



energyya[®]
CABLES



**HIGH & EXTRA
HIGH
VOLTAGE CABLES**

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HIGH AND EXTRA HIGH VOLTAGE CABLES CATALOGUE





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Corporate Profile

Energya Industries is a multi-disciplined business group with diversified business operations in:-

- Manufacturing.
- Distribution.
- Turn key projects in Electromechanical and Telecommunication fields.

Energya Industries is one of the largest players in the field of electricity in the Middle East and Africa with operations in Egypt, Algeria, Libya, Sudan, Saudi Arabia, UAE, Qatar, Bahrain and Lebanon.

Energya Industries has a total turnover exceeding US\$ 1 Billion and has total manpower above 7,000. Energya Industries started business during the early 1930s in which:

1937s :Electrical products distribution in Egypt.

1960s :Electrical products distribution in Saudi Arabia.

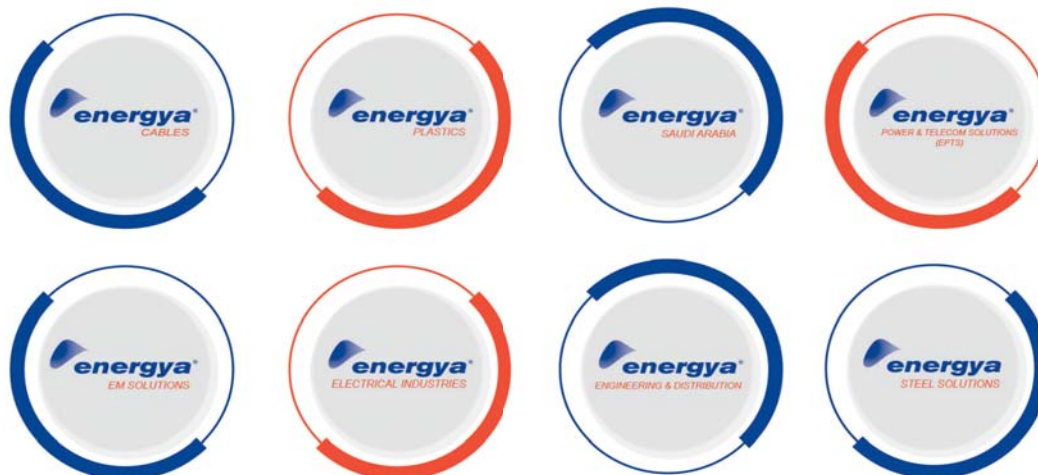
1980s :Manufacturing our own brands in Egypt and Saudi Arabia.

1990s :Manufacturing our own components Copper, PVC, Lighting.

2000s :Regional expansion in core business with strong background integration.



Energya industries consists of 13 diversified divisions



As a company energya cables, is considered one of the largest manufactures of low, medium, high and extra high voltage power cables in Egypt since 1988.



