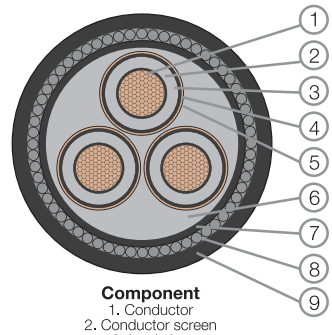
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	3.4	1.4	2.5	2.6	56	5,900
70	9.7	1,808	3.4	1.4	2.5	2.7	60	6,900
95	11.4	2,512	3.4	1.5	2.5	2.9	64	8,100
120	12.9	3,167	3.4	1.6	2.5	3.0	68	9,300
150	14.3	3,907	3.4	1.6	2.5	3.1	71	10,500
185	16.0	4,899	3.4	1.7	2.5	3.2	75	12,100
240	18.4	6,441	3.4	1.8	3.15	3.4	82	15,300
300	20.6	8,078	3.4	1.9	3.15	3.5	91	18,700
400	23.3	10,351	3.4	2.0	3.15	3.8	97	22,100

Table 22

XCTSP Cu/XLPE/CTS/PVC/SWA/PVC (Three Core)

XLPE Insulated, PVC Bedded, Steel Wire Armoured, PVC Sheathed Cable
8.7/15KV (Max 17.5), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Steel Wire Armour (SWA)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	8.7/15KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

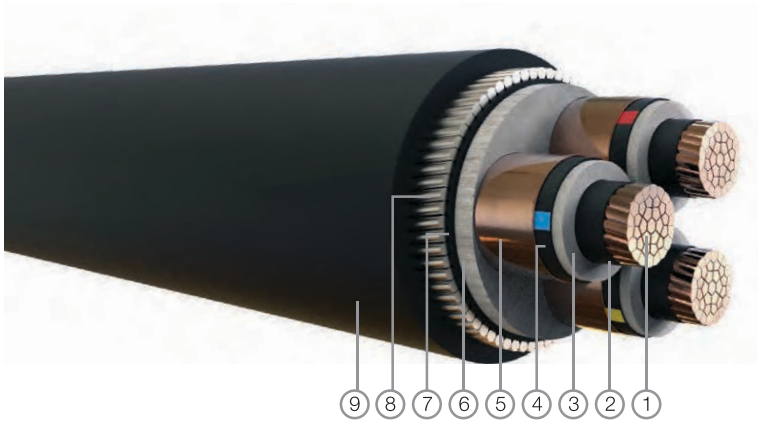
Cu/XLPE/CTS/SWA/PVC (Three Core)

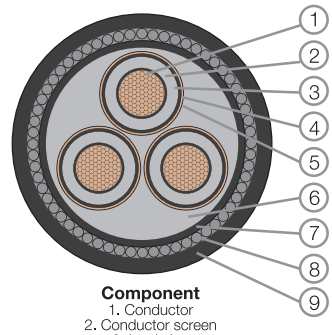
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	4.5	1.5	2.5	2.8	62	6,700
70	9.7	1,808	4.5	1.5	2.5	2.9	66	7,700
95	11.4	2,512	4.5	1.6	2.5	3.0	70	9,100
120	12.9	3,167	4.5	1.7	2.5	3.1	73	10,300
150	14.3	3,907	4.5	1.7	2.5	3.2	77	11,500
185	16.0	4,899	4.5	1.8	3.15	3.4	82	14,000
240	18.4	6,441	4.5	1.9	3.15	3.6	88	16,500
300	20.6	8,078	4.5	2.0	3.15	3.7	97	20,000
400	23.3	10,351	4.5	2.1	3.15	4.0	103	23,500

Table 23

XCTSP Cu/XLPE/CTS/PVC/SWA/PVC (Three Core)

XLPE Insulated, PVC Bedded, Steel Wire Armoured, PVC Sheathed Cable
12.7/22KV (Max 24), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Steel Wire Armour (SWA)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	12.7/22KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

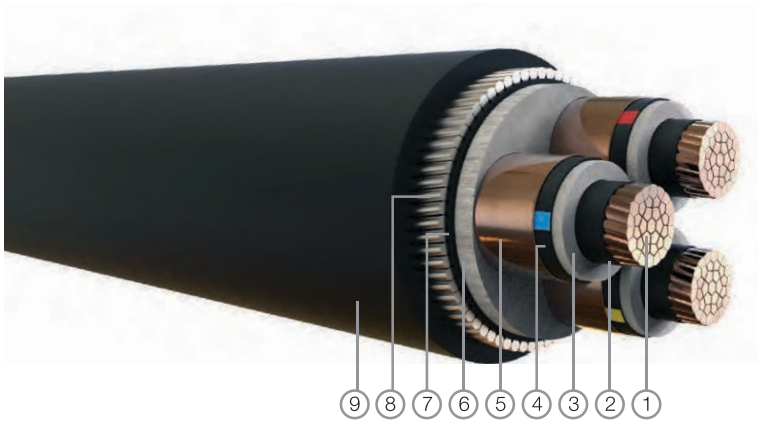
Cu/XLPE/CTS/SWA/PVC (Three Core)

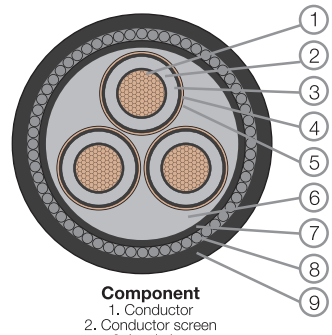
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	5.5	1.6	2.5	2.9	67	7,200
70	9.7	1,808	5.5	1.6	2.5	3.1	71	8,300
95	11.4	2,512	5.5	1.7	2.5	3.2	75	9,600
120	12.9	3,167	5.5	1.7	3.15	3.3	79	11,600
150	14.3	3,907	5.5	1.8	3.15	3.4	83	13,000
185	16.0	4,899	5.5	1.9	3.15	3.6	87	14,600
240	18.4	6,441	5.5	2.0	3.15	3.7	93	17,100
300	20.6	8,078	5.5	2.0	3.15	3.9	101	20,500
400	23.3	10,351	5.5	2.2	3.15	4.1	108	24,000

Table 24

XCTSP Cu/XLPE/CTS/PVC/SWA/PVC (Three Core)

XLPE Insulated, PVC Bedded, Steel Wire Armoured, PVC Sheathed Cable
19/33KV (Max 36), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	Polyvinyl Chloride (PVC) Compound
Armour:	Steel Wire Armour (SWA)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	19/33KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

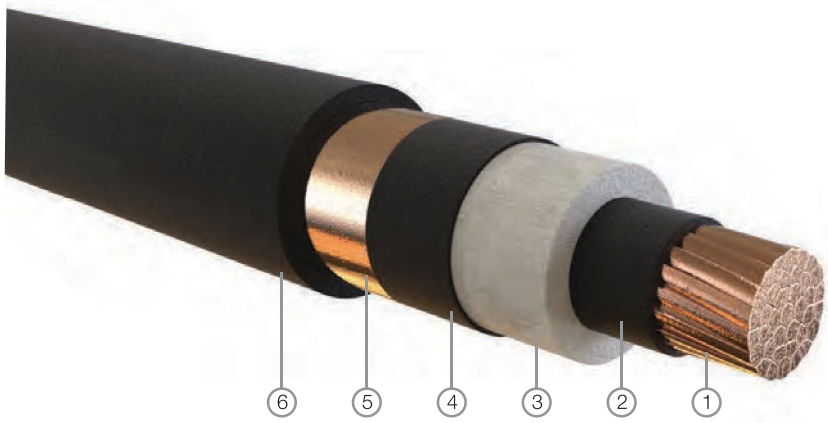
Cu/XLPE/CTS/SWA/PVC (Three Core)

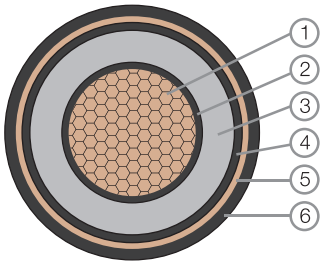
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	8.0	1.8	3.15	3.4	80	10,000
70	9.7	1,808	8.0	1.8	3.15	3.5	84	11,000
95	11.4	2,512	8.0	1.9	3.15	3.6	88	12,000
120	12.9	3,167	8.0	2.0	3.15	3.7	92	14,000
150	14.3	3,907	8.0	2.0	3.15	3.8	95	15,000
185	16.0	4,899	8.0	2.1	3.15	4.0	99	17,000
240	18.4	6,441	8.0	2.2	3.15	4.1	105	19,000
300	20.6	8,078	8.0	2.3	3.15	4.3	113	23,000
400	23.3	10,351	8.0	2.4	3.15	4.5	120	26,000

Table 25

FRT-XCTH Cu/XLPE/CTS/LSZH (Single Core)

XLPE Insulated, LSZH Sheathed Cable 3.8/6.6KV (Max 7.2), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded semi conductive compound
Metallic Screen:	Copper Tape Screen
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	3.8/6.6KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

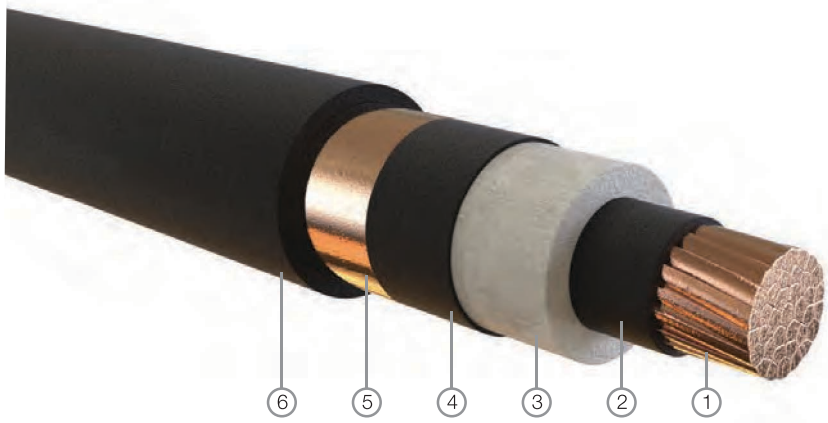
Cu/XLPE/CTS/LSZH (Single Core)

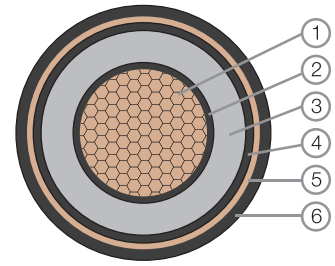
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	2.5	1.8	23	1,050
95	11.4	821	2.5	1.8	24	1,350
120	12.9	1,035	2.5	1.8	26	1,640
150	14.3	1,277	2.5	1.8	27	1,850
185	16.0	1,601	2.5	1.8	29	2,200
240	18.4	2,105	2.6	1.9	32	2,800
300	20.6	2,640	2.8	2.0	35	3,400
400	23.3	3,383	3.0	2.1	38	4,400
500	26.3	4,272	3.2	2.2	41	5,400
630	30.0	5,618	3.2	2.3	47	6,900
800	34.2	7,286	3.2	2.4	51	8,600
1,000	38.2	9,046	3.2	2.6	57	10,600
1,200	43.0	10,860	3.2	2.8	61	12,600

Table 26

FRT-XCTH Cu/XLPE/CTS/LSZH (Single Core)

XLPE Insulated, LSZH Sheathed Cable 6.5/11KV (Max 12), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded semi conductive compound
Metallic Screen:	Copper Tape Screen
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	6.35/11KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

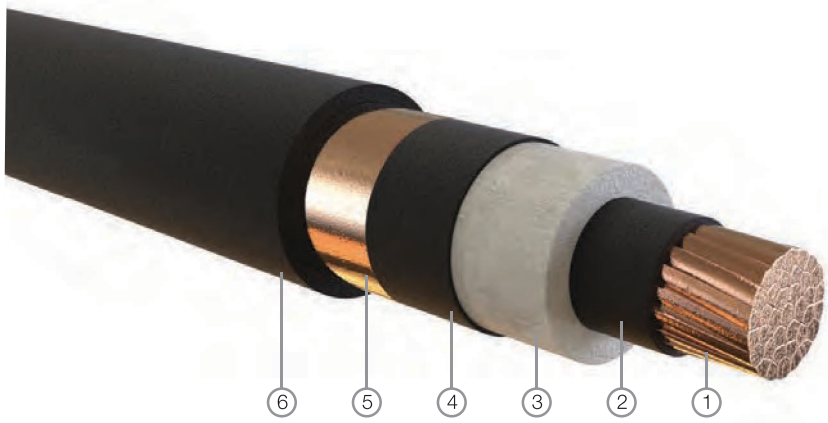
Cu/XLPE/CTS/LSZH (Single Core)

