الكابلات السعودية
Saudi Cable

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HIGH VOLTAGE CABLES CATALOGUE 66 to 400 KV

This catalogue contains technical information on all SCC HV / EHV power cables with XLPE insulation, Copper Wire Screen, or combination of Copper Wire Screen & Lead Sheath, or with Lead Sheath designs, and with a range of sheathing options of MDPE or HDPE.

Each section contains the appropriate technical details and constructional data. Included also, Current carrying capacities and other electrical data applicable to high voltage and extra high voltage cables, This information assists customers in selecting the most suitable cables for their specific requirements.

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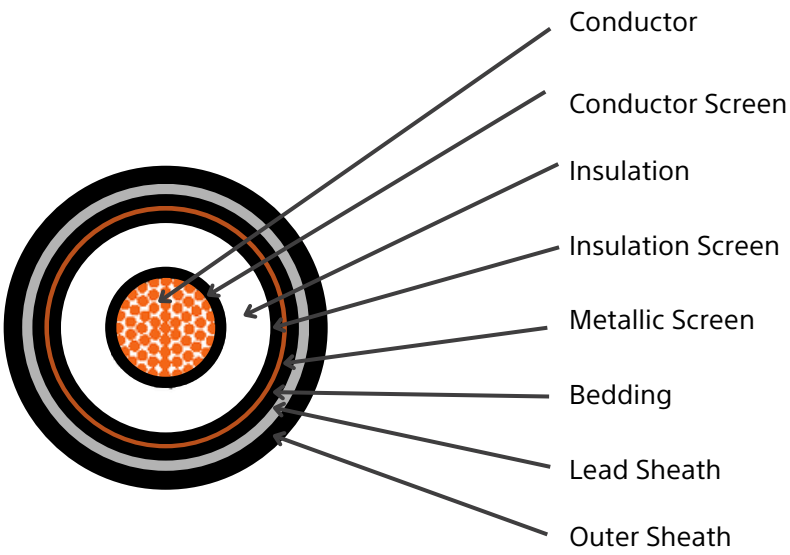


CONDUCTOR	**Material**	**Copper or Aluminum**
	Size	Up to 800 mm2, compacted From 1000 mm2 up to 3000 mm2, segmental
	Function	-To withstand the current capacity: under normal operating conditions under overload operating conditions under short-circuit operating conditions -To withstand pulling Tension stresses during cable laying
METALLIC SCREEN / METALLIC SHEATH	**Material**	**Extruded semi-conductive layer**
	Function	-To prevent concentration of electric field at the interface between the insulation and the internal semi-conductor -To ensure close contact with the insulation. -To smoothen and also moisture the electric field at the conductor outer surface .
INSULATION	**Material**	**Extruded XLPE**
	Function	-To withstand the various voltage field stresses during the cable service life, e.g.: rated voltage lightening overvoltage switching overvoltage

INSULATION SCREEN (outer semi- conductor)	**Material**	Extruded semi-conductive layer
	Function	-To ensure close contact between the insulation and the screen. -To prevent concentration of electric field at the interface between the Insulation and the outer semi-conductor.
SCREEN CONDUCTOR **(inner semi- conductor)**	**Material**	-Copper wires screen incorporated with PE Laminated Aluminum tape bonded to the outer PE sheath providing radial water tightness. -Extruded Lead Alloy, OR Combination of Copper wires and Lead. -Straight or corrugated AL tape, longitudinally applied. Screen area is designed to withstand the short circuit requirement.
	Function	To provide: -An electric screen (no electric field outside the cable) -Radial waterproofing (to avoid contact between the insulation and water) -An active conductor for the capacitive and zero-sequence short-circuit current
OUTER PROTECTIVE SHEATH	**Material**	Extruded layer of MDPE or HDPE covered with Graphite powder
	Function	-To isolate the metallic screen from the surrounding medium -To protect the metallic screen from corrosion -To provide mechanical & moisture protection protection for the cable. -To provide protection for the cable to fire propagation.

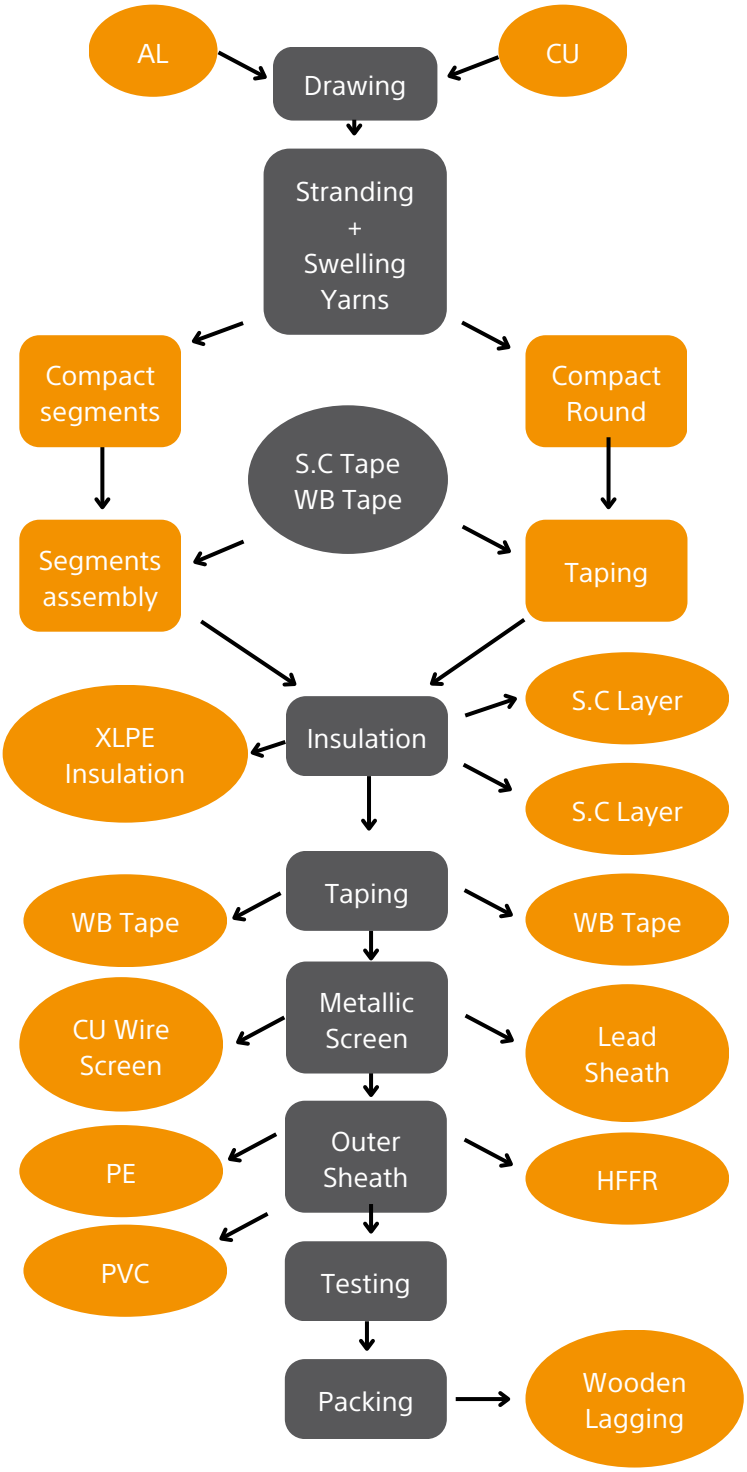
DRAWING & STRANDING

ASSEMBLY & TAPING

TRIPLE LAYER INSULATION / DEGASSING / TAPING

METALLIC SCREEN

SHEATHING / TESTING / PACKING



S.C: Semi-conductive WB: Water-blocking HFFR: Halogen free, flame retardant

Extrusion:

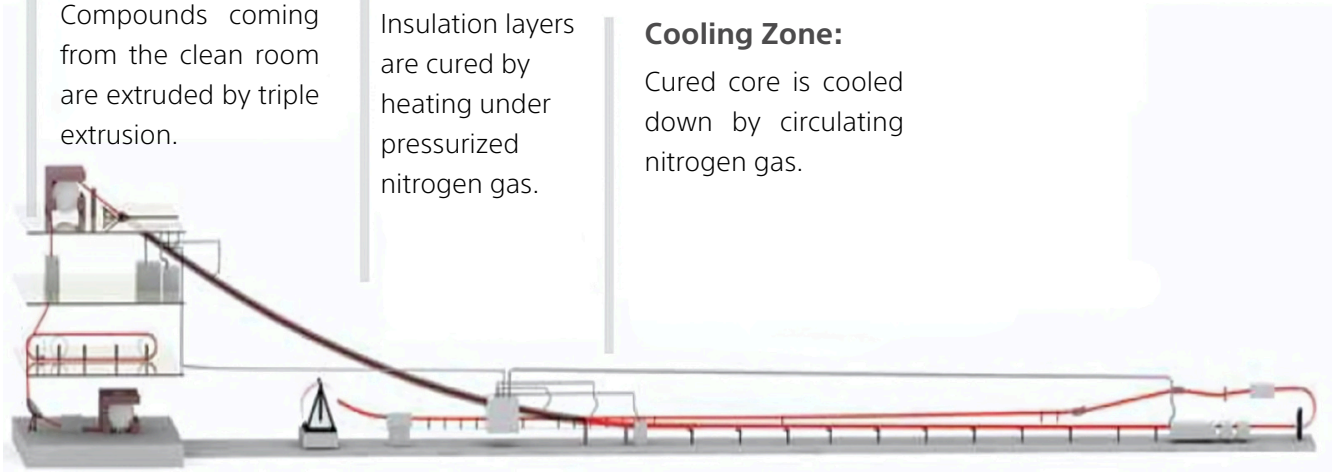
Compounds coming from the clean room are extruded by triple extrusion.

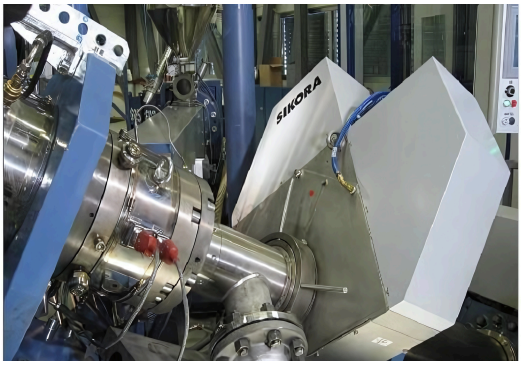
Curing Zone:

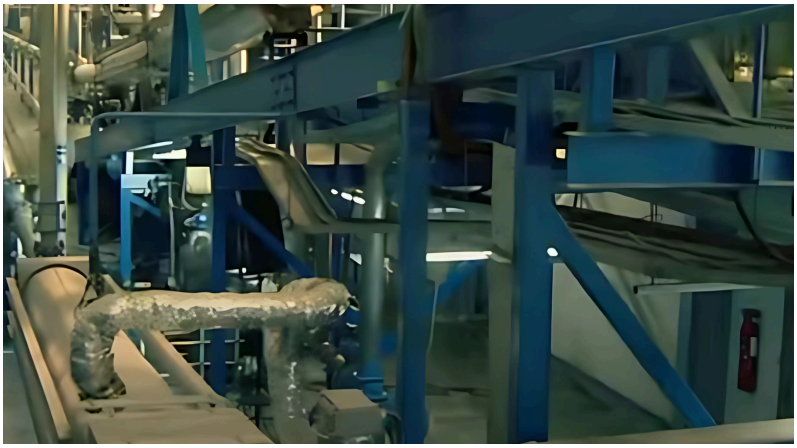
Insulation layers are cured by heating under pressurized nitrogen gas.

Cooling Zone:

Cured core is cooled down by circulating nitrogen gas.







LAYING CONDITIONS

Current carrying capacities are based on following conditions:
In air: 40 °C ambient temperature, load factor: 1.0
Cables are assumed to be protected from direct solar radiation

In soil: 30 °C ambient temperature:
thermal resistivity of the soil: 1.2 K.m / W, load factor: 1.0
Depth of laying: 1500 mm

Arrangement of single core cables:
Trefoil formation: 3 cables laid in touching triangular bundles
Flat formation: 3 cables laid side by side,

axial distance; In Soil: 3D In Air: 4D
D = Outer diameter of the cable

Earthing of metal sheaths or screens; Cross bonded or single point bonding

CorrectionFactors For VariousAmbient Air Temperature

Air Temperature (°C)	20°C	25°C	30°C	35°C	40°C	45°C	50°C
Rating Factor	1.13	1.08	1.04	1.06	1.00	0.94	0.89

Correction Factors For Various Ground Temperature

Ground Temperature (°C)	15°C	20°C	25°C	30°C	35°C	40°C	45°C
Rating Factor	1.13	1.08	1.04	1.00	0.96	0.91	0.85

Correction Factors ForVarious Thermal Resistivity of Ground

Thermal Resistivity of Soil (Km/W)	0.7	1.0	1.2	1.5	2	2.5	3
Rating Factor	1.22	1.08	1.00	0.91	0.80	0.72	0.67

Correction Factors For Various Depth of Laying

Depth of Laying (mm)	750	1000	1250	1500	1750	2000	2500
Rating Factor	1.1	1.06	1.03	1.00	0.98	0.96	0.93

Voltage Level	Cable Type
38/66-69 (72,5) kV	XLPE INSULATED WITH Cu WIRE + Al TAPE XLPE
38/66-69 (72,5) kV	XLPE INSULATED WITH Cu WIRE + LEAD SHEATH
38/66-69 (72,5) kV	XLPE INSULATED WITH LEAD SHEATH
64/110-115 (123) kV	XLPE INSULATED WITH Cu WIRE + Al TAPE
64/110-115 (123) kV	XLPE INSULATED WITH Cu WIRE + LEAD SHEATH
64/110-115 (123) kV	XLPE INSULATED WITH LEAD SHEATH
76/132 (145) kV	XLPE INSULATED WITH Cu WIRE + Al TAPE
76/132 (145) kV	XLPE INSULATED WITH Cu WIRE + LEAD SHEATH
76/132 (145) kV	XLPE INSULATED WITH LEAD SHEATH
127/220 (245) kV	XLPE INSULATED WITH Cu WIRE + Al TAPE
127/220 (245) kV	XLPE INSULATED WITH Cu WIRE + LEAD SHEATH
127/220 (245) kV	XLPE INSULATED WITH LEAD SHEATH
220/380 (420) kV	XLPE INSULATED WITH Cu WIRE + Al TAPE
220/380 (420) kV	XLPE INSULATED WITH Cu WIRE + LEAD SHEATH
220/380 (420) kV	XLPE INSULATED WITH LEAD SHEATH

CABLE DIMENSIONS AND WEIGHTS

The specifications, dimensions, weights and electrical values in this catalogue are provided for reference only and may vary based on customer requirements, project specifications, and International or regional standards. Please consult SCC to confirm precise cable details adapting with your project.

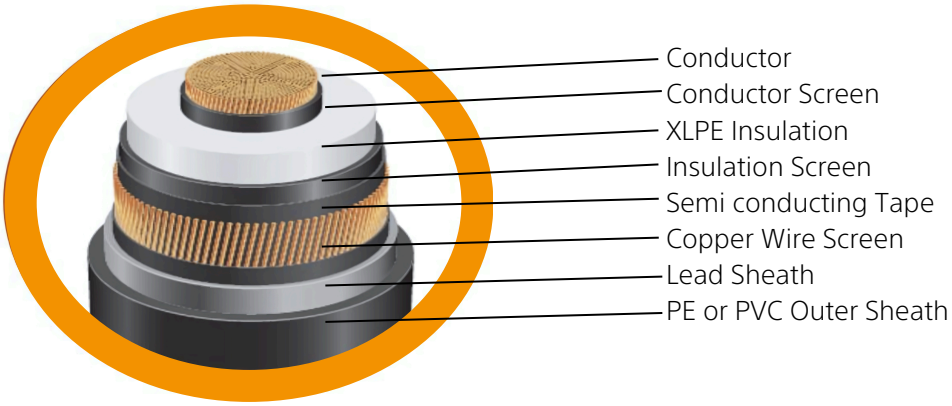
QUALITY ASSURANCE

With over 50 years of industry expertise, Saudi Cable Company has built a legacy of delivering excellence and reliability Our Quality Management System (QMS), certified for more than 30 years under the latest ISO 9001:2015 standard, ensures that quality and sustainability are embedded in every aspect of our operations. From the procurement of raw materials to manufacturing, packaging, shipping, and post-delivery services, our QMS guarantees consistent, reliable, and environmentally responsible solutions for our customers. Quality assurance forms the foundation of our operations, supervising all Quality Control activities through meticulously audited procedures, processes, and work instructions. Our management's quality policy is designed to exceed customer expectations while fostering sustainable growth and responsible practices across the organization. This half-century of experience, coupled with our unwavering commitment to quality and sustainability, solidifies Saudi Cable Company's reputation as a trusted provider of reliable products and services across the GCC region.