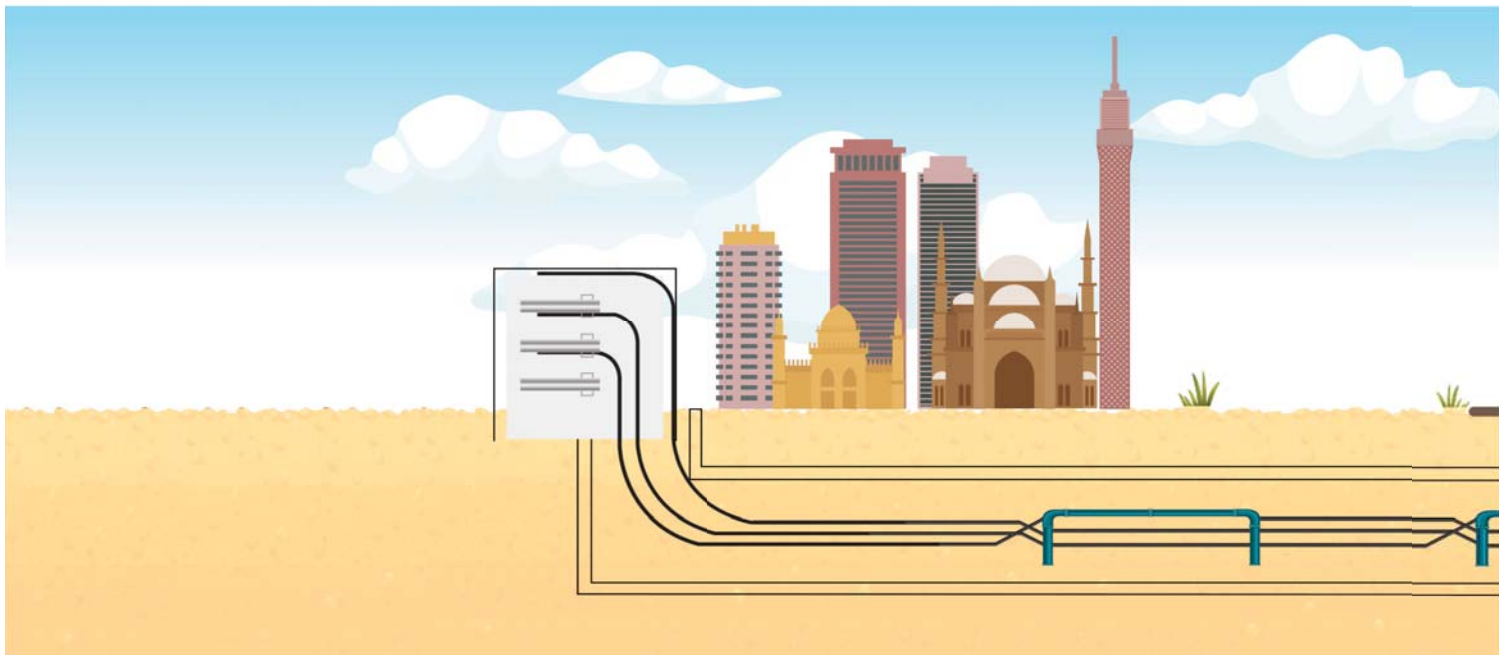
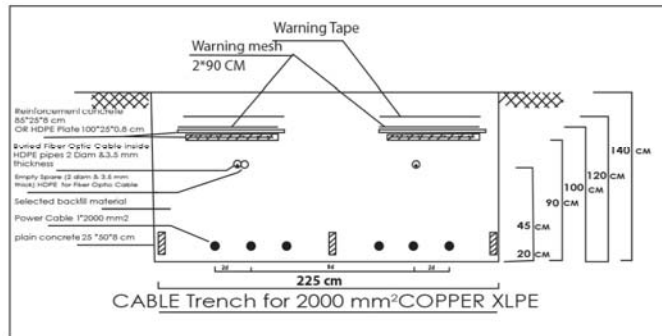
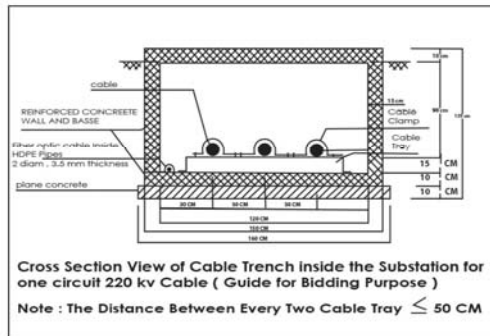
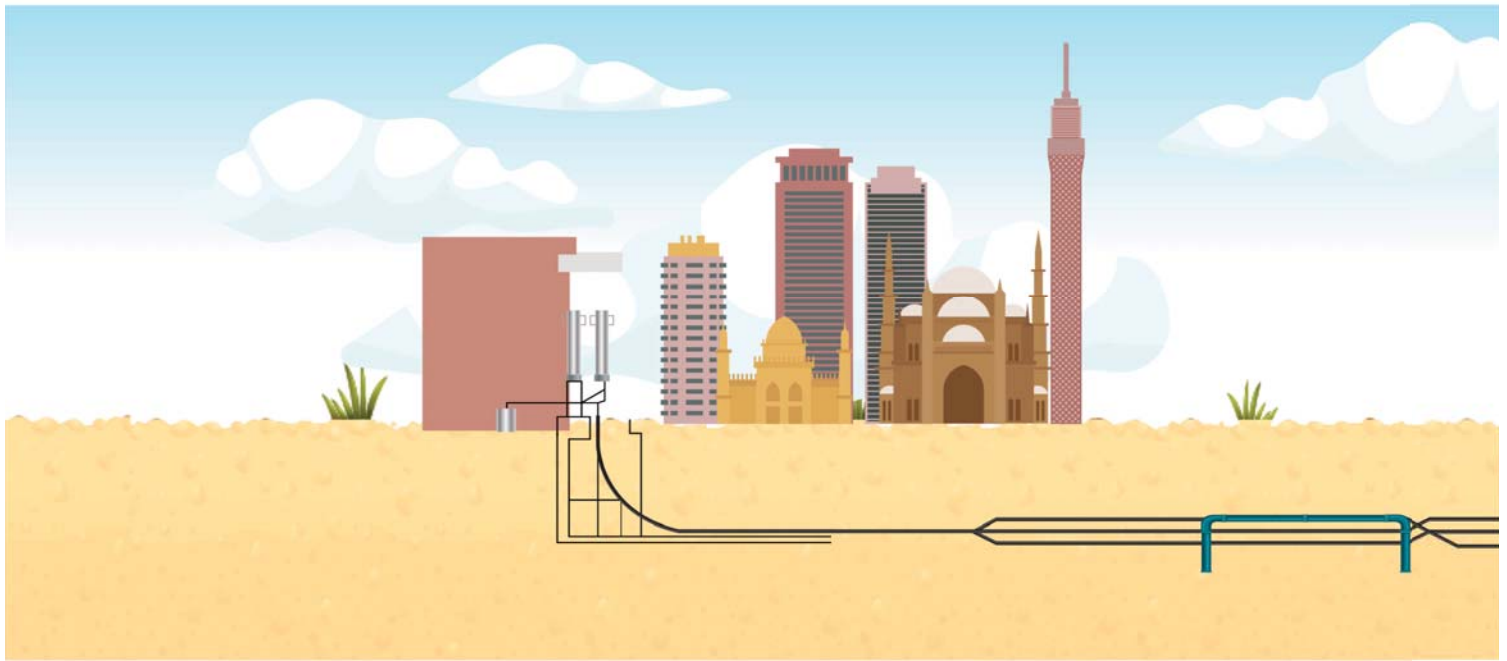
Our range of products is very wide and includes low, medium, high voltage, and extra high voltage cables with Copper or Aluminum conductors, PVC or XLPE insulated. Steel or Aluminum tape or wires armored, PVC or PE sheathed, and because we believe in the continuous enhancement of our products range, which is one of our strategic goals, we recently started to produce submarine cables and extra high voltage cables up to 220KV with a lead sheath that provides high level of protection to the cable. At the same time, we qualified our management system to fully achieve ISO 9001: 2015 EH&S requirements in order to delight our customers and gain their confidence, we believe that we are partners in success with our customers.