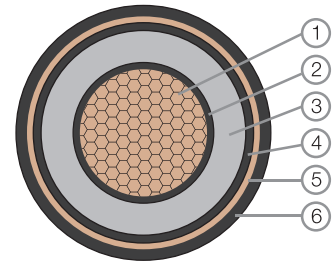
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	3.4	1.8	26	1,090
95	11.4	821	3.4	1.8	27	1,370
120	12.9	1,035	3.4	1.8	29	1,650
150	14.3	1,277	3.4	1.8	30	1,900
185	16.0	1,601	3.4	1.9	32	2,300
240	18.4	2,105	3.4	2.0	35	2,900
300	20.6	2,640	3.4	2.0	39	3,500
400	23.3	3,383	3.4	2.1	42	4,500
500	26.3	4,272	3.4	2.2	45	5,500
630	30.0	5,618	3.4	2.3	49	7,000
800	34.2	7,286	3.4	2.5	53	8,700
1,000	38.2	9,046	3.4	2.6	57	10,700
1,200	43.0	10,860	3.4	2.8	63	12,700

Table 27

FRT-XCTH Cu/XLPE/CTS/LSZH (Single Core)

XLPE Insulated, LSZH Sheathed Cable 8.7/15KV (Max 17.5), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded semi conductive compound
Metallic Screen:	Copper Tape Screen
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	8.7/15KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

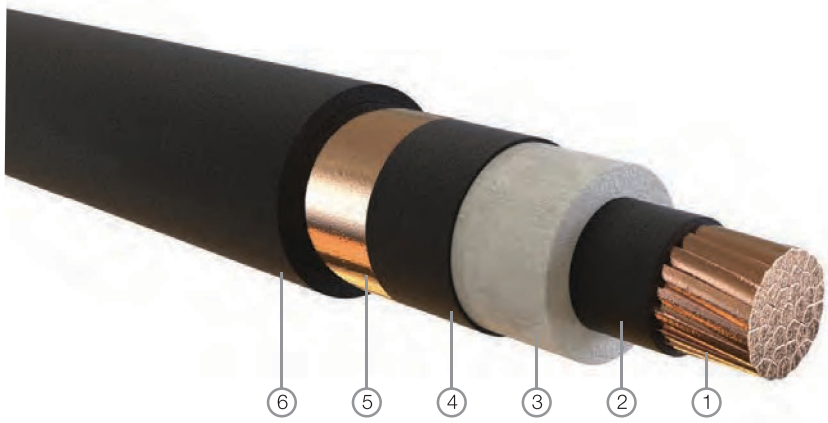
Cu/XLPE/CTS/LSZH (Single Core)

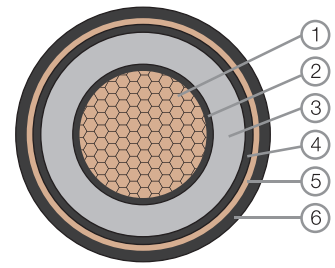
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	4.5	1.8	29	1,200
95	11.4	821	4.5	1.8	31	1,490
120	12.9	1,035	4.5	1.9	32	1,750
150	14.3	1,277	4.5	1.9	34	2,100
185	16.0	1,601	4.5	2.0	36	2,450
240	18.4	2,105	4.5	2.0	38	3,050
300	20.6	2,640	4.5	2.1	42	3,650
400	23.3	3,383	4.5	2.2	45	4,600
500	26.3	4,272	4.5	2.3	48	5,600
630	30.0	5,618	4.5	2.4	52	7,200
800	34.2	7,286	4.5	2.5	56	8,900
1,000	38.2	9,046	4.5	2.7	61	10,900
1,200	43.0	10,860	4.5	2.9	66	13,000

Table 28

FRT-XCTH Cu/XLPE/CTS/LSZH (Single Core)

XLPE Insulated, LSZH Sheathed Cable 12.7/22KV (Max 24), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded semi conductive compound
Metallic Screen:	Copper Tape Screen
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	12.7/22KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

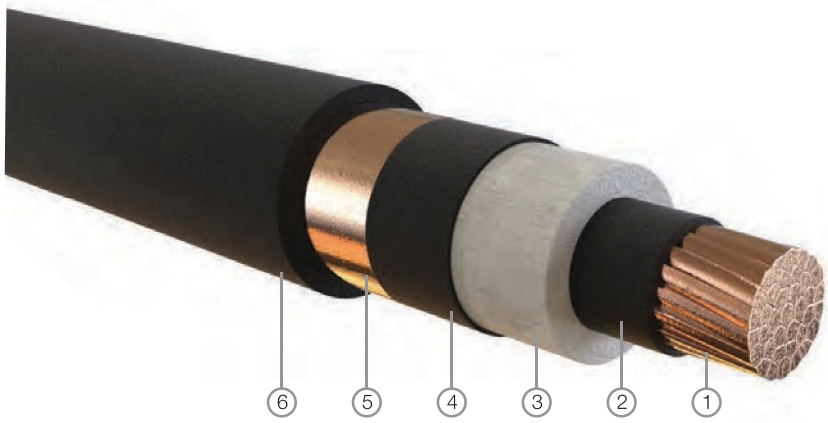
Cu/XLPE/CTS/LSZH (Single Core)

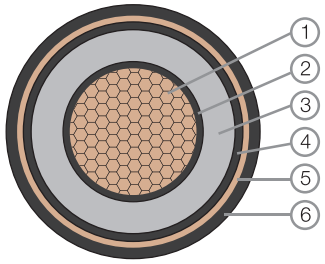
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	5.5	1.8	31	1,300
95	11.4	821	5.5	1.9	33	1,600
120	12.9	1,035	5.5	1.9	34	1,900
150	14.3	1,277	5.5	2.0	36	2,300
185	16.0	1,601	5.5	2.0	38	2,700
240	18.4	2,105	5.5	2.1	40	3,300
300	20.6	2,640	5.5	2.2	44	3,900
400	23.3	3,383	5.5	2.3	47	4,900
500	26.3	4,272	5.5	2.4	50	5,900
630	30.0	5,618	5.5	2.5	54	7,400
800	34.2	7,286	5.5	2.6	59	9,100
1,000	38.2	9,046	5.5	2.7	63	11,200
1,200	43.0	10,860	5.5	2.9	68	13,100

Table 29

FRT-XCTH Cu/XLPE/CTS/LSZH (Single Core)

XLPE Insulated, LSZH Sheathed Cable 19/33KV (Max 36), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded semi conductive compound
Metallic Screen:	Copper Tape Screen
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	19/33KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

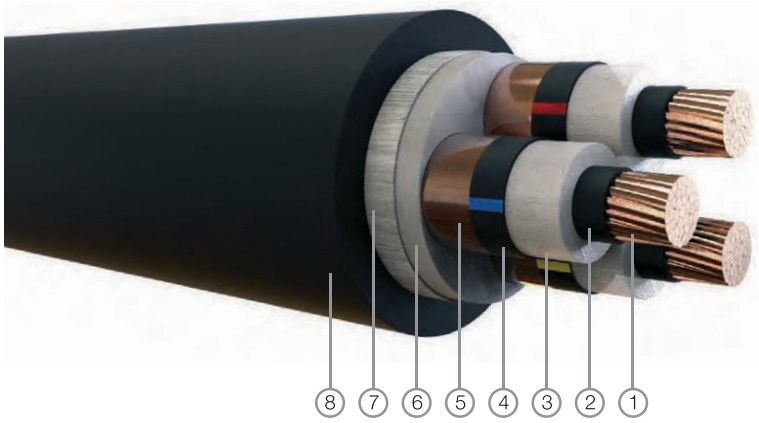
Cu/XLPE/CTS/LSZH (Single Core)

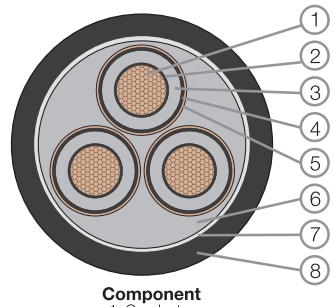
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	8.0	2.0	36	1,650
95	11.4	821	8.0	2.1	38	2,000
120	12.9	1,035	8.0	2.1	40	2,350
150	14.3	1,277	8.0	2.1	41	2,650
185	16.0	1,601	8.0	2.2	43	3,100
240	18.4	2,105	8.0	2.3	46	3,700
300	20.6	2,640	8.0	2.3	49	4,400
400	23.3	3,383	8.0	2.5	53	5,400
500	26.3	4,272	8.0	2.5	56	6,550
630	30.0	5,618	8.0	2.7	60	8,000
800	34.2	7,286	8.0	2.8	64	9,700
1,000	38.2	9,046	8.0	2.9	68	11,800
1,200	43.0	10,860	8.0	3.0	73	14,500

Table 30

FRT-XCTH Cu/XLPE/CTS/LSZH (Three Core)

XLPE Insulated, LSZH Sheathed Cable 3.8/6.6KV (Max 7.2), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Yarn fillers
7. Binder tape
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	3.8/6.6KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

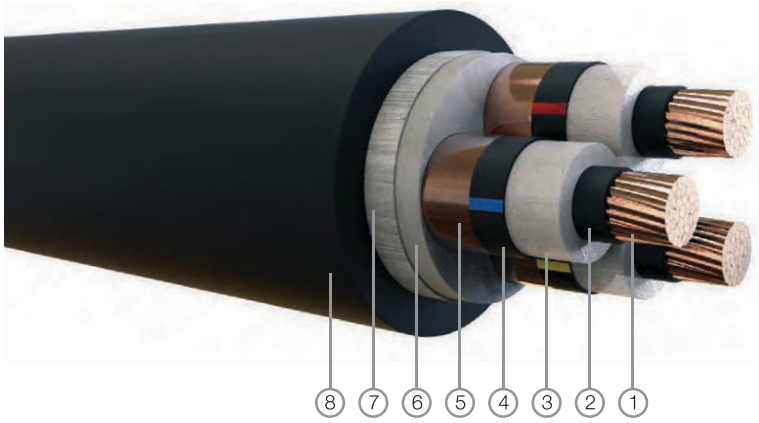
Cu/XLPE/CTS/LSZH (Three Core)

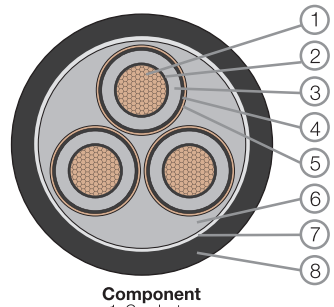
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	2.5	2.2	44	2,800
70	9.7	1,808	2.5	2.3	48	3,500
95	11.4	2,512	2.5	2.5	52	4,400
120	12.9	3,167	2.5	2.6	55	5,300
150	14.3	3,907	2.5	2.7	59	6,300
185	16.0	4,899	2.5	2.8	62	7,300
240	18.4	6,441	2.6	3.0	68	9,300
300	20.6	8,078	2.8	3.2	78	11,200
400	23.3	10,351	3.0	3.4	85	14,700

Table 31

FRT-XCTH Cu/XLPE/CTS/LSZH (Three Core)

XLPE Insulated, LSZH Sheathed Cable 6.35/11KV (Max 12), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Yarn fillers
7. Binder tape
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	6.35/11KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