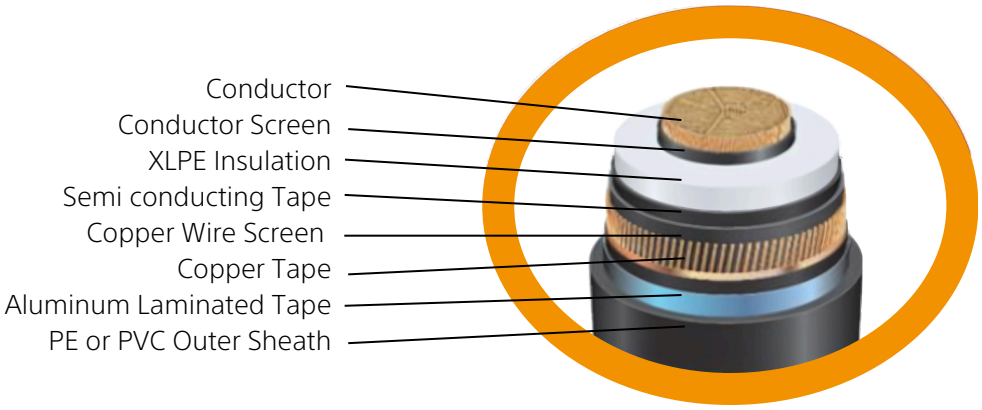
XLPE cable systems are designed to meet requirements of international and national standards. Commonly used standards for HV/EHV cables are as follows:

IEC	CENELEC
(International Electrotechnical Commission)	(European Committee for Electrotechnical Standardization)
IEC 60228	**HD 632**
Conductors of insulated cables.	Power cables with extruded insulation and their accessories for rated voltage above 36 kV (Um=42 kV) up to 150 kV (Um=170 kV).
IEC 60287	**ICEA**
Electric cables - Calculation of the current rating.	(Insulated Cable Engineers Association, Inc.)
IEC 60332	**S-108-720**
Tests on electric cables under fire conditions.	Standard for extruded insulated power cables rated above 46through 345 kV.
IEC 60229	**AEIC**
Electric cables – Tests on extruded oversheaths with a special protective function	(Association of Edison Illuminating Companies)
IEC 60840	**CS9**
Power cables with extruded insulation and their accessories for rated voltage above 30 kV (Um=36 kV) up to 150 kV (Um=170 kV). Test methods and requirements	Specification for extruded insulation power cables and their accessories rated above 46 kV through 345 kV AC.
IEC 60853	**ISO**
Calculation of the cyclic and emergency current rating of cables	(International Organization for Standardization) Our systems comply with the requirements of ISO 9001-2015
IEC 61443	
Short - circuit temperature limits of electric cables with rated Voltages above 30 kV (Um = 36 kV)	
IEC 60949	**BS**
Calculation of thermally permissible short-circuit currents, taking into account non-adiabatic heating effects.	British Standard
IEC 62067	**BS 7912**
Power cables with extruded insulation and their accessories for rated voltage above 150 kV (Um=170 kV) up to 500 kV (Um=550 kV), Test methods and requirements.	Power cables with XLPE insulation and metal sheath, and their accessories, for rated voltages from 66 kV (Um = 72.5 kV) to 132 kV (Um = 145 kV)
SEC-NG TMSS	
11-TMSS-01	**11-TMSS-02**
POWER CABLE, XLPE INSULATED, ALUMINUM OR COPPER CONDUCTOR, WINGLE CORE 69000 V RATING	POWER CABLE, XLPE INSULATED, COPPER CONDUCTOR, SINGLE CORE 110 kV, 115 kV, 132 kV, 230 & 380 kV RATING

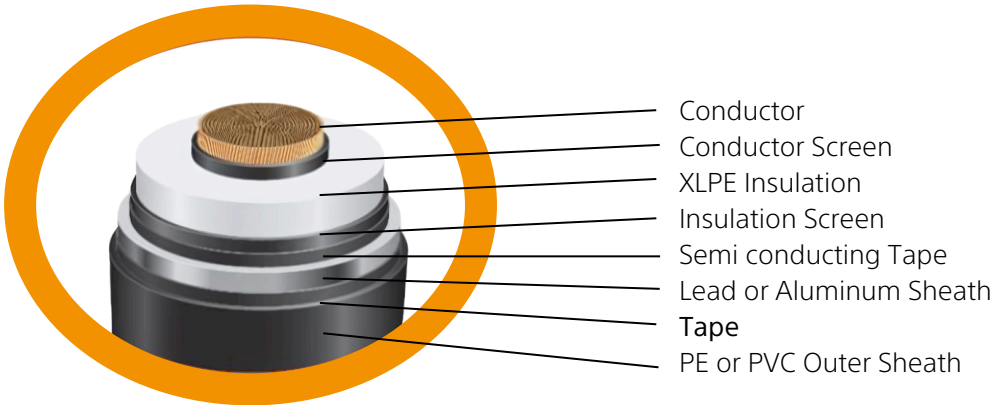
XLPE Insulated with Cu Wire + Lead Sheath



XLPE Insulated with Cu Wire + AL Tape



XLPE Insulated with Lead Sheath or Aluminum Sheath



38/66 (72.5) kV
XLPE Insulated with Cu Wire + Al Tape
Continuous Current Rating for Single Circuit (A)

Copper Conductor											
Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		487	551	630	719	821	928	1033	1190	1328	1466	1606
Pipe		466	528	605	693	795	901	1008	1164	1306	1448	1595
In Air	Trefoil	518	592	686	789	911	944	1163	1388	1567	1748	1934
	Flat (S=3D)	644	738	860	997	1163	1335	1519	1777	2026	2282	2552

HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR											
Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		379	429	495	567	650	741	837	941	1080	1207	1334
Pipe		362	412	475	546	629	720	815	920	1062	1192	1323
In Air	Trefoil	404	464	541	627	726	838	954	1103	1289	1457	1634
	Flat (S=3D)	501	578	677	790	921	1070	1228	1402	1651	1877	2118

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (Cu)	Shape	Circular						Segmental				
	Diameter (mm)	18	20,4	23,5	26,4	30,25	34	39	43,5	49,5	56	62
Thickness of Conductor Screen (mm)		1	1	1	1	1	1	1,4	1,4	1,5	1,6	1,6
Thickness of Insulation (mm)		11	11	11	11	11	11	11	11	11	11	11
Thickness of Insulation Screen (mm)		1	1	1	1	1	1	1.2	1.2	1.2	1.2	1.2
Cu-Screen Cross-Sectional Area (mm2)		35	50	50	50	50	50	50	70	70	70	95
Thickness of Outer Sheath (mm)		2,6	2,6	2,7	2,8	2,9	3	3,1	3,3	3,5	3,9	4,1
Outer Diameter of Cable (mm)		57	59	62	63	67	71	77	83	90	97	106
Weight of Cable (kg / m)		5,2	5,8	6.8	7.9	9,35	11,24	13,6	15,3	19,5	23,6	29,2
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,0754	0,0601	0,047	0,0366	0,0283	0,0221	0,0176	0,0151	0,0113	0,009	0,0072
Capacitance (microfarad / km)		0,178	0,193	0,208	0,226	0,249	0,270	0,302	0,313	0,377	0,411	0,450
Inductance (m H / km)		0,390	0,376	0,362	0,349	0,335	0,324	0,312	0,291	0,288	0,281	0,273

Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (AL)	Shape	Circular						Segmental				
	Diameter (mm)	18,5	21,1	24,25	27,4	30,6	34,8	39,0	43,5	50,2	56,5	63,5
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,125	0,100	0,0778	0,0605	0,0469	0,0367	0,0291	0,0247	0,0186	0,0149	0,0127
Weight of Cable (kg / m)		3,7	3,9	4,6	5,0	5.6	6,3	7,2	7,9	9,6	11,1	13,1

38/66 (72.5) kV
XLPE Insulated with Cu Wire + Lead Sheath
Continuous Current Rating for Single Circuit (A)

Copper Conductor											
Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		492	557	637	727	832	937	1045	1204	1343	1485	1625
Pipe		467	531	610	697	802	907	1016	1175	1316	1464	1613
In Air	Trefoil	518	595	689	794	918	1042	1175	1405	1589	1778	1967
	Flat (S=3D)	657	757	883	1024	1199	1377	1570	1835	2096	2375	2647

HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR											
Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		428	487	560	643	737	840	947	1066	1225	1370	1513
Pipe		407	464	536	617	709	812	920	1040	1201	1349	1499
In Air	Trefoil	449	518	604	702	815	940	1072	1242	1454	1650	1848
	Flat (S=3D)	569	659	773	902	1055	1227	1409	1610	1896	2169	2440

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (Cu)	Shape	Circular						Segmental				
	Diameter (mm)	18	20,4	23,5	26,4	30,25	34,0	39,0	43,5	49,5	56,0	62,0
Thickness of Conductor Screen (mm)		1	1	1	1	1	1	1,4	1,4	1,5	1,6	1,6
Thickness of Insulation (mm)		11	11	11	11	11	11	11	11	11	11	11
Thickness of Insulation Screen (mm)		1	1	1	1	1	1	1.2	1.2	1.2	1.2	1.2
Cu-Screen Cross-Sectional Area (mm2)		35	50	50	50	50	50	50	70	70	70	95
Thickness of Outer Sheath (mm)		1,7	2	2	2	2	2,2	2,2	2,4	2,4	2,6	2,7
Outer Diameter of Cable (mm)		2,7	2,8	2,9	2,9	3	3,1	3,3	3,4	3,6	4	4,3
Weight of Cable (kg / m)		60	63	66	67	71	76	82	88	94	102	111
Max. DC Al Conductor Resistance at 20°C (ohm / km)		8,8	10,2	11,3	12,6	14,4	16,4	20,6	23,2	27,7	32,4	38,5
Capacitance (microfarad / km)		0,0754	0,0601	0,047	0,0366	0,0283	0,0221	0,0176	0,0151	0,0113	0,009	0,0072
Inductance (m H / km)		0,174	0,189	0,207	0,242	0,267	0,291	0,329	0,363	0,403	0,447	0,497

Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (AL)	Shape	Circular						Segmental				
	Diameter (mm)	18,5	21,1	24,25	27,4	30,6	34,8	39,0	43,5	50,2	56,5	63,5
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,125	0,1	0,0778	0,0605	0,0469	0,0367	0,0291	0,0247	0,0186	0,0149	0,0127
Weight of Cable (kg / m)		6,2	7,4	8,1	8,5	9,2	10,8	12,1	14,3	17,8	19,8	22,4

38/66 (72.5) kV
XLPE Insulated with Lead Sheath
Continuous Current Rating for Single Circuit (A)

Copper Conductor											
Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		490	554	634	723	826	932	1039	1203	1341	1482	1624
Pipe		463	525	603	691	793	898	1008	1170	1279	1459	1610
In Air	Trefoil	511	583	677	780	902	1025	1154	1395	1579	1767	1960
	Flat (S=3D)	653	747	872	1013	1184	1364	1554	1839	2102	2377	2676

HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR											
Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		381	430	496	570	654	745	841	951	1094	1220	1346
Pipe		360	410	473	546	627	719	815	924	1070	1200	1332
In Air	Trefoil	398	457	535	622	721	833	950	1112	1305	1477	1651
	Flat (S=3D)	507	585	687	804	938	1094	1256	1453	1716	1954	2188

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (Cu)	Shape	Circular						Segmental				
	Diameter (mm)	18,3	20,4	23,5	26,4	30,25	34,0	39,0	43,5	49,5	56,0	62,0
Thickness of Conductor Screen (mm)		1	1	1	1	1	1	1	1	1	1	1
Thickness of Insulation (mm)		11	11	11	11	11	11	11	11	11	11	11
Thickness of Insulation Screen (mm)		1	1	1	1	1	1	1	1	1	1	1
Thickness of Lead Sheath (mm)		2,1	2,1	2,2	2,2	2,3	2,4	2,6	2,7	2,8	3,2	3,4
Thickness of Outer Sheath (mm)		2,6	2,7	2,8	2,8	3	3,1	3,2	3,4	3,6	4	4,2
Outer Diameter of Cable (mm)		58	61	65	67	71	75	82	87	95	102	107
Weight of Cable (kg / m)		8,3	8,7	9,9	11,3	13,3	15,5	19,0	21,5	26,6	32,0	37,9
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,0754	0,0601	0,047	0,0366	0,0283	0,0221	0,0176	0,0151	0,0113	0,009	0,0072
Capacitance (microfarad / km)		0,174	0,189	0,207	0.242	0,267	0,291	0,329	0,363	0,403	0,447	0,497
Inductance (m H / km)		0,416	0,396	0,38	0,359	0,346	0,335	0,325	0,317	0,307	0,301	0,294

Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (AL)	Shape	Circular						Segmental				
	Diameter (mm)	18,5	21,1	24,25	27,4	30,6	34,8	39,0	43,5	50,2	56,5	63,0
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,125	0,1	0,0778	0,0605	0,0469	0,0367	0,0291	0,0247	0,0186	0,0149	0,0127
Weight of Cable (kg / m)		6,2	6,8	7,6	8,3	9,4	10,6	12,6	14,1	16,6	19,4	21,8

38/66 (72.5) kV
XLPE Insulated with Cu Wire + Al Tape
Continuous Current Rating for Single Circuit (A)

Copper Conductor											
Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		487	551	630	719	821	928	1033	1190	1328	1466	1606
Pipe		466	528	605	693	795	901	1008	1164	1306	1448	1595
In Air	Trefoil	518	592	686	789	911	944	1163	1388	1567	1748	1934
	Flat (S=3D)	644	738	860	997	1163	1335	1519	1777	2026	2282	2552

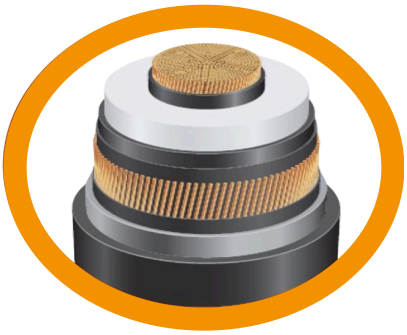
HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR											
Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		379	429	495	567	650	741	837	941	1080	1207	1334
Pipe		362	412	475	546	629	720	815	920	1062	1192	1323
In Air	Trefoil	404	464	541	627	726	838	954	1103	1289	1457	1634
	Flat (S=3D)	501	578	677	790	921	1070	1228	1402	1651	1877	2118

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (Cu)	Shape	Circular						Segmental				
	Diameter (mm)	18	20,4	23,5	26,4	30,25	34,0	39,0	43,5	49,5	56,0	62,0
Thickness of Conductor Screen (mm)		1	1	1	1	1	1	1	1	1	1	1
Thickness of Insulation (mm)		16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Thickness of Insulation Screen (mm)		1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Cu-Screen Cross-Sectional Area (mm2)		266	266	266	266	266	266	266	266	266	266	266
Thickness of Outer Sheath (mm)		3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95
Outer Diameter of Cable (mm)		76	78	81	83	87	91	97	100	110	116	123
Weight of Cable (kg / m)		8,0	8,7	9,7	10,8	12,4	14,2	16,7	18,3	22,6	27,0	32,6
Max. DC Cu Conductor Resistance at 20°C (ohm / km)		0,0754	0,0601	0,047	0,0366	0,0283	0,0221	0,0176	0,0151	0,0113	0,009	0,0072
Capacitance (microfarad / km)		0,135	0,145	0,156	0,168	0,183	0,198	0,219	0,227	0,272	0,293	0,319
Inductance (m H / km)		0,438	0,421	0,407	0,391	0,374	0,361	0,345	0,324	0,318	0,297	0,299

Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (AL)	Shape	Circular						Segmental				
	Diameter (mm)	18,5	21,1	24,25	27,4	30,6	34,8	39,0	43,5	50,2	56,5	63,5
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,125	0,100	0,0778	0,0605	0,0469	0,0367	0,0291	0,0247	0,0186	0,0149	0,0127
Weight of Cable (kg / m)		6,5	6,9	7,3	7,8	8,5	9,2	10,3	10,9	12,7	14,4	16,5



38/66 (72.5) kV
XLPE Insulated with Cu Wire + Lead Sheath (11-TMSS-01, Rev.0)
Continuous Current Rating for Single Circuit (A)