Energya Power and Telecommunications Solutions (EPTS):

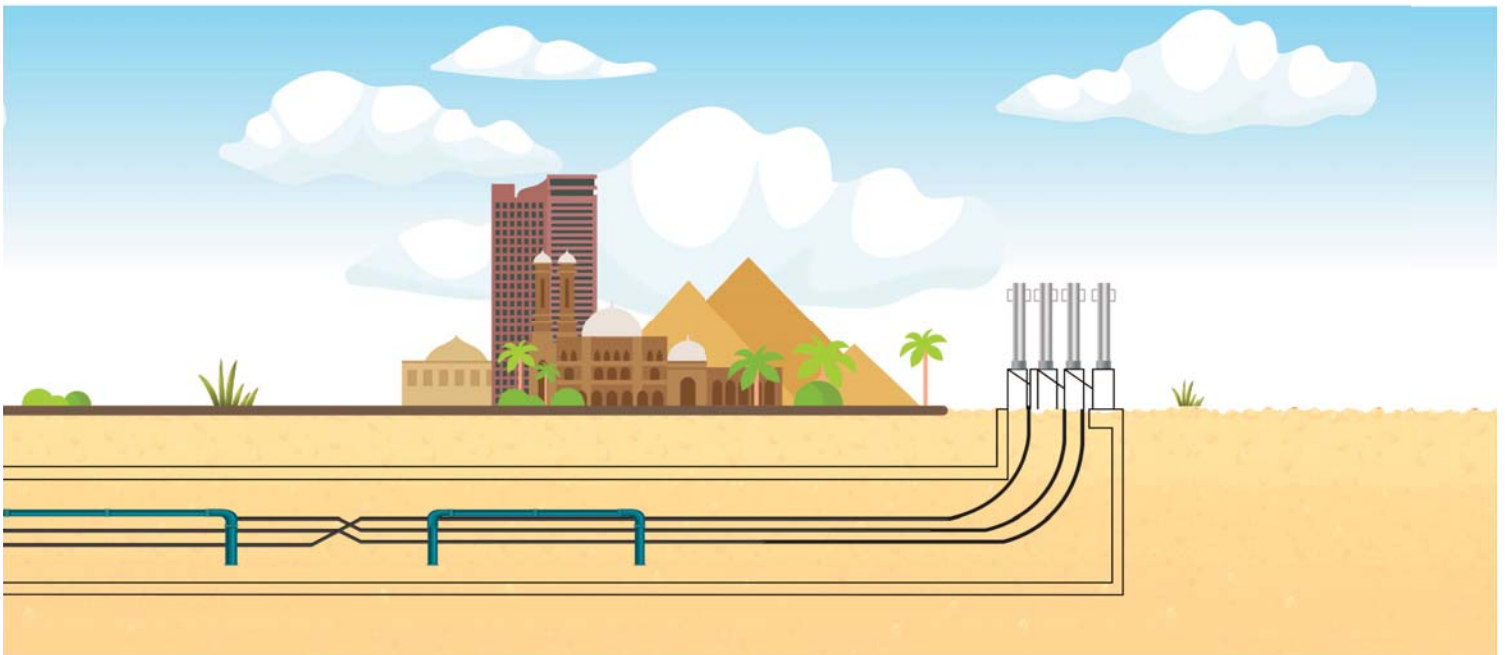
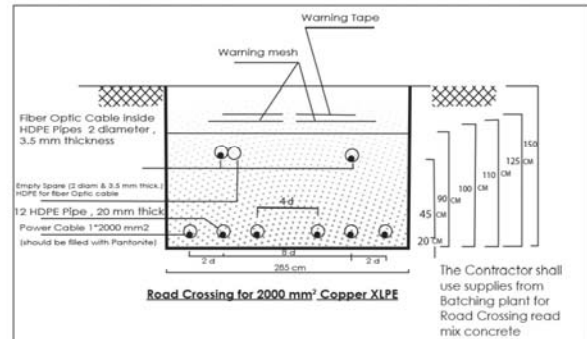
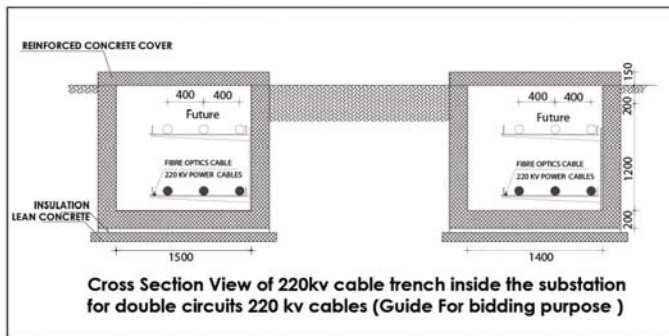
A division of Energya industries, is the contracting arm of the group offering turnkey Infrastructure services and solutions in:

- OHTL up to 500KV.
 - EHV underground up to 220KV.
 - Distribution Networks.
 - Telecom (Fiber optic and Copper) Networks.
 - Substation Turnkey Projects.
-
- Energya plays a major role in the complete preparation, analysis, design, construction of transmission networks and distribution systems throughout the Middle East and Africa. The company specialists have extensive knowledge and experience installation of overhead transmission lines, underground power cables and electro-mechanical works.
 - Besides providing the Telecom operators with Fiber Optics and Copper Cable turnkey project solutions through designing, surveying, planning, supplying, installation, testing, commissioning and maintenance, Energya draws on an extensive pool of resources, from our diversified conglomeration of associated businesses, we are always ready to present world-class services and solutions to the Telecom industry.

Single Line Diagram for EPTS Projects

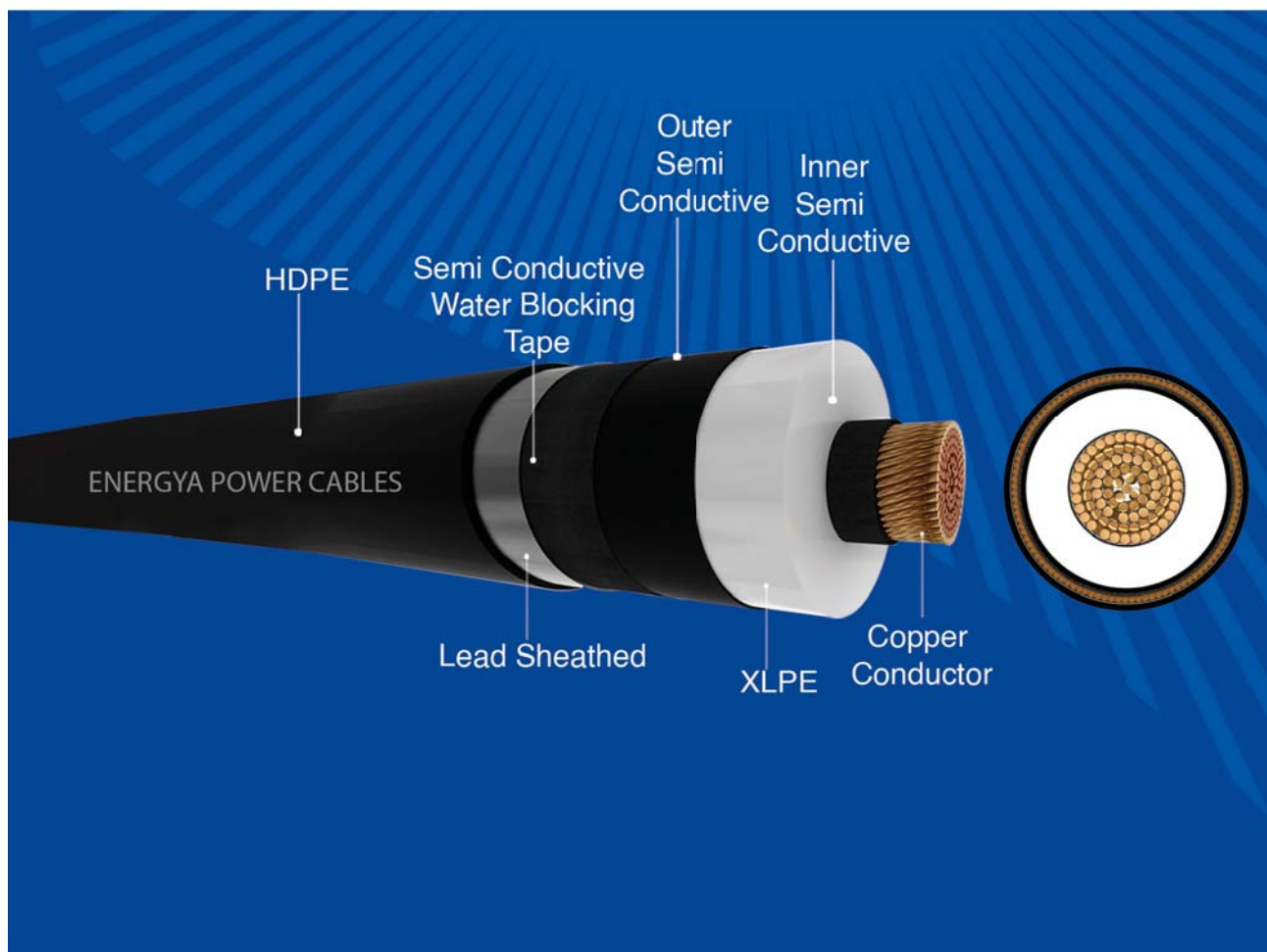


Single Line Diagram for EPTS Projects



HIGH VOLTAGE CABLES

38 / 66 (72.5) kV



Single Core Copper Conductor, XLPE insulated, Lead Sheathed and HDPE Sheathed.

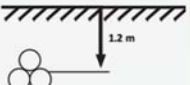

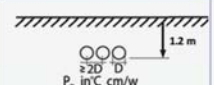
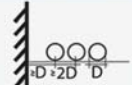
Description

- Stranded circular or segmental compacted copper conductor, semi-conducting layer as a non conductor screen, XLPE insulated, semi-conducting layer as a non metallic insulation screen, semi conductive water blocking tape to protect the screen area from longitudinal water penetration, lead sheathed with suitable thickness to withstand the required earth fault current and HDPE sheathed with graphite coating or extruded semi-conducting layer.
- Cables are designed and tested to comply with IEC 60228, IEC 60840, IEC 60811.

Cable Construction

Products Code	Conductor		Thickness of Conductor Screen	Thickness of Insulation	Thickness of Insulation Screen	Lead Thickness	Thickness of Outer Sheath	Approx. Outer Diameter of Cable	Approx. Weight of Cable	Max. DC Conductor Resistance at 20°C	Capacitance
	Cross Sectional Area	Shape									
RT18B6018X	150 R	Compact Round(R) Stranded	1.0	12	1.0	2.0	3.0	53.0	6100	0.1240	0.173
RT19B6018X	185 R		1.0	12	1.0	2.0	3.0	54.8	6700	0.0991	0.186
RT20B6018X	240 R		1.0	12	1.0	2.0	3.0	57.0	7550	0.0754	0.203
RT30B6018X	300 R		1.0	12	1.0	2.0	3.0	60.0	8400	0.0601	0.221
RT40B6018X	400 R	Segmental Stranded(S) (Milliken)	1.0	12	1.0	2.3	3.0	65.0	10000	0.0470	0.239
RT50B6018X	500 R		1.0	12	1.0	2.3	3.0	69.0	11500	0.0366	0.263
RT60B6018X	630 R		1.0	12	1.0	2.3	3.5	72.0	13500	0.0283	0.288
RT70B6018X	800 R		1.0	12	1.0	2.3	3.5	77.0	15700	0.0221	0.319
RT80B6018X	1000 S		1.2	13	1.2	2.3	3.5	88.0	19200	0.0176	0.380
RT81B6018X	1200 S		1.2	13	1.2	2.3	3.5	93.0	21500	0.0151	0.395
RT82B6018X	1600 S		1.5	13	1.2	3.0	4.0	100.0	27600	0.0113	0.453