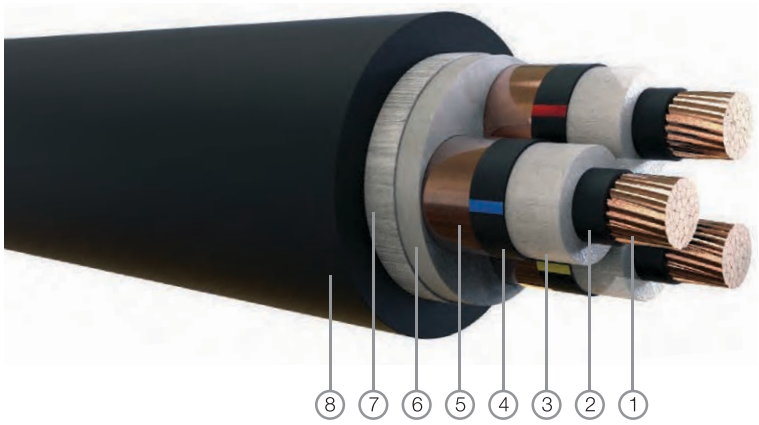
Cu/XLPE/CTS/PVC (Three Core)

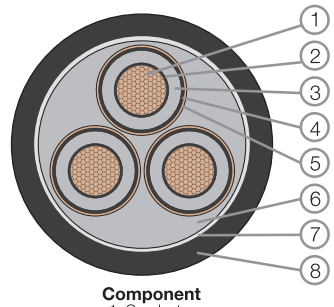
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	3.4	2.4	48	3,000
70	9.7	1,808	3.4	2.5	52	3,800
95	11.4	2,512	3.4	2.6	56	4,500
120	12.9	3,167	3.4	2.7	59	5,600
150	14.3	3,907	3.4	2.8	63	6,500
185	16.0	4,899	3.4	2.9	67	7,800
240	18.4	6,441	3.4	3.1	72	9,700
300	20.6	8,078	3.4	3.3	81	12,000
400	23.3	10,351	3.4	3.5	87	15,000

Table 32

FRT-XCTH Cu/XLPE/CTS/LSZH (Three Core)

XLPE Insulated, LSZH Sheathed Cable 8.7/15KV (Max 17.5), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Yarn fillers
7. Binder tape
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	8.7/15KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

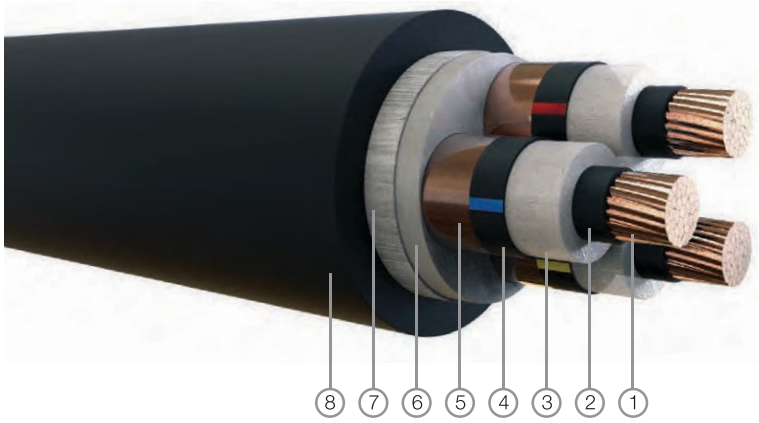
Cu/XLPE/CTS/PVC (Three Core)

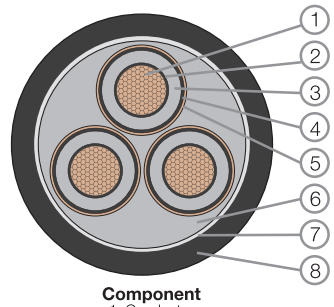
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	4.5	2.6	53	3,500
70	9.7	1,808	4.5	2.7	57	4,200
95	11.4	2,512	4.5	2.8	60	5,200
120	12.9	3,167	4.5	2.9	64	6,100
150	14.3	3,907	4.5	3.0	67	7,200
185	16.0	4,899	4.5	3.1	71	8,300
240	18.4	6,441	4.5	3.3	77	10,100
300	20.6	8,078	4.5	3.4	85	12,500
400	23.3	10,351	4.5	3.7	91	15,500

Table 33

FRT-XCTH Cu/XLPE/CTS/LSZH (Three Core)

XLPE Insulated, LSZH Sheathed Cable 12.7/22KV (Max 24), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Yarn fillers
7. Binder tape
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	12.7/22KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

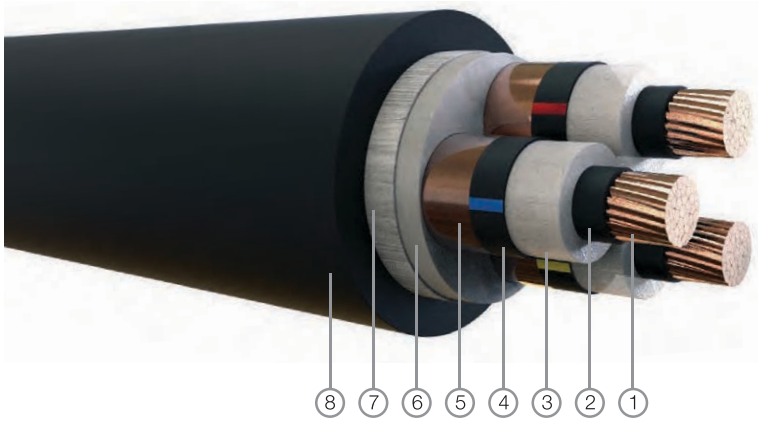
Cu/XLPE/CTS/PVC (Three Core)

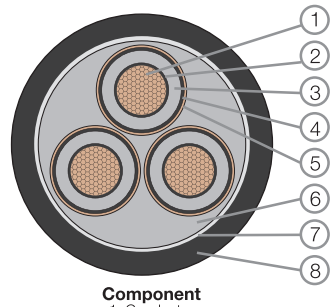
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	5.5	2.7	57	3,900
70	9.7	1,808	5.5	2.8	61	4,600
95	11.4	2,512	5.5	2.9	65	5,500
120	12.9	3,167	5.5	3.0	68	6,400
150	14.3	3,907	5.5	3.1	72	7,600
185	16.0	4,899	5.5	3.3	76	9,000
240	18.4	6,441	5.5	3.4	81	11,000
300	20.6	8,078	5.5	3.6	90	13,500
400	23.3	10,351	5.5	3.8	96	16,000

Table 34

FRT-XCTH Cu/XLPE/CTS/LSZH (Three Core)

XLPE Insulated, LSZH Sheathed Cable 19/33KV (Max 36), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Yarn fillers
7. Binder tape
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	19/33KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

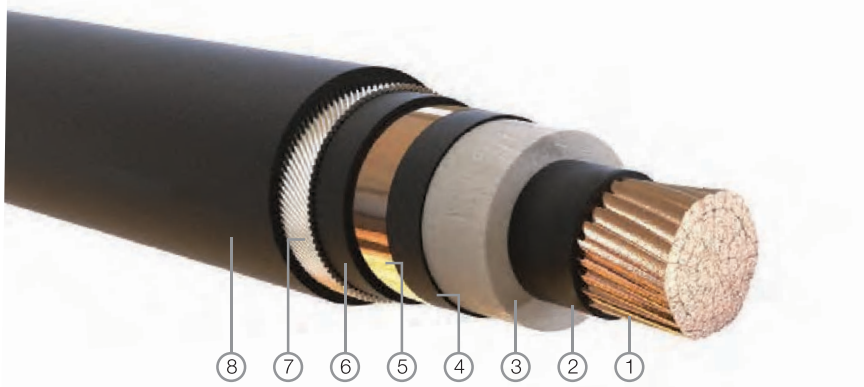
Cu/XLPE/CTS/PVC (Three Core)

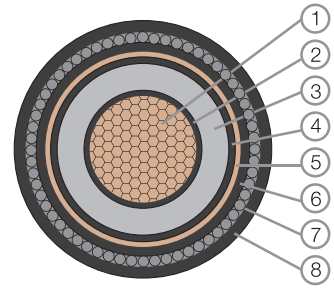
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	8.0	3.1	69	5,100
70	9.7	1,808	8.0	3.2	73	6,000
95	11.4	2,512	8.0	3.3	77	7,000
120	12.9	3,167	8.0	3.4	80	8,000
150	14.3	3,907	8.0	3.5	83	9,100
185	16.0	4,899	8.0	3.6	87	10,500
240	18.4	6,441	8.0	3.8	93	12,500
300	20.6	8,078	8.0	4.0	101	15,500
400	23.3	10,351	8.0	4.2	108	18,300

Table 35

FRT-XCTAH Cu/XLPE/CTS/LSZH/AWA/LSZH (Single Core)

XLPE Insulated, LSZH Bedded, Aluminium Wire Armoured, LSZH Sheathed Cable
3.8/6.6KV (Max 7.2), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Inner sheath
7. Armour
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Aluminium Wire Armour (AWA) (DATA upon request)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	3.8/6.6KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

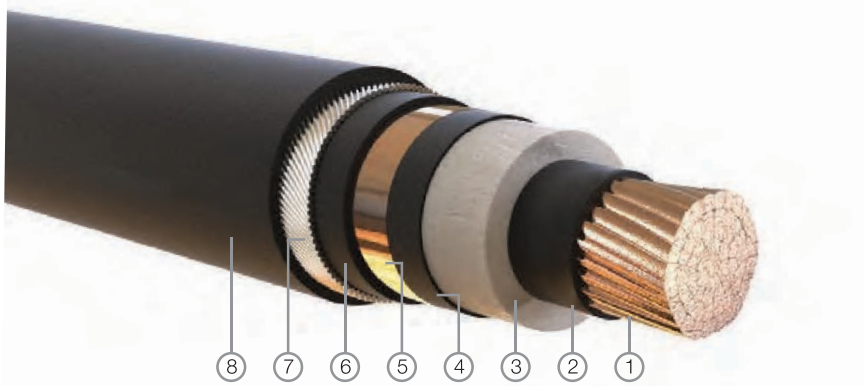
Cu/XLPE/CTS/LSZH/AWA/LSZH (Single Core)

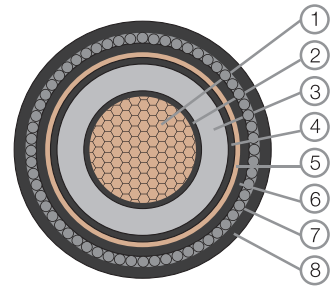
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	2.5	1.2	1.6	1.8	29	1,300
95	11.4	821	2.5	1.2	1.6	1.9	30	1,600
120	12.9	1,035	2.5	1.2	1.6	1.9	32	1,900
150	14.3	1,277	2.5	1.2	1.6	2.0	34	2,300
185	16.0	1,601	2.5	1.2	2.0	2.0	36	2,700
240	18.4	2,105	2.6	1.2	2.0	2.1	39	3,300
300	20.6	2,640	2.8	1.2	2.0	2.2	43	4,100
400	23.3	3,383	3.0	1.2	2.0	2.3	47	5,000
500	26.3	4,272	3.2	1.3	2.5	2.5	52	6,200
630	30.0	5,618	3.2	1.4	2.5	2.6	56	7,700
800	34.2	7,286	3.2	1.4	2.5	2.7	60	9,500
1,000	38.2	9,046	3.2	1.5	2.5	2.9	65	11,600
1,200	43.0	10,860	3.2	1.6	2.5	3.0	70	13,800

Table 36

FRT-XCTAH Cu/XLPE/CTS/LSZH/AWA/LSZH (Single Core)

XLPE Insulated, LSZH Bedded, Aluminium Wire Armoured, LSZH Sheathed Cable
6.35/11KV (Max 12), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Inner sheath
7. Armour
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Aluminium Wire Armour (AWA) (DATA upon request)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	6.35/11KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

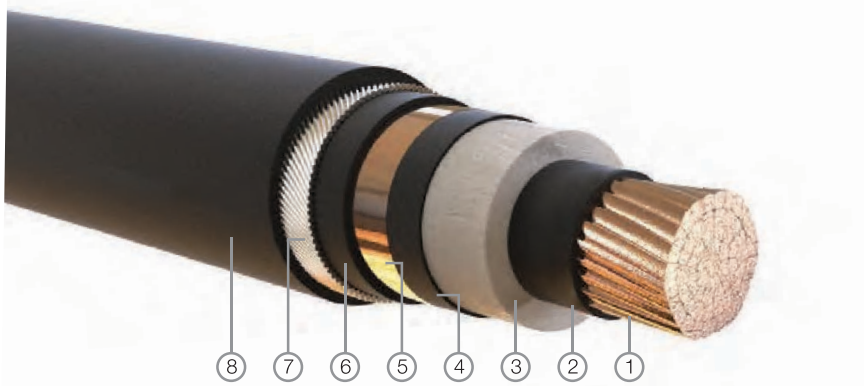
Cu/XLPE/CTS/LSZH/AWA/LSZH (Single Core)