Copper Conductor											
Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		492	557	637	727	832	937	1045	1204	1343	1485	1625
Pipe		467	531	610	697	802	907	1016	1175	1316	1464	1613
In Air	Trefoil	518	595	689	794	918	1042	1175	1405	1589	1778	1967
	Flat (S=3D)	657	757	883	1024	1199	1377	1570	1835	2096	2375	2647

HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR											
Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		428	487	560	643	737	840	947	1066	1225	1370	1513
Pipe		407	464	536	617	709	812	920	1040	1201	1349	1499
In Air	Trefoil	449	518	604	702	815	940	1072	1242	1454	1650	1848
	Flat (S=3D)	569	659	773	902	1055	1227	1409	1610	1896	2169	2440

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (Cu)	Shape	Circular						Segmental				
	Diameter (mm)	18	20,4	23,5	26,4	30,25	34,0	39,0	43,5	49,5	56,0	62,0
Thickness of Conductor Screen (mm)		1	1	1	1	1	1	1	1	1	1	1
Thickness of Insulation (mm)		16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Thickness of Insulation Screen (mm)		1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Cu-Screen Cross-Sectional Area (mm2)		183	171	166	161	161	154	105	92	77	63	48
Thickness of Lead Sheath (mm)		2,0	2,0	2,0	2,0	2,0	2,0	2,5	2,5	2,5	2,5	2,5
Thickness of Outer Sheath (mm)		3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95
Outer Diameter of Cable (mm)		77	82	84	88	91	95	101	107	114	121	127
Weight of Cable (kg / m)		1 11,7	13,2	14,2	15,6	17,4	19,4	23,5	25,8	30,5	35,2	41,3
Max. DC Cu Conductor Resistance at 20°C (ohm / km)		0,0754	0,0601	0,047	0,0366	0,0283	0,0221	0,0176	0,0151	0,0113	0,009	0,0072
Inductance (m H / km)		0,132	0,147	0,158	0,170	0,186	0,201	0,231	0,245	0,274	0,298	0,325
Capacitance (microfarad / km)		0,443	0,418	0,402	0,387	0,371	0,358	0,333	0,329	0,315	0,306	0,296

Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (AL)	Shape	Circular						Segmental				
	Diameter (mm)	18,5	21,1	24,25	27,4	30,6	34,8	39,0	43,5	50,2	56,5	63,5
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,125	0,1	0,0778	0,0605	0,0469	0,0367	0,0291	0,0247	0,0186	0,0149	0,0127
Weight of Cable (kg / m)		10,3	11,3	11,8	12,6	13,5	14,5	17,1	18,4	20,6	22,6	25,2

38/66 - 69 (72.5) kV
XLPE Insulated with Cu Lead Sheath (11-TMSS-01, Rev.0)
Continuous Current Rating for Single Circuit (A)

Copper Conductor											
Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		549	620	710	810	926	932	1164	1347	1502	1660	1819
Pipe		519	588	675	774	888	898	1129	1310	1433	1634	1803
In Air	Trefoil	568	648	752	867	1002	1025	1282	1550	1754	1963	2178
	Flat (S=3D)	725	830	969	1128	1184	1316	1727	2043	2335	2641	2973

HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR											
Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		427	482	556	639	733	835	942	1055	1225	1367	1500
Pipe		403	459	530	611	702	805	913	1035	1200	1344	1490
In Air	Trefoil	442	508	594	691	801	926	1055	1230	1450	1640	1834
	Flat (S=3D)	563	650	763	893	1042	1215	1390	1610	1905	2170	2430

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (Cu)	Shape	Circular						Segmental				
	Diameter (mm)	18,0	20,4	23,5	26,4	30,25	34,0	39,0	43,5	49,5	56,0	62,0
Thickness of Conductor Screen (mm)		1	1	1	1	1	1	1	1	1	1	1
Thickness of Insulation (mm)		16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Thickness of Insulation Screen (mm)		1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Thickness of Lead Sheath (mm)		7,4	7,4	7,1	6,9	6,5	6,3	2,6	2,7	2,8	3,0	3,1
Thickness of Outer Sheath (mm)		3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95
Outer Diameter of Cable (mm)		82	85	87	89	93	96	101	105	112	118	122
Weight of Cable (kg / m)		23,0	23,8	24,6	25,9	27,2	29,2	31,7	33,2	37,7	42,6	47,0
Max. DC Cu Conductor Resistance at 20°C (ohm / km)		0,0754	0.0601	0,0470	0,0366	0,0283	0,0221	0,0176	0,0151	0,0113	0,009	0,0072
Capacitance (microfarad / km)		0,130	0,145	0,156	0.168	0,183	0,198	0,219	0,241	0,270	0,293	0,314
Inductance (m H / km)		0,424	0,399	0,385	0,371	0,355	0,343	0,328	0,316	0,303	0,294	0,287

Cross-Sectional Area (mm2)		240	300	400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (AL)	Shape	Circular						Segmental				
	Diameter (mm)	18,5	21,1	24,25	27,4	30,6	34,8	39,0	43,5	50,2	56,5	63,5
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,125	0,1	0,0778	0,0605	0,0469	0,0367	0,0291	0,0247	0,0186	0,0149	0.0127
Weight of Cable (kg / m)		21,5	21,9	22,2	22,9	23,3	24,3	25,2	25,8	27,8	29,9	31,0

64/110-115 (123) KV 7-6 /132 (1 4 5) KV
XLPE Insulated with Cu Wire + Al Tape
Continuous Current Rating for Single Circuit (A)

Copper Conductor									
Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		704	803	917	1035	1154	1330	1483	1639	1795
Pipe		679	776	880	1000	1125	1300	1460	1620	1785
In Air	Trefoil	763	879	1014	1150	1294	1540	1740	1940	2145
	Flat (S=3D)	951	1100	1284	1475	1677	1960	2235	2515	2815

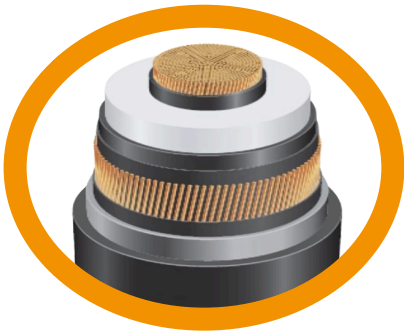
HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR									
Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		552	633	726	828	934	1050	1207	1349	1490
Pipe		532	612	704	806	912	1030	1188	1330	1480
In Air	Trefoil	602	700	810	933	1060	1225	1430	1615	1810
	Flat (S=3D)	748	873	1015	1182	1355	1548	1820	2070	2335

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (Cu)	Shape	Circular						Segmental		
	Diameter (mm)	23,5	26,4	30,25	34,0	39,0	43,5	49,5	56,0	62,0
Thickness of Conductor Screen (mm)		1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
Thickness of Insulation (mm)		18	18	18	18	18	18	18	18	18
Thickness of Insulation Screen (mm)		1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
Cross-Sectional Area (mm2)		427	427	427	427	427	427	427	427	427
Thickness of Outer Sheath (mm)		3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95
Outer Diameter of Cable (mm)		97	101	105	108	114	119	127	133	139
Weight of Cable (kg / m)		13,1	14,4	16,0	17,9	20,6	22,6	26,9	31,3	37,0
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,047	0,0366	0,0283	0,0221	0,0176	0,0151	0,0113	0,009	0,0072
Capacitance (microfarad / km)		0,123	0,132	0,143	0,153	0,168	0,183	0,203	0,220	0,238
Inductance (m H / km)		0,449	0,432	0,414	0,399	0,381	0,366	0,349	0,338	0,327

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (AL)	Shape	Circular						Segmental		
	Diameter (mm)	24,25	27,4	30,6	34,8	39,0	43,5	50,2	56,5	63,0
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,0778	0,0605	0,0469	0,0367	0,0291	0,0247	0,0186	0,0149	0,0127
Weight of Cable (kg / m)		10,8	11,4	12,1	13,0	14,2	15,2	17,0	18,7	21,0



64/110 - 115 (123) 76/ 132 (145) KV
XLPE Insulated with Cu Wire + Lead Sheath
Continuous Current Rating for Single Circuit (A)

Copper Conductor									
Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		708	808	924	1043	1160	1335	1494	1650	1807
Pipe		685	783	900	1140	1140	1315	1475	1635	1800
In Air	Trefoil	775	890	1030	1315	1315	1566	1769	1975	2185
	Flat (S=3D)	960	1110	1295	1695	1695	1980	2258	2543	2840