Cables Current Carrying Capacity

Continuous Current Ratings Load Factor = 100% for one circuit in operation (Amperes)											
Laying conditions: trefoil formation						Laying condition: flat formation					
Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)		Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)	
											
		pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C			pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C
Bonded at both ends	150 R	364	306	495	446	Cross or single point bonding	150 R	379	319	560	506
	185 R	410	344	565	510		185 R	428	360	642	581
	240 R	473	397	665	600		240 R	497	417	760	687
	300 R	532	445	761	686		300 R	562	472	875	791
	400 R	600	502	876	789		400 R	640	537	1016	918
	500 R	674	563	1007	908		500 R	730	611	1181	1067
	630 R	758	630	1130	1020		630 R	860	725	1320	1195
	800 R	830	690	1270	1150		800 R	971	816	1520	1375
	1000 S	930	770	1500	1350		1000 S	1110	934	1840	1665
	1200 S	980	820	1600	1440		1200 S	1190	995	1998	1840
	1600 S	1090	910	1680	1490		1600 S	1200	1005	2075	1875

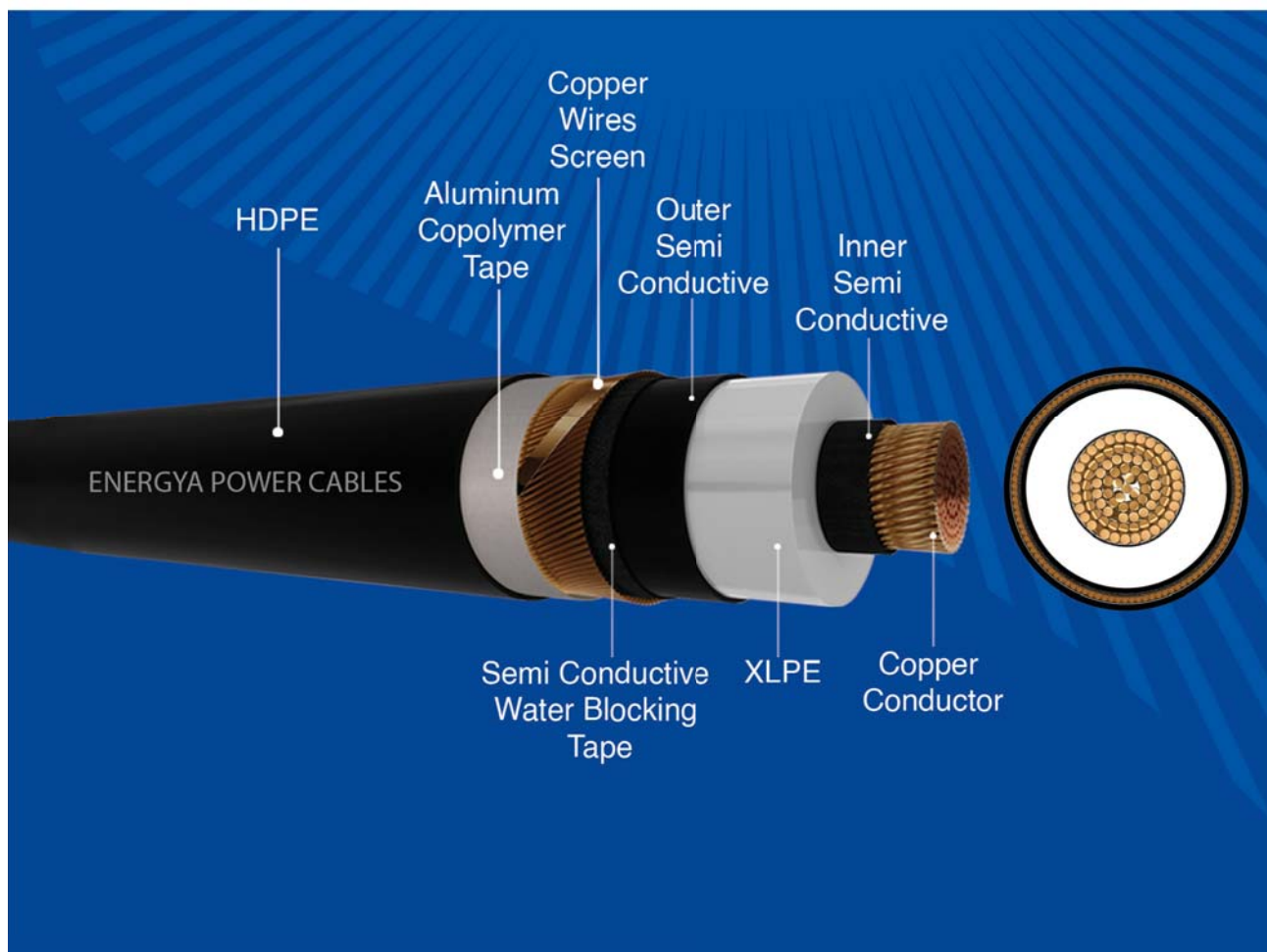
- The above data is approximate and subjected to manufacturing tolerance.