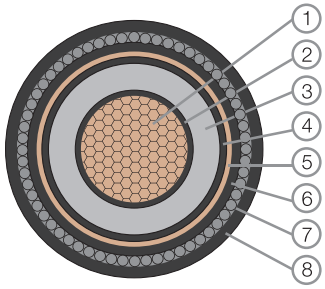
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	3.4	1.2	1.6	1.9	31	1,550
95	11.4	821	3.4	1.2	1.6	1.9	33	1,850
120	12.9	1,035	3.4	1.2	1.6	2.0	34	2,150
150	14.3	1,277	3.4	1.2	2.0	2.1	37	2,550
185	16.0	1,601	3.4	1.2	2.0	2.1	39	2,990
240	18.4	2,105	3.4	1.2	2.0	2.2	41	3,650
300	20.6	2,640	3.4	1.2	2.0	2.2	45	4,450
400	23.3	3,383	3.4	1.2	2.0	2.4	48	5,350
500	26.3	4,272	3.4	1.3	2.5	2.5	52	6,650
630	30.0	5,618	3.4	1.4	2.5	2.6	57	8,300
800	34.2	7,286	3.4	1.4	2.5	2.7	61	10,200
1,000	38.2	9,046	3.4	1.5	2.5	2.9	66	12,300
1,200	43.0	10,860	3.4	1.6	2.5	3.0	71	14,650

Table 37

FRT-XCTAH Cu/XLPE/CTS/LSZH/AWA/LSZH (Single Core)

XLPE Insulated, LSZH Bedded, Aluminium Wire Armoured, LSZH Sheathed Cable
8.7/15KV (Max 17.5), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Inner sheath
7. Armour
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Aluminium Wire Armour (AWA) (DATA upon request)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	8.7/15KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

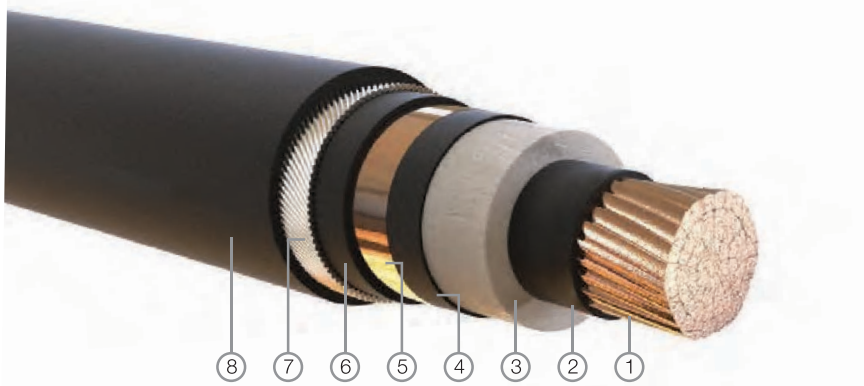
Cu/XLPE/CTS/LSZH/AWA/LSZH (Single Core)

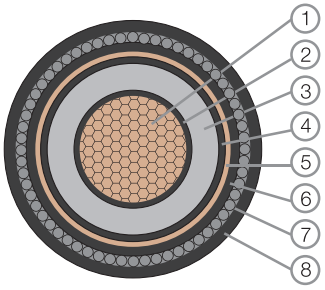
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	4.5	1.2	1.6	1.9	34	1,670
95	11.4	821	4.5	1.2	2.0	2.0	37	2,100
120	12.9	1,035	4.5	1.2	2.0	2.1	39	2,400
150	14.3	1,277	4.5	1.2	2.0	2.1	40	2,750
185	16.0	1,601	4.5	1.2	2.0	2.2	42	3,200
240	18.4	2,105	4.5	1.2	2.0	2.3	45	3,850
300	20.6	2,640	4.5	1.2	2.0	2.3	48	4,650
400	23.3	3,383	4.5	1.3	2.5	2.5	53	5,800
500	26.3	4,272	4.5	1.3	2.5	2.6	56	6,900
630	30.0	5,618	4.5	1.4	2.5	2.7	60	8,600
800	34.2	7,286	4.5	1.5	2.5	2.8	65	10,500
1,000	38.2	9,046	4.5	1.6	2.5	3.0	69	12,600
1,200	43.0	10,860	4.5	1.7	2.5	3.2	75	15,000

Table 38

FRT-XCTAH Cu/XLPE/CTS/LSZH/AWA/LSZH (Single Core)

XLPE Insulated, LSZH Bedded, Aluminium Wire Armoured, LSZH Sheathed Cable
12.7/22KV (Max 24), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Inner sheath
7. Armour
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Aluminium Wire Armour (AWA) (DATA upon request)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	12.7/22KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

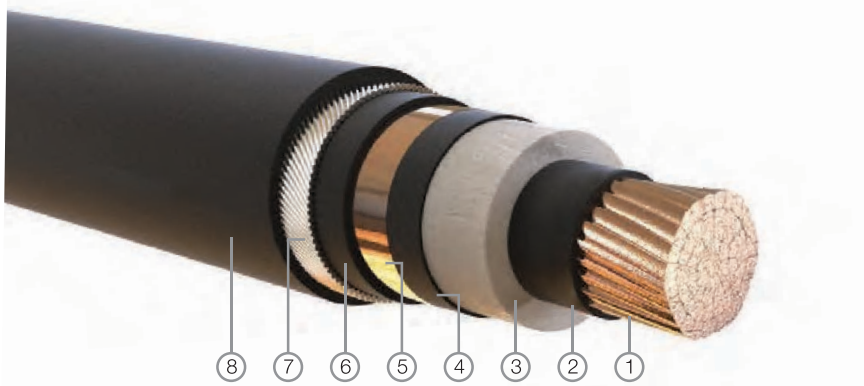
Cu/XLPE/CTS/LSZH/AWA/PVC/LSZH (Single Core)

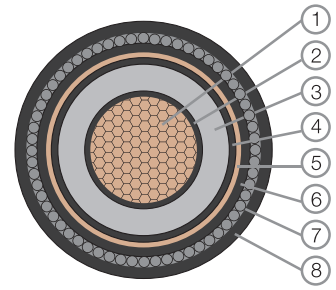
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	5.5	1.2	2.0	2.0	38	2,000
95	11.4	821	5.5	1.2	2.0	2.1	40	2,350
120	12.9	1,035	5.5	1.2	2.0	2.1	42	2,650
150	14.3	1,277	5.5	1.2	2.0	2.2	43	3,050
185	16.0	1,601	5.5	1.2	2.0	2.2	45	3,450
240	18.4	2,105	5.5	1.2	2.0	2.3	48	4,100
300	20.6	2,640	5.5	1.3	2.5	2.4	51	5,035
400	23.3	3,383	5.5	1.3	2.5	2.5	54	6,000
500	26.3	4,272	5.5	1.4	2.5	2.6	58	7,100
630	30.0	5,618	5.5	1.4	2.5	2.8	62	8,800
800	34.2	7,286	5.5	1.5	2.5	2.9	66	10,700
1,000	38.2	9,046	5.5	1.6	2.5	3.0	71	12,800
1,200	43.0	10,860	5.5	1.7	2.5	3.2	77	15,600

Table 39

FRT-XCTAH Cu/XLPE/CTS/LSZH/AWA/LSZH (Single Core)

XLPE Insulated, LSZH Bedded, Aluminium Wire Armoured, LSZH Sheathed Cable
19/33KV (Max 36), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Inner sheath
7. Armour
8. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Aluminium Wire Armour (AWA) (DATA upon request)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	19/33KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

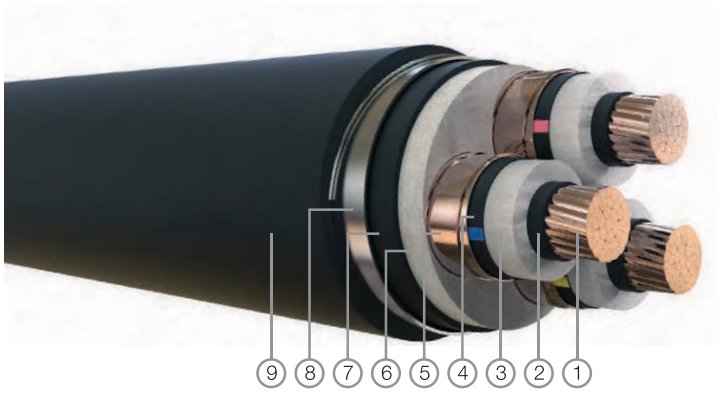
Cu/XLPE/CTS/LSZH/AWA/PVC/LSZH (Single Core)

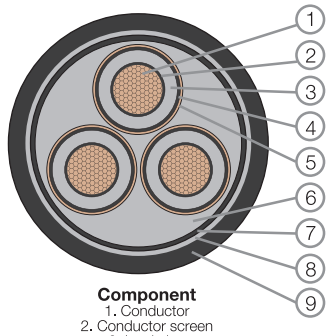
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
70	9.7	591	8.0	1.2	2.0	2.2	45	2,350
95	11.4	821	8.0	1.2	2.0	2.3	47	2,700
120	12.9	1,035	8.0	1.2	2.0	2.3	49	3,000
150	14.3	1,277	8.0	1.3	2.0	2.4	51	3,450
185	16.0	1,601	8.0	1.3	2.5	2.5	53	4,050
240	18.4	2,105	8.0	1.3	2.5	2.5	56	4,700
300	20.6	2,640	8.0	1.4	2.5	2.6	58	5,500
400	23.3	3,383	8.0	1.4	2.5	2.7	61	6,500
500	26.3	4,272	8.0	1.5	2.5	2.8	65	7,650
630	30.0	5,618	8.0	1.5	2.5	2.9	69	9,350
800	34.2	7,286	8.0	1.6	2.5	3.1	73	11,350
1,000	38.2	9,046	8.0	1.7	2.5	3.2	79	13,800
1,200	43.0	10,860	8.0	1.8	2.5	3.3	85	16,300

Table 40

FRT-XCTDH Cu/XLPE/CTS/LSZH/DSTA/LSZH (Three Core)

XLPE Insulated, LSZH Bedded, Double Steel Tape Armoured, LSZH Sheathed Cable
3.8/6.6KV (Max 7.2), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Double Steel Tape Armour (DSTA)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	3.8/6.6KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

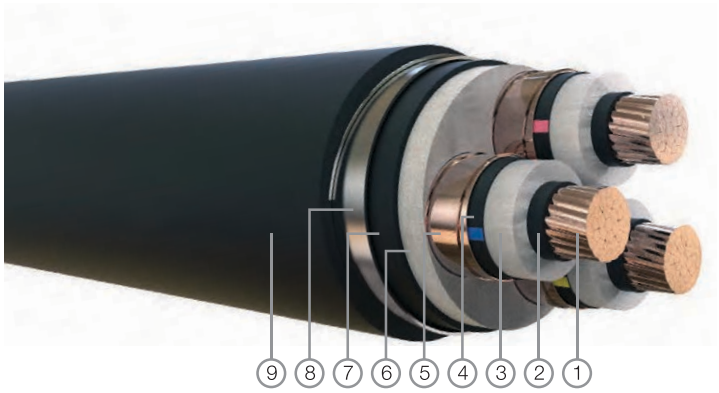
Cu/XLPE/CTS/LSZH/DSTA/LSZH (Three Core)

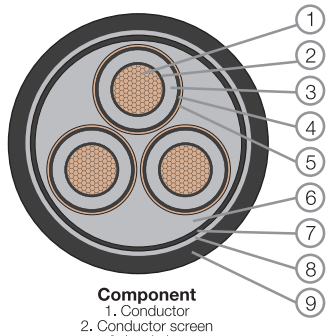
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	2.5	1.3	0.5	2.4	49	3,900
70	9.7	1,808	2.5	1.4	0.5	2.5	53	4,800
95	11.4	2,512	2.5	1.4	0.5	2.6	57	5,800
120	12.9	3,167	2.5	1.5	0.5	2.7	61	6,800
150	14.3	3,907	2.5	1.5	0.5	2.8	64	7,900
185	16.0	4,899	2.5	1.6	0.5	2.9	68	9,200
240	18.4	6,441	2.6	1.7	0.5	3.1	74	11,400
300	20.6	8,078	2.8	1.8	0.5	3.3	84	14,300
400	23.3	10,351	3.0	2.0	0.8	3.6	93	18,500