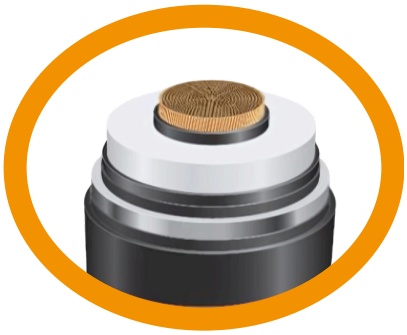
HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR									
Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		556	637	730	834	940	1058	1215	1355	1500
Pipe		538	618	710	814	922	1035	1200	1345	1495
In Air	Trefoil	610	709	822	945	1078	1244	1453	1640	1840
	Flat (S=3D)	755	883	1025	1194	1370	1564	1838	2090	2358

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (Cu)	Shape	Circular						Segmental		
	Diameter (mm)	23,5	26,4	30,25	34,0	39,0	43,5	49,5	56,0	62,0
Thickness of Conductor Screen (mm)		1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
Thickness of Insulation (mm)		18	18	18	18	18	18	18	18	18
Thickness of Insulation Screen (mm)		1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
Cross-Sectional Area (mm2)		156	156	156	156	156	156	156	156	156
Thickness of Lead Sheath (mm)		2,74	2,64	2,5	2,5	2,5	2,33	2,15	2,0	2,0
Thickness of Outer Sheath (mm)		4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5
Outer Diameter of Cable (mm)		92	94	97	101	105	111	118	125	131
Weight of Cable (kg / m)		17,2	18,3	19,8	21,6	24,8	26,7	30,8	35.1	41,0
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,047	0,0366	0,0283	0,0221	0,0176	0,0151	0,0113	0,009	0,0072
Capacitance (microfarad / km)		0,151	0,162	0,176	0,190	0,216	0,229	0,256	0,277	0,301
Inductance (m H / km)		0,414	0,399	0,382	0,368	0,342	0,339	0,324	0,314	0,304

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (AL)	Shape	Circular						Segmental		
	Diameter (mm)	24,25	27,4	30,6	34,8	39	43,5	50,2	56	63,5
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,0778	0,0605	0,0469	0,0367	0,0291	0,0247	0,0186	0,0149	0,0127
Weight of Cable (kg / m)		14,8	15,3	15,9	16,7	18,4	19,3	20,9	22,6	25,0



64/110 - 115 (123) 76/ 132 (145) KV
XLPE Insulated with Lead Sheath
Continuous Current Rating for Single Circuit (A)

Copper Conductor									
Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		705	804	919	1035	1155	1335	1490	1650	1810
Pipe		680	778	890	1010	1130	1310	1470	1634	1805
In Air	Trefoil	765	882	1015	1155	1300	1560	1760	1970	2180
	Flat (S=3D)	953	1105	1288	1480	1685	1988	2265	2650	2880

HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR									
Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		552	534	725	830	935	1055	1215	1358	1495
Pipe		533	615	705	808	914	1035	1200	1345	1490
In Air	Trefoil	600	700	810	935	1065	1240	1450	1640	1830
	Flat (S=3D)	750	876	1020	1185	1360	1570	1850	2105	2350

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (Cu)	Shape	Circular						Segmental		
	Diameter (mm)	23,5	26,4	30,25	34,0	39,0	43,5	49,5	56,0	62,0
Thickness of Conductor Screen (mm)		1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
Thickness of Insulation (mm)		18	18	18	18	18	18	18	18	18
Thickness of Insulation Screen (mm)		1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
Thickness of Lead Sheath (mm)		6,8	6,6	6,3	6,0	5,6	5,4	5,0	4,7	4,5
Thickness of Outer Sheath (mm)		4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5
Outer Diameter of Cable (mm)		91	94	97	100	105	110	116	122	127
Weight of Cable (kg / m)		25,1	26,3	27,9	29,7	32,2	34,0	38,2	43	48,0
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,047	0,0366	0,0283	0,0221	0,0176	0,0151	0,0113	0,009	0,0072
Capacitance (microfarad / km)		0,151	0,162	0,176	0,190	0,209	0,229	0,256	0,277	0,296
Inductance (m H / km)		0,396	0,381	0,365	0,353	0,337	0,325	0,311	0,301	0,294

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (AL)	Shape	Circular						Segmental		
	Diameter (mm)	24,25	27,4	30,6	34,8	39	43,5	50,2	56,5	63,5
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,0778	0,0605	0,0469	0,0367	0,0291	0,0247	0,0186	0,0149	0,0127
Weight of Cable (kg / m)		22,8	23,3	24,0	24,7	25,8	26,7	28,3	30,5	32,0

127/230 (245) kV
XLPE Insulated with Cu Wire + Al Tape
Continuous Current Rating for Single Circuit (A)

Copper Conductor									
Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		621	710	812	916	1020	1175	1312	1448	1586
Pipe		607	695	795	898	1005	1160	1299	1441	1586
In Air	Trefoil	694	797	918	1043	1172	1386	1564	1744	1928
	Flat (S=3D)	831	965	1129	1293	1470	1715	1952	2191	2451

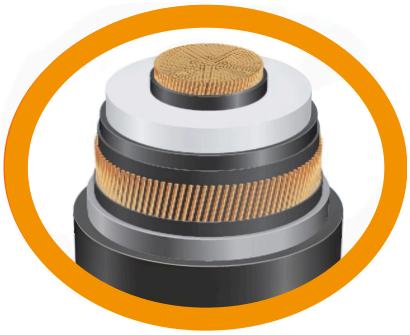
HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR									
Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		487	560	643	732	826	929	1067	1192	1317
Pipe		477	548	629	719	812	916	1057	1186	1315
In Air	Trefoil	546	633	731	842	958	1100	1283	1449	1621
	Flat (S=3D)	653	764	894	1037	1187	1354	1588	1804	2032

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (Cu)	Shape	Circular						Segmental		
	Diameter (mm)	23,5	26,4	30,25	34,0	39,0	43,5	49,5	56,0	62,0
Thickness of Conductor Screen (mm)		1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
Thickness of Insulation (mm)		24	24	24	24	24	24	24	24	24
Thickness of Insulation Screen (mm)		2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0
Thickness of AL Tape (mm)		0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2
Thickness of Outer Sheath (mm)		3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95
Outer Diameter of Cable (mm)		98	101	105	108	114	119	126	133	139
Weight of Cable (kg / m)		13,1	14,4	16,0	17,9	20,6	22,5	26,9	31,3	37,0
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,047	0,0366	0,0283	0,0221	0,0176	0,0151	0,0113	0,009	0,0072
Capacitance (microfarad / km)		0,123	0,132	0,143	0,153	0,168	0,183	0,203	0,220	0,238
Inductance (m H / km)		0,449	0,432	0,414	0,399	0,381	0,366	0,349	0,338	0,327

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (AL)	Shape	Circular						Segmental		
	Diameter (mm)	24,25	27,4	30,6	34,8	39	43,5	50,2	56,5	63,5
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,0778	0,0605	0,0469	0,0367	0,0291	0,0247	0,0186	0,0149	0,0127
Weight of Cable (kg / m)		10,8	11,4	12,1	13,0	14,2	15,1	17,0	18,7	21,0



127/230 (245) kV
XLPE Insulated with Cu Wire +Lead Sheath
Continuous Current Rating for Single Circuit (A)

Copper Conductor									
Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		625	713	817	921	1028	1183	1320	1458	1596
Pipe		621	700	802	907	1014	1171	1311	1455	1601
In Air	Trefoil	702	807	931	1058	1190	1405	1586	1770	1957
	Flat (S=3D)	837	973	1138	1305	1482	1729	1968	2215	2471

HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR									
Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		490	562	645	737	831	935	1074	1200	1326
Pipe		480	553	634	725	820	925	1067	1197	1328
In Air	Trefoil	553	641	740	853	970	1114	1300	1469	1643
	Flat (S=3D)	659	770	901	1046	1197	1365	1601	1820	2049

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (Cu)	Shape	Circular						Segmental		
	Diameter (mm)	23,5	26,4	30,25	34,0	39,0	43,5	49,5	56,0	62,0
Thickness of Conductor Screen (mm)		1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
Thickness of Insulation (mm)		24	24	24	24	24	24	24	24	24
Thickness of Insulation Screen (mm)		2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0
Cu Screen Cross-Section Area (mm2)		250	250	250	250	250	250	250	250	250
Thickness of Lead Sheath (mm)		4,0	3,9	3,8	3,6	3,5	3,4	3,1	2,9	2,9
Thickness of Outer Sheath (mm)		3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95
Outer Diameter of Cable (mm)		104	107	110	114	118	124	131	137	143
Weight of Cable (kg / m)		24,6	25,8	27,7	29,3	32,2	34,0	38,4	42,5	48,5
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0.047	0,0366	0.0283	0,0221	0,0176	0,0151	0,0113	0,009	0.0072
Capacitance (microfarad / km)		0.123	0,132	0,143	0,153	0,174	0,183	0.203	0,220	0,238
Inductance (m H / km)		0.444	0,427	0,409	0,395	0,367	0,362	0.345	0,334	0,323