R: Round
S: Segmental



HIGH VOLTAGE CABLES

38 / 66 (72.5) kV



Single Core Copper Conductor, XLPE insulated, Copper Wires Screen and HDPE Sheathed.

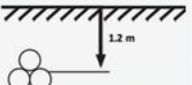

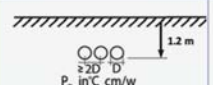
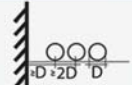
Description

- Stranded circular or segmental compacted copper conductor, semi-conducting layer as a non conductor screen, XLPE as a insulated, semi-conducting layer as a non metallic insulation screen, Semi-conductive water blocking tape, copper wires as a metallic insulation screen to withstand the required earth fault current, non-conductive water blocking tape to protect the screen area from longitudinal water penetration, copolymer aluminum tape to protect the cable from radial water penetration and HDPE sheathed with graphite coating or extruded semi-conducting layer.
- Cables are designed and tested to comply with IEC 60228, IEC 60840, IEC 60811.

Cable Construction

Products Code	Conductor		Thickness of Conductor Screen	Thickness of Insulation	Thickness of Insulation Screen	Screen C.S.A	Thickness of Outer Sheath	Approx. Outer Diameter of Cable	Approx. Weight of Cable	Max. DC Conductor Resistance at 20°C	Capacitance
	Cross Sectional Area	Shape									
	mm2										
RT18B6018X	150 R	Round Compact	1.0	12	1.0	70	3.0	55	3900	0.124	0.173
RT19B6018X	185 R		1.0	12	1.0	70	3.0	58	4300	0.0991	0.186
RT20B6018X	240 R		1.0	12	1.0	70	3.0	61.0	4880	0.0754	0.203
RT30B6018X	300 R		1.0	12	1.0	70	3.0	62.5	5550	0.0601	0.221
RT40B6018X	400 R		1.0	12	1.0	70	3.0	65.0	6300	0.0470	0.239
RT50B6018X	500 R		1.0	12	1.0	70	3.0	69.0	7600	0.0366	0.263
RT60B6018X	630 R		1.0	12	1.0	70	3.5	73.0	9050	0.0283	0.288
RT70B6018X	800 R		1.0	12	1.0	70	3.5	79.0	10985	0.0221	0.319
RT80B6018X	1000 S	Segmental Stranded(S) (Milliken)	1.2	13	1.2	70	3.5	90.0	13600	0.0176	0.380
RT81B6018X	1200 S		1.2	13	1.2	70	3.5	94.0	15560	0.0151	0.395
RT82B6018X	1600 S		1.5	13	1.2	70	4.0	103.0	19900	0.0113	0.453

Cables Current Carrying Capacity

Continuous Current Ratings Load Factor = 100% for one circuit in operation (Amperes)											
Laying conditions: trefoil formation						Laying condition: flat formation					
Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)		Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)	
											
		pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C			pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C
Bonded at both ends	mm²					Cross or single point bonding	mm²				
	150 R	357	300	485	438		150 R	378	318	557	504
	185 R	400	336	553	499		185 R	427	360	639	578
	240 R	459	385	648	584		240 R	496	417	756	684
	300 R	514	430	738	665		300 R	561	471	871	787
	400 R	577	482	845	761		400 R	639	536	1010	913
	500 R	643	538	966	871		500 R	729	611	1175	1061
	630 R	730	614	1110	1005		630 R	810	670	1350	1210
	800 R	811	675	1250	1130		800 R	905	765	1560	1415
	1000 S	920	740	1490	1340		1000 S	1112	929	1840	1660
	1200 S	980	820	1600	1440		1200 S	1200	1002	2000	1800
1600 S	1090	910	1820	1640	1600 S	1350	1120	2280	2060		