Table 41

FRT-XCTDH Cu/XLPE/CTS/LSZH/DSTA/LSZH (Three Core)

XLPE Insulated, LSZH Bedded, Double Steel Tape Armoured, LSZH Sheathed Cable
6.35/11KV (Max 12), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Double Steel Tape Armour (DSTA)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	6.35/11KV
Conductor Operating Temperature:	90℃
Final Short Circuit Temperature:	250℃
Test Voltage:	3.5Uo

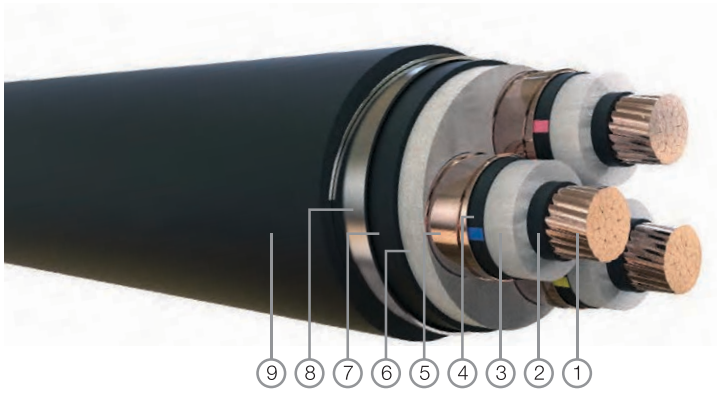
Cu/XLPE/CTS/LSZH/DSTA/LSZH (Three Core)

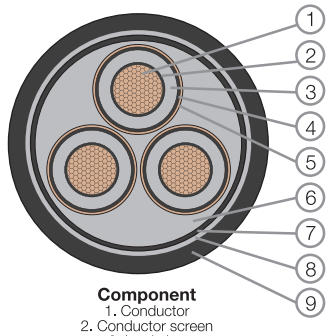
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	3.4	1.4	0.5	2.5	53	4,300
70	9.7	1,808	3.4	1.4	0.5	2.6	57	5,200
95	11.4	2,512	3.4	1.5	0.5	2.7	61	6,300
120	12.9	3,167	3.4	1.6	0.5	2.9	65	7,300
150	14.3	3,907	3.4	1.6	0.5	3.0	68	8,400
185	16.0	4,899	3.4	1.7	0.5	3.1	72	9,800
240	18.4	6,441	3.4	1.8	0.5	3.3	78	12,000
300	20.6	8,078	3.4	1.9	0.5	3.4	86	14,800
400	23.3	10,351	3.4	2.0	0.8	3.7	94	19,000

Table 42

FRT-XCTDH Cu/XLPE/CTS/LSZH/DSTA/LSZH (Three Core)

XLPE Insulated, LSZH Bedded, Double Steel Tape Armoured, LSZH Sheathed Cable
8.7/15KV (Max 17.5), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Double Steel Tape Armour (DSTA)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	8.7/15KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

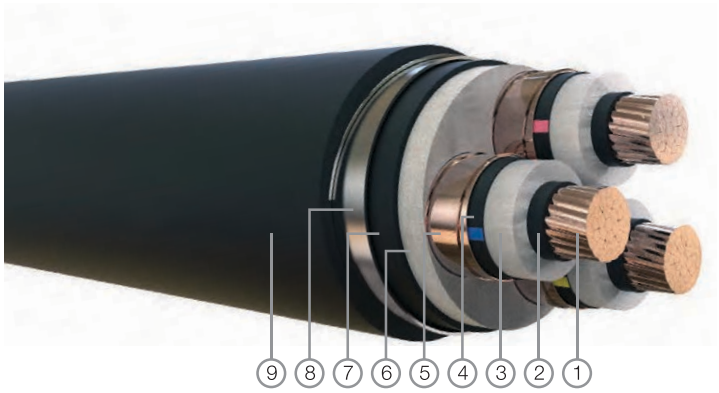
Cu/XLPE/CTS/LSZH/DSTA/LSZH (Three Core)

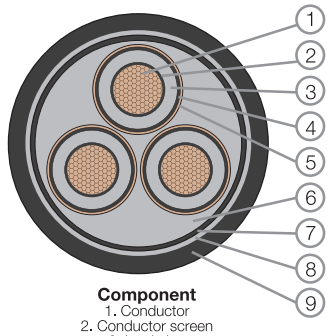
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	4.5	1.5	0.5	2.7	59	5,000
70	9.7	1,808	4.5	1.5	0.5	2.8	62	5,900
95	11.4	2,512	4.5	1.6	0.5	2.9	67	7,000
120	12.9	3,167	4.5	1.7	0.5	3.0	70	8,100
150	14.3	3,807	4.5	1.7	0.5	3.1	73	9,100
185	16.0	4,899	4.5	1.8	0.5	3.3	78	10,500
240	18.4	6,441	4.5	1.9	0.5	3.4	83	12,700
300	20.6	8,078	4.5	2.0	0.8	3.6	93	16,900
400	23.3	10,351	4.5	2.1	0.8	3.9	100	20,000

Table 43

FRT-XCTDH Cu/XLPE/CTS/LSZH/DSTA/LSZH (Three Core)

XLPE Insulated, LSZH Bedded, Double Steel Tape Armoured, LSZH Sheathed Cable
12.7/22KV (Max 24), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Double Steel Tape Armour (DSTA)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	12.7/22KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

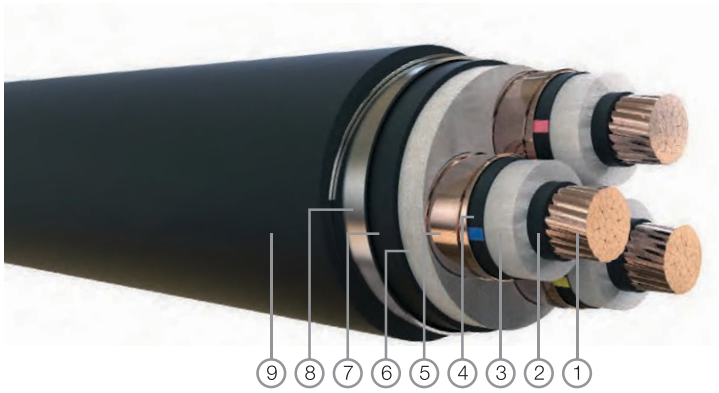
Cu/XLPE/CTS/LSZH/DSTA/LSZH (Three Core)

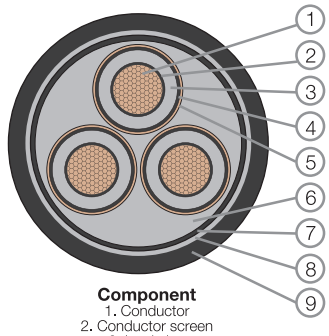
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	5.5	1.6	0.5	2.8	64	5,300
70	9.7	1,808	5.5	1.6	0.5	2.9	67	6,300
95	11.4	2,512	5.5	1.7	0.5	3.1	71	7,400
120	12.9	3,167	5.5	1.7	0.5	3.2	75	8,400
150	14.3	3,907	5.5	1.8	0.5	3.3	78	9,500
185	16.0	4,899	5.5	1.9	0.5	3.4	82	11,000
240	18.4	6,441	5.5	2.0	0.8	3.6	89	14,300
300	20.6	8,078	5.5	2.0	0.8	3.8	98	17,300
400	23.3	10,351	5.5	2.2	0.8	4.0	105	20,500

Table 44

FRT-XCTDH Cu/XLPE/CTS/LSZH/DSTA/LSZH (Three Core)

XLPE Insulated, LSZH Bedded, Double Steel Tape Armoured, LSZH Sheathed Cable
19/33KV (Max 36), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Double Steel Tape Armour (DSTA)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	19/33KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

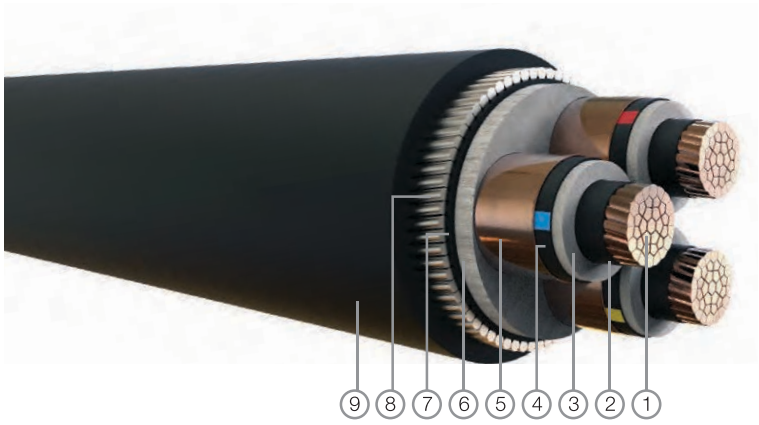
Cu/XLPE/CTS/LSZH/DSTA/LSZH (Three Core)

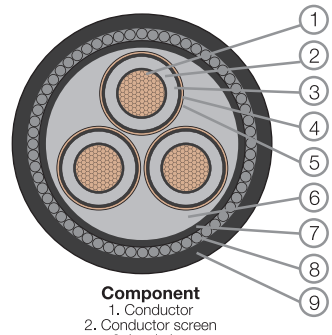
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	8.0	1.8	0.5	3.2	76	6,900
70	9.7	1,808	8.0	1.8	0.5	3.3	79	7,900
95	11.4	2,512	8.0	1.9	0.5	3.5	83	9,000
120	12.9	3,167	8.0	2.0	0.8	3.6	88	11,000
150	14.3	3,907	8.0	2.0	0.8	3.7	92	12,000
185	16.0	4,899	8.0	2.1	0.8	3.9	96	14,000
240	18.4	6,441	8.0	2.2	0.8	4.0	101	16,000
300	20.6	8,078	8.0	2.3	0.8	4.2	110	19,000
400	23.3	10,351	8.0	2.4	0.8	4.4	117	22,000

Table 45

FRT-XCTSH Cu/XLPE/CTS/LSZH/SWA/LSZH (Three Core)

XLPE Insulated, LSZH Bedded, Steel Wire Armoured, LSZH Sheathed Cable
3.8/6.6KV (Max 7.2), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Steel Wire Armour (SWA)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	3.8/6.6KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

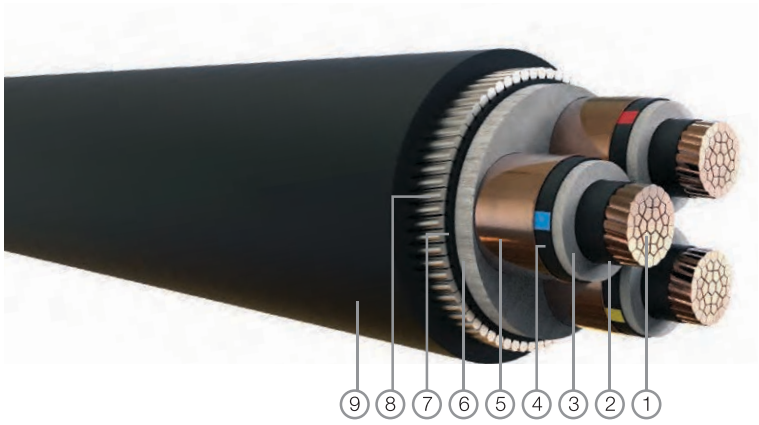
Cu/XLPE/CTS/LSZH/SWA/LSZH (Three Core)