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (AL)	Shape	Circular						Segmental		
	Diameter (mm)	24.25	27,4	30,6	34,8	39	43,5	50,2	56	63,5
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,0778	0,0605	0,0469	0,0367	0,0291	0,0247	0,0186	0,0149	0,0127
Weight of Cable (kg / m)		22,3	22,9	23,8	24,4	25,8	26,7	28,5	30,0	32,4

127/230 (245) kV
XLPE Insulated with Lead Sheath
Continuous Current Rating for Single Circuit (A)

Copper Conductor									
Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		622	712	813	918	1024	1183	1320	1459	1600
Pipe		609	696	797	902	1010	1170	1310	1453	1603
In Air	Trefoil	698	801	923	1049	1180	1403	1584	1770	1964
	Flat (S=3D)	833	968	1133	1300	1477	1738	1978	2227	2503

HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR									
Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
Direct Buried		487	561	643	734	828	935	1075	1201	1323
Pipe		478	549	630	721	816	924	1067	1196	1324
In Air	Trefoil	548	635	734	847	964	1114	1302	1471	1637
	Flat (S=3D)	656	767	896	1041	1193	1373	1615	1832	2046

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (Cu)	Shape	Circular						Segmental		
	Diameter (mm)	23,5	26,4	30,25	34,0	39,0	43,5	49,5	56,0	62,0
Thickness of Conductor Screen (mm)		1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
Thickness of Insulation (mm)		24	24	24	24	24	24	24	24	24
Thickness of Insulation Screen (mm)		2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0
Thickness of Lead Sheath (mm)		9,1	8,8	8,5	8,2	7,8	7,4	6,9	6,6	6,3
Thickness of Outer Sheath (mm)		3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95	3,95
Outer Diameter of Cable (mm)		106	108	112	115	120	124	131	136	141
Weight of Cable (kg / m)		36,8	37,9	39,7	41,5	44,2	45,9	50,0	53,3	59,9
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,047	0,0366	0,0283	0,0221	0,0176	0,0151	0,0113	0,009	0,0072
Capacitance (microfarad / km)		0,123	0,132	0,143	0,153	0,168	0,183	0,203	0,220	0,234
Inductance (m H / km)		0,428	0,412	0,394	0,381	0,363	0,349	0,333	0,323	0,315

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200	1600	2000	2500
CONDUCTOR (AL)	Shape	Circular						Segmental		
	Diameter (mm)	24,25	27,4	30,6	34,8	39,0	43,5	50,2	56,5	63,5
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,0778	0,0605	0,0469	0,0367	0,0291	0,0247	0,0186	0,0149	0,0127
Weight of Cable (kg / m)		34,4	34,9	35,8	36,6	37,8	38,5	40,0	42,8	43,8

220/380 (420) kV
XLPE Insulated with Cu Wire +Al Tape
Continuous Current Rating for Single Circuit (A)

Copper Conductor							
Cross-Sectional Area (mm2)		800	1000	1200	1600	2000	2500
Direct Buried		1000	1120	1287	1434	1583	1730
Pipe		995	1110	1277	1428	1580	1737
In Air	Trefoil	1038	1293	1520	1715	1910	2110
	Flat (S=3D)	1248	1585	1853	2100	2365	2640

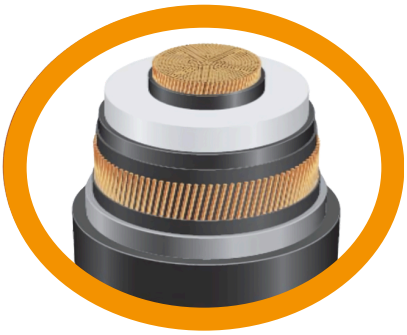
HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR							
Cross-Sectional Area (mm2)		800	1000	1200	1600	2000	2500
Direct Buried		800	900	1015	1166	1300	1435
Pipe		795	895	1000	11160	1300	1440
In Air	Trefoil	920	1050	1210	1400	1585	1770
	Flat (S=3D)	1100	1280	1460	1710	1945	2185

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200
CONDUCTOR (Cu)	Shape	Circular	Segmental				
	Diameter (mm)	34,0	39,0	43,5	49,5	56,0	62,0
Thickness of Conductor Screen (mm)		1,2	1,2	1,2	1,2	1,2	1,2
Thickness of Insulation (mm)		28	28	28	28	28	28
Thickness of Insulation Screen (mm)		2,0	2,0	2,0	2,0	2,0	2,0
Cu Screen Cross-Section Area (mm2)		427	427	427	427	427	427
Thickness of Outer Sheath (mm)		3,95	3,95	3,95	3,95	3,95	3,95
Outer Diameter of Cable (mm)		116	122	127	135	141	148
Weight of Cable (kg / m)		19,2	21,9	23,9	28,4	32,8	38,7
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,0221	0,0176	0,0151	0,0113	0,009	0,0072
Capacitance (microfarad / km)		0,138	0,151	0,164	0,182	0,196	0,211
Inductance (m H / km)		0,415	0,396	0,380	0,363	0,351	0,339

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200
CONDUCTOR (AL)	Shape	Circular	Segmental				
	Diameter (mm)	34,8	39	43,5	50,2	56,5	63,5
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,0367	0,0291	0,0247	0,0186	0,0149	0,0127
Weight of Cable (kg / m)		14,2	12,7	16,6	18,5	20,3	22,6



220/380 (420) kV
XLPE Insulated with Cu Wire +Lead Sheath
Continuous Current Rating for Single Circuit (A)

Copper Conductor							
Cross-Sectional Area (mm2)		800	1000	1200	1600	2000	2500
Direct Buried		1010	1125	1295	1444	1800	2015
Pipe		1000	1200	1285	1440	1810	2035
In Air	Trefoil	1165	1310	1535	1735	2200	2490
	Flat (S=3D)	1396	1595	1865	2120	2740	3135

HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR							
Cross-Sectional Area (mm2)		800	1000	1200	1600	2000	2500
Direct Buried		808	910	1023	1170	1310	1445
Pipe		800	900	1015	1170	1310	1450
In Air	Trefoil	935	1065	1220	1422	1600	1790
	Flat (S=3D)	1115	1290	1475	1725	1960	2200

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200
CONDUCTOR (Cu)	Shape	Circular	Segmental				
	Diameter (mm)	34,0	39,0	43,5	49,5	56,0	62,0
Thickness of Conductor Screen (mm)		1,2	1,2	1,2	1,2	1,2	1,2
Thickness of Insulation (mm)		28	28	28	28	28	28
Thickness of Insulation Screen (mm)		2,0	2,0	2,0	2,0	2,0	2,0
Cu Screen Cross-Section Area (mm2)		250	250	250	250	250	250
Thickness of Lead Sheath (mm)		3,4	3,3	3,1	2,9	2,75	2,7
Thickness of Outer Sheath (mm)		3,95	3,95	3,95	3,95	3,95	3,95
Outer Diameter of Cable (mm)		122	127	133	140	146	152
Weight of Cable (kg / m)		31,1	34,0	35,9	40,3	44,6	50,3
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,0221	0,0176	0,0151	0,0113	0,009	0,0072
Capacitance (microfarad / km)		0,138	0,156	0,164	0,182	0,196	0,211
Inductance (m H / km)		0,411	0,384	0,378	0,361	0,349	0,337

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200
CONDUCTOR (AL)	Shape	Circular	Segmental				
	Diameter (mm)	34,8	39	43,5	50,2	56,5	63,5
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,0367	0,0291	0,0247	0,0186	0,0149	0,0127
Weight of Cable (kg / m)		26,2	27,6	28,5	30,3	32,0	34,3

220/380 (420) kV
XLPE Insulated with Lead Sheath
Continuous Current Rating for Single Circuit (A)