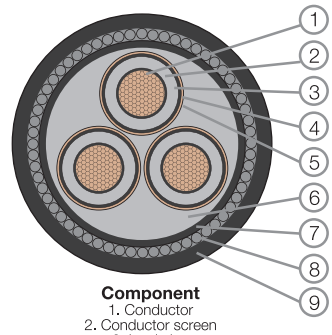
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	2.5	1.3	2.5	2.5	52	5,300
70	9.7	1,808	2.5	1.4	2.5	2.6	56	6,300
95	11.4	2,512	2.5	1.4	2.5	2.7	60	7,500
120	12.9	3,167	2.5	1.5	2.5	2.8	64	8,600
150	14.3	3,907	2.5	1.5	2.5	2.9	67	9,800
185	16.0	4,899	2.5	1.6	2.5	3.0	71	11,400
240	18.4	6,441	2.6	1.7	2.5	3.2	77	13,800
300	20.6	8,078	2.8	1.8	3.15	3.5	88	18,000
400	23.3	10,351	3.0	2.0	3.15	3.8	96	21,500

Table 46

FRT-XCTSH Cu/XLPE/CTS/LSZH/SWA/LSZH (Three Core)

XLPE Insulated, LSZH Bedded, Steel Wire Armoured, LSZH Sheathed Cable
6.35/11KV (Max 12), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Steel Wire Armour (SWA)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	6.35/11KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

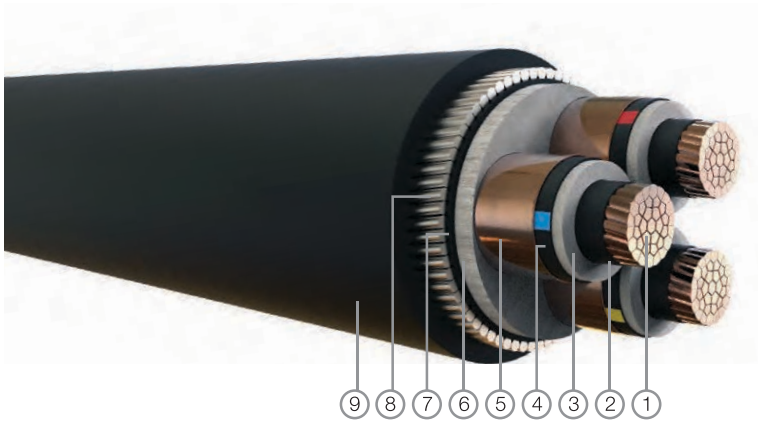
Cu/XLPE/CTS/LSZH/SWA/LSZH (Three Core)

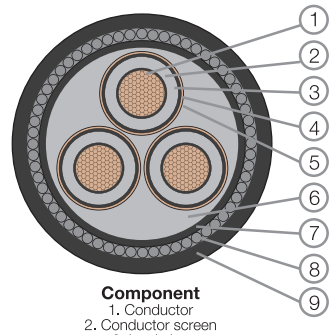
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	3.4	1.4	2.5	2.6	56	5,900
70	9.7	1,808	3.4	1.4	2.5	2.7	60	6,900
95	11.4	2,512	3.4	1.5	2.5	2.9	64	8,100
120	12.9	3,167	3.4	1.6	2.5	3.0	68	9,300
150	14.3	3,907	3.4	1.6	2.5	3.1	71	10,500
185	16.0	4,899	3.4	1.7	2.5	3.2	75	12,100
240	18.4	6,441	3.4	1.8	3.15	3.4	82	15,300
300	20.6	8,078	3.4	1.9	3.15	3.5	91	18,700
400	23.3	10,351	3.4	2.0	3.15	3.8	97	22,100

Table 47

FRT-XCTSH Cu/XLPE/CTS/LSZH/SWA/LSZH (Three Core)

XLPE Insulated, LSZH Bedded, Steel Wire Armoured, LSZH Sheathed Cable
8.7/15KV (Max 17.5), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Steel Wire Armour (SWA)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	8.7/15KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

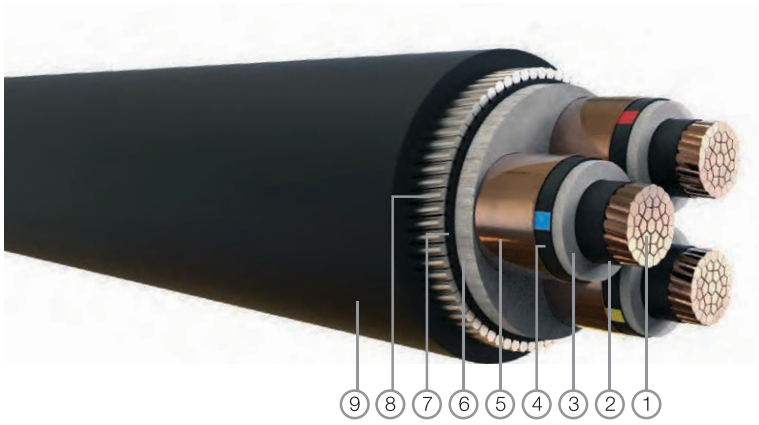
Cu/XLPE/CTS/LSZH/SWA/LSZH (Three Core)

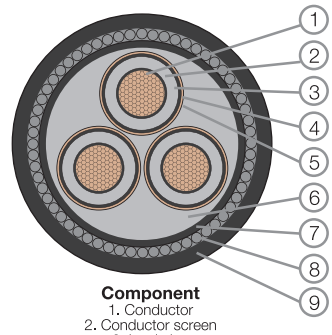
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	4.5	1.5	2.5	2.8	62	6,700
70	9.7	1,808	4.5	1.5	2.5	2.9	66	7,700
95	11.4	2,512	4.5	1.6	2.5	3.0	70	9,100
120	12.9	3,167	4.5	1.7	2.5	3.1	73	10,300
150	14.3	3,907	4.5	1.7	2.5	3.2	77	11,500
185	16.0	4,899	4.5	1.8	3.15	3.4	82	14,000
240	18.4	6,441	4.5	1.9	3.15	3.6	88	16,500
300	20.6	8,078	4.5	2.0	3.15	3.7	97	20,000
400	23.3	10,351	4.5	2.1	3.15	4.0	103	23,500

Table 48

FRT-XCTSH Cu/XLPE/CTS/LSZH/SWA/LSZH (Three Core)

XLPE Insulated, LSZH Bedded, Steel Wire Armoured, LSZH Sheathed Cable
12.7/22KV (Max 24), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Steel Wire Armour (SWA)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	12.7/22KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

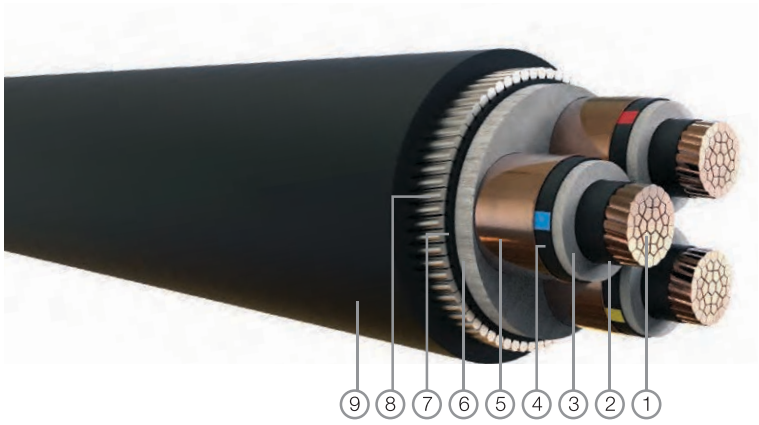
Cu/XLPE/CTS/LSZH/SWA/LSZH (Three Core)

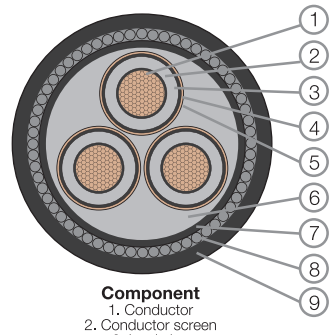
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	5.5	1.6	2.5	2.9	67	7,200
70	9.7	1,808	5.5	1.6	2.5	3.1	71	8,300
95	11.4	2,512	5.5	1.7	2.5	3.2	75	9,600
120	12.9	3,167	5.5	1.7	3.15	3.3	79	11,600
150	14.3	3,907	5.5	1.8	3.15	3.4	83	13,000
185	16.0	4,899	5.5	1.9	3.15	3.6	87	14,600
240	18.4	6,441	5.5	2.0	3.15	3.7	93	17,100
300	20.6	8,078	5.5	2.0	3.15	3.9	101	20,500
400	23.3	10,351	5.5	2.2	3.15	4.1	108	24,000

Table 49

FRT-XCTSH Cu/XLPE/CTS/LSZH/SWA/LSZH (Three Core)

XLPE Insulated, LSZH Bedded, Steel Wire Armoured, LSZH Sheathed Cable
19/33KV (Max 36), IEC 60502-2





Component
1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Metallic screen (copper wire or copper tape)
6. Filler & Binder Tape
7. Inner sheath
8. Armour
9. Outer sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Conductor Screen:	Extruded Semi Conductive Compound
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Screen:	Extruded Semi Conductive Compound
Metallic Screen:	Copper Tape Screen
Assembled Core:	PP Yarn Filler with Binder Tape
Inner Sheath:	LSZH Flame Retardant Polyolefin
Armour:	Steel Wire Armour (SWA)
Outer Sheath:	LSZH Flame Retardant Polyolefin
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

Operating Voltage:	19/33KV
Conductor Operating Temperature:	90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5Uo

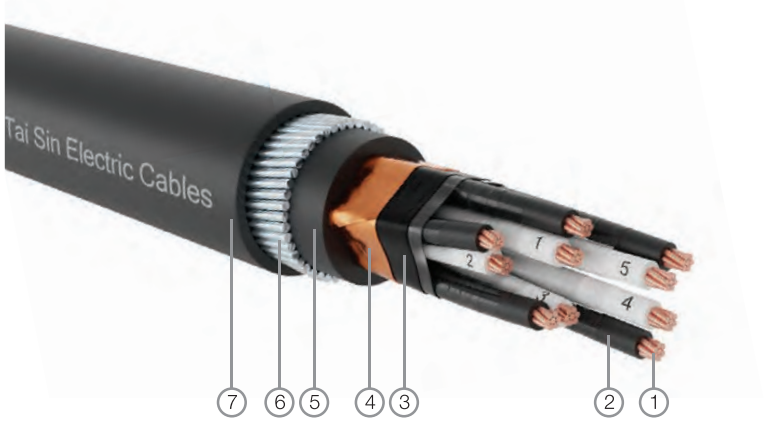
Cu/XLPE/CTS/LSZH/SWA/LSZH (Three Core)

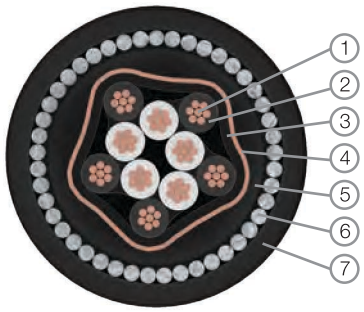
Nominal Area of Conductor (mm^2)	Nominal Diameter of Conductor (mm)	Approximate Weight of Conductor (kg/km)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Approximate Overall Diameter (mm)	Approximate Cable Weight (kg/km)
50	8.1	1,248	8.0	1.8	3.15	3.4	80	10,000
70	9.7	1,808	8.0	1.8	3.15	3.5	84	11,000
95	11.4	2,512	8.0	1.9	3.15	3.6	88	12,000
120	12.9	3,167	8.0	2.0	3.15	3.7	92	14,000
150	14.3	3,907	8.0	2.0	3.15	3.8	95	15,000
185	16.0	4,899	8.0	2.1	3.15	4.0	99	17,000
240	18.4	6,441	8.0	2.2	3.15	4.1	105	19,000
300	20.6	8,078	8.0	2.3	3.15	4.3	113	23,000
400	23.3	10,351	8.0	2.4	3.15	4.5	120	26,000

Table 50

XCSP (Pilot Cable) Cu/XLPE/PVC/CTS/HDPE/SWA/PVC

XLPE Insulated, PVC Bedded, Copper Tape Collective Screen, PE Inner Sheathed, Steel Wire Armoured, Flame Retardant PVC Sheathed, 5kV Induced Voltage





Component
1. Conductor
2. Insulation
3. Bedding
4. Copper Tape Screen
5. Separation Sheath
6. Galvanised Steel Wire Armoured
7. Outer Sheath

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Conductor
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Colour:	Black / White with Black Numberings
Cabling:	Cores twisted to form a pair with Individual Binder Tape
Assembly:	Requisite number of pairs are assembled together in concentric layers
Bedding:	Polyvinyl Chloride (PVC) Type ST2 Tape (LSZH upon request)
Metallic Screen:	Copper Tape Screen
Separation Sheath:	High Density Polyethylene (HDPE) Compound
Separation Sheath Colour:	Black
Armour:	Galvanised Steel Wire Armoured (SWA) (DSTA upon request)
Outer Sheath:	Flame Retardant Polyvinyl Chloride (PVC) Compound Type ST2 (LSZH upon request)
Outer Sheath Colour:	Black (other colours upon request)

ELECTRICAL CHARACTERISTICS

D.C. Conductor Resistance at 20°C:

1.5mm²	Max Ω/km	12.3
2.5mm²	Max Ω/km	7.6
4mm²	Max Ω/km	4.8

D.C. Insulation Resistance:	Min MΩ.km	1000
Maximum capacitance unbalanced pair to pair:	pF/500m	500
Voltage withstand test for 1 min: (Between each conductor and the remaining conductors connected to the screen and armour)	kV AC	5

REFERENCE STANDARDS

BS 7870; IEC 60502-1; IEC 60228; IEC 60332-1; IEC 60332-3-24

Cu/XLPE/CTS/HDPE/SWA/PVC

No. of Pairs	Nominal Area of Conductor (mm²)	No./ Wire Diameter (no./mm)	Nominal Insulation Thickness (mm)	Nominal Copper Tape Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx Diameter Under Armour (mm)	Nominal Armour Wire Diameter (mm)	Nominal Outer Sheath Thickness (mm)	Approx Overall Diameter (mm)	Approx Cable Weight (kg/km)
5	1.5	7 / 0.53	0.8	0.1	1.4	20.8	1.6	1.7	27	1360
10	1.5	7 / 0.53	0.8	0.1	1.5	28.6	1.6	2.0	36	2070
15	1.5	7 / 0.53	0.8	0.1	1.6	31.7	1.6	2.1	39	2440
20	1.5	7 / 0.53	0.8	0.1	1.6	35.0	2.0	2.3	44	3100
5	2.5	7 / 0.67	0.8	0.1	1.4	22.7	1.6	1.8	30	1580
10	2.5	7 / 0.67	0.8	0.1	1.5	31.5	1.6	2.1	39	2440
15	2.5	7 / 0.67	0.8	0.1	1.6	35.0	2.0	2.3	44	3080
20	2.5	7 / 0.67	0.8	0.1	1.7	39.0	2.0	2.4	48	3720
5	4	7 / 0.85	1.0	0.1	1.5	28.8	1.6	1.9	36	2160
10	4	7 / 0.85	1.0	0.1	1.6	36.6	2.0	2.2	45	2800
15	4	7 / 0.85	1.0	0.1	1.7	40.2	2.0	2.4	49	3440
20	4	7 / 0.85	1.0	0.1	1.8	44.0	2.0	2.5	54	4230

Table 51

CABLE TECHNICAL DATA

Max. conductor DC resistance at 20°C							
Nominal Cross Section (mm²)	**50**	**70**	**95**	**120**	**150**	**185**	**240**
Cu	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754
Al	0.641	0.443	0.320	0.253	0.206	0.164	0.125
Nominal Cross Section (mm²)	**300**	**400**	**500**	**630**	**800**	**1000**	**1200**
Cu	0.0601	0.0470	0.0366	0.0283	0.022	0.0176	0.0151
Al	0.100	0.0778	0.0605	0.0469	0.0367	0.0291	0.0247

Table 52

Frequency voltage test, partial discharge test and impulse voltage test						
Rated voltage (kV)		**3.8/6.6**	**6.35/11**	**8.7/15**	**12.7/22**	**19/33**
Frequency Voltage Test	Test voltage (kV)	13.3	22.2	30.5	44.5	66.5
	Duration (min)	5	5	5	5	5
Partial Discharge Test	Test voltage (kV)	6.6	11.0	15.1	22.0	32.9
	Max. partial discharge sensitivity, pC	10	10	10	10	10
Impulse Voltage Test	Test voltage (kV)	60	75	95	125	170

Table 53

Max. conductor short-circuit current at 250°C(kA / 1s)							
Conductor Cross Section (mm²)	**50**	**70**	**95**	**120**	**150**	**185**	**240**
Cu	7.31	10.2	13.8	17.4	21.7	26.7	34.6
Al	4.79	6.68	9.03	11.4	14.2	17.4	22.6
Conductor Cross Section (mm²)	**300**	**400**	**500**	**630**	**800**	**1000**	**1200**
Cu	43.1	57.4	71.7	88.8	114.5	143.1	171.7
Al	28.2	37.6	47.0	58.0	75.0	93.7	112.4

Table 54

Cable capacitance (μF/km)						
Conductor Cross Section (mm²) \ **Rated Voltage (kV)**	**3.8/6.6**	**6.35/11**	**8.7/15**	**12.7/22**	**19/33**
50	0.33	0.26	0.21	0.18	0.14
70	0.38	0.29	0.24	0.20	0.16
95	0.42	0.33	0.26	0.22	0.18
120	0.46	0.36	0.28	0.24	0.19
150	0.51	0.39	0.31	0.26	0.20
185	0.55	0.42	0.33	0.28	0.22
240	0.61	0.47	0.37	0.31	0.24
300	0.65	0.51	0.40	0.34	0.26
400	0.69	0.59	0.46	0.39	0.28
500	0.76	0.65	0.52	0.44	0.32
630	0.83	0.72	0.56	0.47	0.35

Table 55

XLPE INSULATED PVC OR LSZH SHEATHED CABLE CURRENT CARRYING CAPACITY

Current carrying capacity calculation conditions

- Conductor operating temperature: 90°C
- Ambient air temperature: 40°C
- Ground temperature: 25°C
- Underground laying, the soil thermal resistivity is 1.5 K·m/W and earthenware thermal resistivity is 1.2 K·m/W

Current carrying capacity correction factor

Correction factors for ambient temperature ground installation.

(1) Ambient temperature correction factor

Conductor Temperature	Ambient temperature（in air）							
	20	25	30	35	40	45	50	55
90	1.23	1.17	1.12	1.06	1.00	0.94	0.87	0.81
Conductor Temperature	**Ambient temperature（in ground）**							
	10	15	20	25	30	35	-	-
90	1.11	1.07	1.04	1.00	0.96	0.92	-	-

Table 56

(2) Correction factors for depths of laying other than 0.8 m for direct buried cables

Depth of Laying (m)	Single-core cables		Three-core cables
	Nominal Conductor Size (mm²)		
	≤185 mm²	>185 mm²	
0.5	1.04	1.06	1.04
0.6	1.02	1.04	1.03
1	0.98	0.97	0.98
1.25	0.96	0.95	0.96
1.5	0.95	0.93	0.95
1.75	0.94	0.91	0.94
2	0.93	0.90	0.93
2.5	0.91	0.88	0.91
3	0.90	0.86	0.90

Table 57

(3) Correction factors for depths of laying other than 0.8 m for cables in ducts

Depth of Laying (m)	Single-core cables		Three-core cables
	Nominal Conductor Size (mm²)		
	≤185 mm²	>185 mm²	
0.5	1.04	1.05	1.03
0.6	1.02	1.03	1.02
1	0.98	0.97	0.99
1.25	0.96	0.95	0.97
1.5	0.95	0.93	0.96
1.75	0.94	0.92	0.95
2	0.93	0.91	0.94
2.5	0.91	0.89	0.93
3	0.90	0.88	0.92

Table 58

(4) Correction factors for soil thermal resistivities other than 1.5 K·m/W for direct buried single-core cables

Nominal Area of Conductor (mm^2)	Values of soil thermal resistivity (K·m/W)						
	0.7	0.8	0.9	1	2	2.5	3
70	1.33	1.27	1.22	1.17	0.89	0.81	0.74
95	1.34	1.28	1.22	1.18	0.89	0.80	0.74
120	1.34	1.28	1.22	1.18	0.88	0.80	0.74
150	1.35	1.28	1.23	1.18	0.88	0.80	0.74
185	1.35	1.29	1.23	1.18	0.88	0.80	0.74
240	1.36	1.29	1.23	1.18	0.88	0.80	0.73
300	1.36	1.30	1.24	1.19	0.88	0.80	0.73
400	1.37	1.30	1.24	1.19	0.88	0.79	0.73

Table 59

(5) Correction factors for soil thermal resistivities other than 1.5 K·m/W for single-core cables in buried ducts

Nominal Area of Conductor (mm^2)	Values of soil thermal resistivity (K·m/W)						
	0.7	0.8	0.9	1	2	2.5	3
70	1.22	1.19	1.15	1.12	0.91	0.84	0.78
95	1.23	1.19	1.16	1.13	0.91	0.84	0.78
120	1.23	1.20	1.16	1.13	0.91	0.84	0.78
150	1.24	1.20	1.16	1.13	0.91	0.83	0.78
185	1.24	1.20	1.17	1.13	0.91	0.83	0.78
240	1.25	1.21	1.17	1.14	0.90	0.83	0.77
300	1.25	1.21	1.17	1.14	0.90	0.83	0.77
400	1.25	1.21	1.17	1.14	0.90	0.83	0.77

Table 60

(6) Correction factors for soil thermal resistivities other than 1.5 K·m/W for direct buried three-core cables

Nominal Area of Conductor (mm^2)	Values of soil thermal resistivity (K·m/W)						
	0.7	0.8	0.9	1	2	2.5	3
50	1.25	1.21	1.17	1.14	0.91	0.83	0.77
70	1.26	1.21	1.18	1.14	0.90	0.83	0.77
95	1.26	1.22	1.18	1.14	0.90	0.83	0.77
120	1.26	1.22	1.18	1.14	0.90	0.83	0.77
150	1.27	1.22	1.18	1.15	0.90	0.83	0.77
185	1.27	1.23	1.18	1.15	0.90	0.83	0.77
240	1.28	1.23	1.19	1.15	0.90	0.83	0.77
300	1.28	1.23	1.19	1.15	0.90	0.82	0.77
400	1.28	1.23	1.19	1.15	0.90	0.82	0.76

Table 61

(7) Correction factors for soil thermal resistivities other than 1.5 K·m/W for three-core cables in ducts

Nominal Area of Conductor (mm^2)	Values of soil thermal resistivity (K·m/W)						
	0.7	0.8	0.9	1	2	2.5	3
50	1.14	1.13	1.10	1.08	0.94	0.88	0.84
70	1.15	1.13	1.11	1.09	0.94	0.88	0.83
95	1.15	1.13	1.11	1.09	0.94	0.88	0.83
120	1.15	1.13	1.11	1.09	0.93	0.88	0.83
150	1.16	1.13	1.11	1.09	0.93	0.88	0.83
185	1.16	1.14	1.11	1.09	0.93	0.87	0.83
240	1.16	1.14	1.12	1.10	0.93	0.87	0.82
300	1.17	1.14	1.12	1.10	0.93	0.87	0.82
400	1.17	1.14	1.12	1.10	0.92	0.86	0.81

Table 62

(8) Correction factors for groups of three-core cables in horizontal formation laid direct in ground

Number of cables in group	Spacing between cable centres (mm)				
	Touching	200	400	600	800
2	0.80	0.86	0.92	0.92	0.94
3	0.69	0.77	0.82	0.86	0.89
4	0.62	0.72	0.79	0.83	0.87
5	0.57	0.68	0.76	0.81	0.85
6	0.54	0.65	0.74	0.80	0.84
7	0.51	0.63	0.72	0.78	0.83
8	0.49	0.61	0.71	0.78	-
9	0.47	0.60	0.70	0.77	-
10	0.46	0.59	0.69	-	-
11	0.45	0.57	0.69	-	-
12	0.43	0.56	0.68	-	-

Table 63

(9) Correction factors for groups of three-phase circuits of single-core cables laid direct in ground

Number of cables in group	Spacing between cable centres (mm)				
	Touching	200	400	600	800
2	0.73	0.83	0.88	0.90	0.92
3	0.60	0.73	0.79	0.83	0.86
4	0.54	0.68	0.75	0.80	0.84
5	0.49	0.63	0.72	0.78	0.82
6	0.46	0.61	0.70	0.76	0.81
7	0.43	0.58	0.68	0.75	0.80
8	0.41	0.57	0.67	0.74	-
9	0.39	0.55	0.66	0.73	-
10	0.37	0.54	0.65	-	-
11	0.36	0.53	0.64	-	-
12	0.35	0.52	0.64	-	-