Copper Conductor							
Cross-Sectional Area (mm2)		800	1000	1200	1600	2000	2500
Direct Buried		1000	1124	1292	1440	1590	1795
Pipe		1000	1115	1280	1435	1590	1800
In Air	Trefoil	1160	1300	1530	1725	1925	2200
	Flat (S=3D)	1390	1590	1860	2115	2380	2735

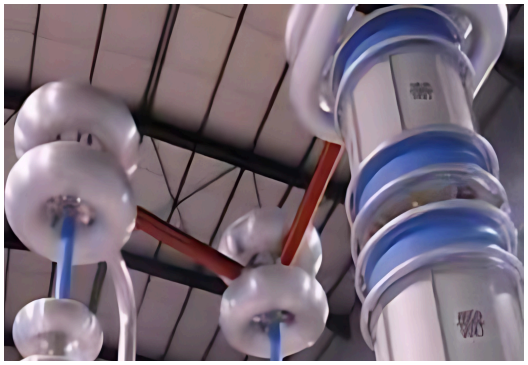
HDPE pipe diameter = 2D

ALUMINIUM CONDUCTOR							
Cross-Sectional Area (mm2)		800	1000	1200	1600	2000	2500
Direct Buried		805	909	1020	1170	1305	1444
Pipe		800	900	1015	1165	1305	1450
In Air	Trefoil	935	1060	1210	1415	1600	1785
	Flat (S=3D)	1115	1285	1470	1720	1955	2560

HDPE pipe diameter = 2D

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200
CONDUCTOR (Cu)	Shape	Circular	Segmental				
	Diameter (mm)	34,0	39,0	43,5	49,5	56,0	62,0
Thickness of Conductor Screen (mm)		1,2	1,2	1,2	1,2	1,2	1,2
Thickness of Insulation (mm)		28	28	28	28	28	28
Thickness of Insulation Screen (mm)		2,0	2,0	2,0	2,0	2,0	2,0
Thickness of Lead Sheath (mm)		8,2	7,8	3,7	3,9	4,2	4,4
Thickness of Outer Sheath (mm)		3,95	3,95	3,95	3,95	3,95	3,95
Outer Diameter of Cable (mm)		123	128	132	139	144	149
Weight of Cable (kg / m)		45,0	47,6	49,4	53,4	58,7	63,3
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,0221	0,0176	0,0151	0,0113	0,009	0,0072
Capacitance (microfarad / km)		0,138	0,151	0,164	0,182	0,196	0,208
Inductance (m H / km)		0,398	0,380	0,365	0,348	0,337	0,328

Cross-Sectional Area (mm2)		400	500	630	800	1000	1200
CONDUCTOR (AL)	Shape	Circular	Segmental				
	Diameter (mm)	34,8	39	43,5	50,2	56,5	63,5
Max. DC Al Conductor Resistance at 20°C (ohm / km)		0,0367	0,0291	0,0247	0,0186	0,0149	0,0127
Weight of Cable (kg / m)		40,0	41,2	42,0	43,5	45,2	39,4



Saudi Cable Co (SCC) gives great importance to Quality Control by continual investing in state-of-the art testing facilities, adopting the latest technologies, and ensuring that SCC Quality Control team are receiving proper training.Manufacturing of cables is carried out using high quality raw-materials which are the key to delivering reliable products. SCC deals only with internationally well recognized and reputable suppliers.

Our Quality Control facilities are listed, but not limited, as following:

1-ELECTRICAL TEST FACILITIES

1. Long term High Voltage test
2. Partial Discharge Test
3. System Type Tests
4. Lightning & Switching Impulse Voltage Test
5. Tan Δ Measurement
6. Capacitance Measurement
7. Heating Cycle Voltage Test
8. Water Penetration Test
9. DC Voltage Test
10. Complete facilities to conduct Electrical Type Test

2- NON-ELECTRICAL TEST FACILITIES

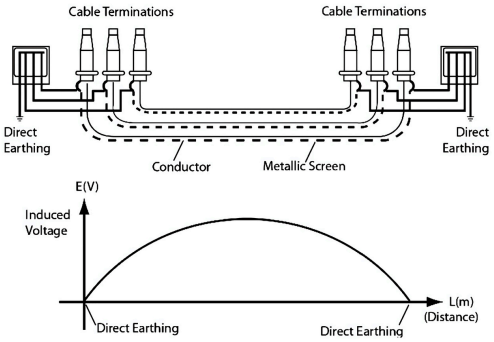
1. Moisture Content Measuring Device
2. Fourier Transform Infrared Spectrometer (FTIR)
3. Thermo-Gravimetric Analyzer (TGA)
4. Thermal Analysis Equipment
5. Optical Thickness Measuring Systems
6. Universal Test System
7. Flame Spread Test Cell
8. Smoke Density Test Room
9. Complete facilities to conduct Non-Electrical Type Test

3- QUALITY MONITORING EQUIPMENT

1. CSS Cleanliness Scanning System, which detects any foreign Particles before entering the X-head, warns, and keeps image of the particles.
2. Sikora X-Ray 8000, which scans hot wall thickness of insulation, and eccentricity of the three Layers of insulation.

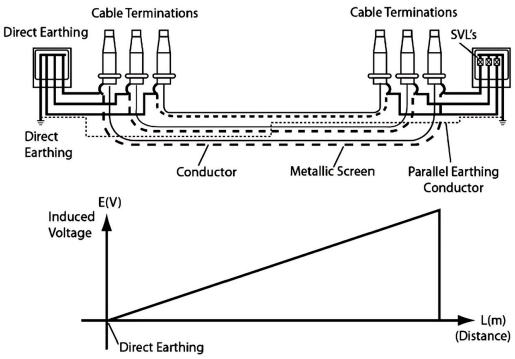
BOTH END BONDING

- Most Simple and Common method.
  For short lengths of open switchyards and transformer circuits.
- Cable screen is bonded to earth grids at both ends (via link box) to eliminate the induced voltages in Cable Screen.
- A current continuously flow on the metallic screen because both ends are earthed.
- It will automatically reduce the current carrying capacity in the conductor of the cable, while it provides no touching Voltage at both ends.



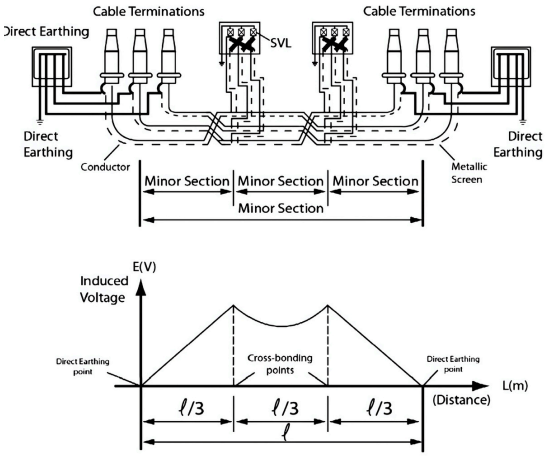
SINGLE POINT BONDING

- In this method, one end of the circuit is grounded and the other end is isolated from the ground.
- This method is generally employed on line lengths of up to about 2 km.
- In this arrangement, the cable sheaths provide no path for the flow of circulating currents or external fault currents.
- In such a case, a voltage will be induced between screens of adjacent phases of the cable circuit and between the screen and the earth, but no current will flow. This induced voltage is proportional to the cable length and current.



CROSS BONDING

- The cross-bonding method is commonly used for long lengths of circuits to balance the Impedances of the phases for the flat formation and to minimize the induced voltages that occur on the metallic screens of the cables at the same time.
- Transposition equalizes the impedances while the cross-bonding connections made in the link boxes minimize the induced voltages.
- A current flows through the metallic sheath connections, but no significant current flows through the screens.
- In this modified version of the sectionalized cross-bonding system, it is not necessary to have the number of minor sections exactly divisible by three



NOTES

The cables listed in this catalogue are designed and manufactured in compliance with international standards and can also be customized to meet specific customer requirements.

Advanced software programs are used in SCC for cable design and construction specifications:

- CYMCAP
- ADVARIS

Some designs listed in our programs may be subject to changes in dimensions, weights, and/or electrical characteristics due to ongoing R&D activities, as well as specific project and customer requirements.

CERTIFICATIONS

Saudi Cable Company's products are rigorously tested and certified by internationally renowned laboratories, ensuring compliance with the latest international standards, utility requirements, and stringent testing protocols. Our certifications cover low, medium, high, and extra-high voltage cables, Instrumentation cables as well as overhead conductors, reflecting our unwavering commitment to delivering superior quality, reliability, and performance to meet the most demanding global standards.

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