Table 64

(10) Correction factors for groups of three-core cables in single way ducts in horizontal formation

Number of cables in group	Spacing between cable centres (mm)				
	Touching	200	400	600	800
2	0.85	0.88	0.92	0.94	0.95
3	0.75	0.80	0.85	0.88	0.91
4	0.69	0.75	0.82	0.86	0.89
5	0.65	0.72	0.79	0.84	0.87
6	0.62	0.69	0.77	0.83	0.87
7	0.59	0.67	0.76	0.82	0.86
8	0.57	0.65	0.75	0.81	-
9	0.55	0.64	0.74	0.80	-
10	0.54	0.63	0.73	-	-
11	0.52	0.62	0.73	-	-
12	0.51	0.61	0.72	-	-

Table 65

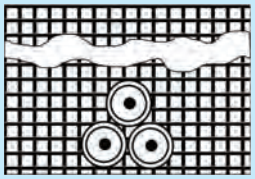
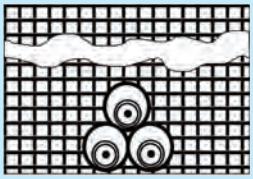
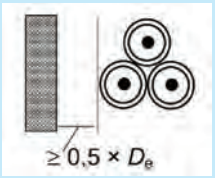
(11) Correction factors for groups of three-phase circuits of single-core cables in single way ducts

Number of cables in group	Spacing between cable centres (mm)				
	Touching	200	400	600	800
2	0.78	0.85	0.89	0.91	0.93
3	0.66	0.75	0.81	0.85	0.88
4	0.59	0.70	0.77	0.82	0.86
5	0.55	0.66	0.74	0.80	0.84
6	0.51	0.64	0.72	0.78	0.83
7	0.48	0.61	0.71	0.77	0.82
8	0.46	0.60	0.70	0.76	-
9	0.44	0.58	0.69	0.76	-
10	0.43	0.57	0.68	-	-
11	0.42	0.56	0.67	-	-
12	0.40	0.55	0.67	-	-

Table 66

Current Carrying Capacity for Single-core XLPE insulated PVC or LSZH sheathed cables

3.8/6.6 kV ~ 19/33 kV Copper Conductor

Nominal area of conductor	Buried direct in ground Trefoil	In single-way ducts Trefoil ducts	In air Trefoil
			
Cross Section (mm^2)	**Current carrying capacity (A)**		
70	229	217	269
95	273	260	328
120	310	295	379
150	346	329	430
185	389	371	494
240	450	429	583
300	504	483	668
400	566	541	768
500	624	595	869
630	682	653	996
800	739	720	1128
1000	816	787	1251
1200	883	854	1383

Maximum conductor temperature: 90°C
Depth of laying: 0.8m

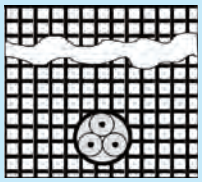
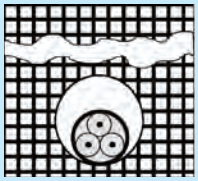
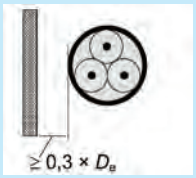
Ambient air temperature: 40°C
Thermal resistivity of soil: 1.5 K·m/W

Ground temperature: 25°C
Thermal resistivity of earthenware ducts: 1.2K·m/W

Table 67

Current Carrying Capacity for Three-core XLPE insulated PVC or LSZH sheathed cables

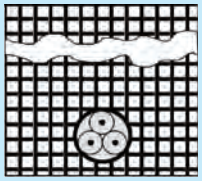
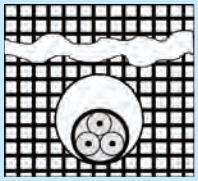
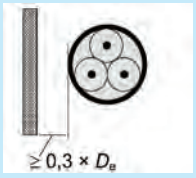
(A) 3.8/6.6 kV ~ 19/33 kV Copper Conductor, unarmoured

Nominal area of conductor	Buried direct in ground	In single-way ducts	In air
	Trefoil	Trefoil ducts	Trefoil
			
Cross Section (mm²)	**Current carrying capacity (A)**		
50	173	151	185
70	212	185	230
95	251	221	276
120	286	253	319
150	320	285	362
185	361	322	414
240	416	374	483
300	469	423	551
400	530	480	633

Maximum conductor temperature: 90°C
Depth of laying: 0.8m
Ambient air temperature: 40°C
Thermal resistivity of soil: 1.5 K·m/W
Ground temperature: 25°C
Thermal resistivity of earthenware ducts: 1.2K·m/W

Table 68

(B) 3.8/6.6 kV ~ 19/33 kV Copper Conductor, armoured

Nominal area of conductor	Buried direct in ground	In single-way ducts	In air
	Trefoil	Trefoil ducts	Trefoil
			
Cross Section (mm²)	**Current carrying capacity (A)**		
50	173	151	186
70	211	186	230
95	252	222	279
120	286	253	320
150	318	284	361
185	359	321	412
240	413	371	481
300	462	417	545
400	519	472	621

Maximum conductor temperature: 90°C
Depth of laying: 0.8m
Ambient air temperature: 40°C
Thermal resistivity of soil: 1.5 K·m/W
Ground temperature: 25°C
Thermal resistivity of earthenware ducts: 1.2K·m/W

Table 69

TERMS & CONDITIONS OF SALES

1. **APPLICATION OF TERMS & CONDITIONS**
   These conditions govern the sale and purchase of goods ordered by Buyer from Seller ("the goods") and shall override any terms and conditions whether previously or hereafter stipulated incorporated or referred to by Buyer whether orally in its purchase order or other documents.
2. **DELIVERY**
   a. Any time for delivery named by Seller is an estimate only and Seller is not liable to make good any damage or loss arising out of any such delay.
   b. Delivery shall be deemed to have been made if Seller delivers the goods to the location specified by the Buyer and Delivery Order is endorsed by any person present thereat. Seller is not responsible to ensure the goods have been delivered to or is collected by Buyer or its authorised personnel and shall not be liable for any loss or damage to Buyer by reason of unauthorised collection of the goods.
   c. Should Buyer fail to take delivery of goods, Seller shall be entitled (without derogation of its rights under Law) to charge Buyer for storage and insurance for the goods calculated from the date fixed for delivery.
   d. The Seller reserves the right to deliver the goods by instalments and each instalment shall be deemed to have been sold under a separate contract. Failure to deliver any instalment shall not entitled the buyer to repudiate the contract.
   e. Off loading and/or handling will in all events be the responsibility of the Buyer.
   f. If the goods to be delivered are, at the Buyer's discretion, delivered to the destination other than the Buyer's premises, the Seller will arrange such delivery for the Buyer and all costs for carriage and insurance will be borne by the Buyer.
   g. Availability of the goods when offered ex-stock is subject to such goods being sold in another transaction between the date when the Seller advises the goods are available, and the date when it receives the Buyer's order. Any delivery time offered for products made to special customer order is indicative only, and the Seller shall not be liable for any loss or damage whatsoever arising as a consequence or result of any such failure to deliver.
3. **PRICE**
   The quoted prices for the goods are subject to change in the event of any imposition or increase in taxes, levies or duties whatsoever on the goods, its components or raw materials.
4. **PAYMENT**
   Payment for the goods shall be made within the time stipulated in the invoice. Interest at 1.5% per month will be charged on late payment.
5. **TIME OF THE ESSENCE**
   Time within which the Buyer is to buy for the goods shall be of the essence of this Contract.
6. **ACCEPTANCE**
   Buyer shall inspect the goods immediately upon delivery. Unless Seller receives notice that the goods are not in accordance with the Buyer's order and the goods returned to Seller within 24 hours from the date of delivery, the goods shall be deemed to have been accepted by the Buyer PROVIDED ALWAYS Seller will not accept return of used goods and Buyer shall not reject any goods which are in accordance with the Buyer's order.
7. **DESCRIPTION**
   Notwithstanding any description of the goods given by the Seller or Buyer, no sale of goods shall constitute or be construed as a sale by description.
8. **WARRANTIES**
   Save and except for written warranties (if any) given by Seller, the Seller does not give any warranties as to the quality, state, condition or fitness of the goods or their suitability for any purpose or for use under any specific conditions, notwithstanding that such purpose or condition may be known or make known to Seller.
9. **DEFECTS**
   Save and except as notified pursuant to Clause (6) above, Seller shall be under no liability to Buyer either in contact or tort for loss, injury or damage sustained by Buyer or any third party by reason of defects in the goods whether latent or otherwise but Buyer will keep Seller indemnified against any such claim.
10. **TITLE**
    Title to the goods remains vested in Seller until Seller receives payment for the full purchase price. If such payment is overdue, the Seller may without prejudice to any other rights sue for the purchase price, recover or re-sell the goods and the Buyer grants the Seller, its servants/agents the right and/or licence to enter the Buyer's premise and/or any other premise where the goods are stored. If any of the goods are sold by Buyer before title has passed to Buyer, Buyer shall hold the proceeds of sale and all rights against purchaser in trust for Seller.
11. **RISK**
    Risk passes to Buyer upon delivery of goods to Buyer.
12. **DEFAULT**
    If Buyer fail to pay Seller on due date, commits a breach of any of its obligation herein, becomes insolvent or commits an act of bankruptcy, Seller may without prejudice to its other rights and without giving any notice, suspend/cancel further deliveries, stop any delivery in transit under this Contract or any other contracts and/or limit/cancel the Buyer's credit as to time and/or amount for executed, executory or future orders, and/or request for securities or guarantees. Seller shall not be liable to Buyer for any damages which Buyer may suffer or incur by reason thereof.
13. **CANCELLATION OF CREDIT**
    Notwithstanding anything herein contained, Seller reserves the right to limit/cancel the credit of the Buyer as to time and/or amount without giving any reasons thereof and to demand full settlement immediately of all sums that may be owing by Buyer notwithstanding that the credit period has not expired.
14. **FORCE MAJEURE**
    Seller shall not be liable to Buyer for failure to deliver the goods by reason of any breakdown of plant, fire, explosion, Act of God, or outbreak of hostilities, national emergency, industrial disputes, shortage of labour, raw materials, energy or any causes beyond Seller's control and which Seller is unable to prevent by the exercise of reasonable diligence, whether of the class of causes enumerated herein or not.
15. **APPROPRIATION OF PAYMENTS**
    All payments received from the Buyer will be applied towards settlement of the Buyer's oldest debts comprising of the earliest invoices, debit notes (including debit notes for overdue interest) and other charges howsoever arising PROVIDED ALWAYS Seller may appropriate any payments towards account of interest before principal in respect of any debt as the Seller shall in its absolute discretion deem fit.
16. **STATEMENT OF ACCOUNT**
    All amounts stated in the invoices and statement of accounts of Seller shall be conclusive of the amounts due and owing by Buyer to Seller and shall be binding against Buyer in any legal proceedings.
17. **RIGHTS OF SET-OFF**
    Seller entitled to set-off against Buyer's debts all monies now or hereafter standing to the credit of Buyer's account with Seller and for this purpose Buyer shall give irrevocable authority to Seller to collect on behalf of Buyer and give valid receipt and discharge in respect of all such monies owing to the Buyer.
18. **WAIVER**
    No failure or delay by the Seller in exercising any rights hereunder shall operate as a waiver hereof nor shall any single or partial exercise of right preclude any further exercise thereof or the exercises of any other right.
19. **SALE OF GOODS ACT ("the Act")**
    The terms and conditions in favour of the Seller hereunder shall be in addition to and not in substitution for any term condition warranty expressed or implied in favour of the Seller under the Act or any statutory and re-enactment thereto for the time being enforced.
20. **INFRINGEMENT OF PATENTS DESIGNS**
    Buyer shall indemnify Seller against all damages, claims, costs and expenses which Seller may become liable as a result or work done or goods sold in accordance with Buyer's specifications which involves infringement of any patents, registered designs or trademarks.
21. **NOTICES**
    Any notices, communications or demands shall be deemed to have been sufficiently given if sent by prepaid post to the address of the addressee stated herein or to the addressee's last known place of business and shall be presumed to have reached the address in ordinary course of post.

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