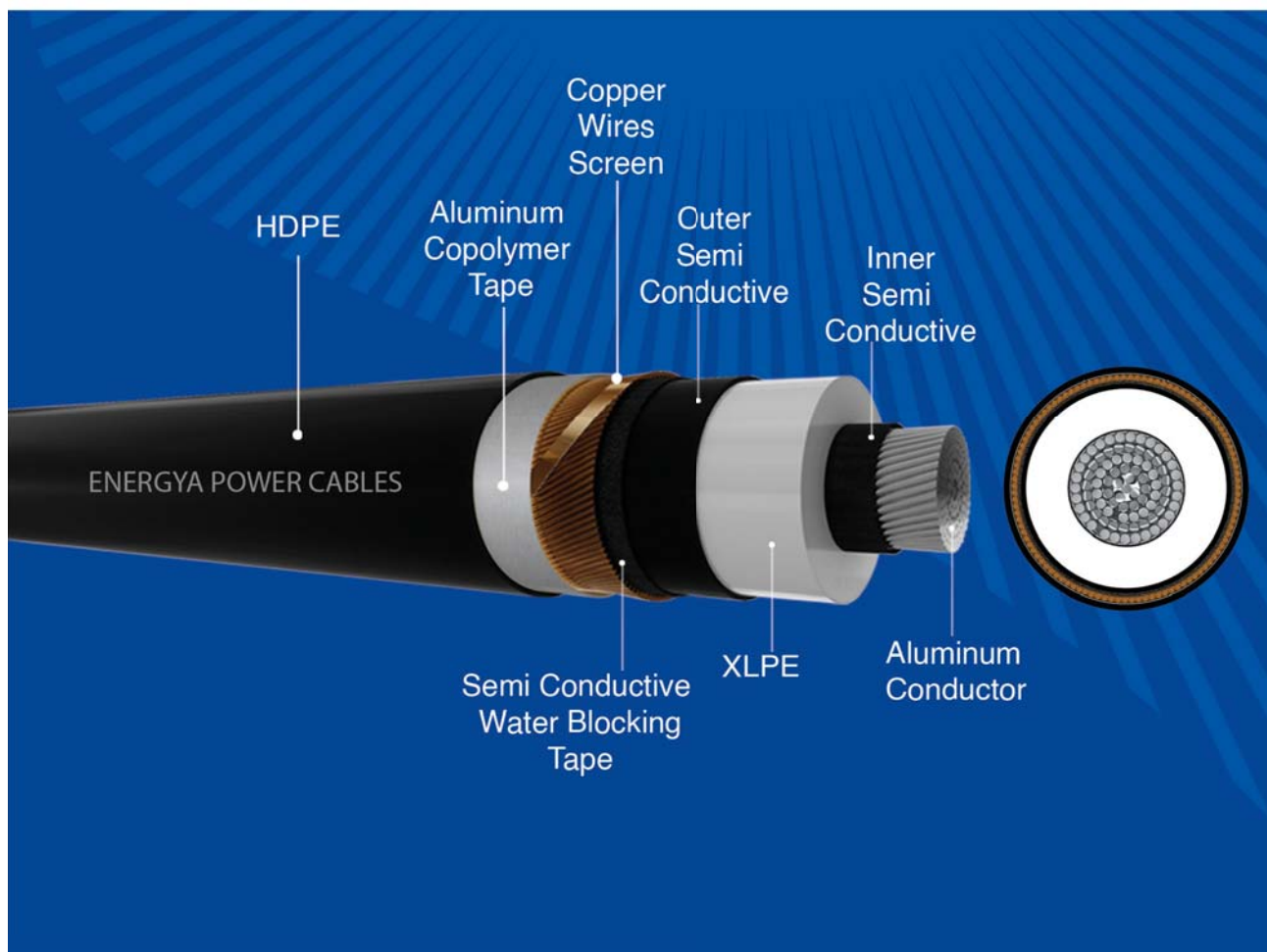
- The above data is approximate and subjected to manufacturing tolerance.

R: Round
S: Segmental



HIGH VOLTAGE CABLES

38 / 66 (72.5) kV



Single Core Aluminum Conductor, XLPE insulated, Copper Wires Screen and HDPE Sheathed.

Description

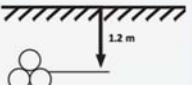

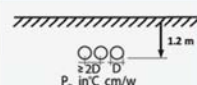
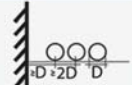
- Stranded circular or segmental compacted Aluminum conductor, semi-conducting layer as a non conductor screen, XLPE insulated, semi-conducting layer as a non metallic insulation screen, Semi-conductive water blocking tape, copper wires as a metallic insulation screen to withstand the required earth fault current, non-conductive water blocking tape to protect the screen area from longitudinal water penetration, copolymer aluminum tape to protect the cable from radial water penetration and HDPE sheathed with graphite coating or extruded semi-conducting layer.

- Cables are designed and tested to comply with IEC 60228, IEC 60840, IEC 60811.

Cable Construction

Products Code	Conductor		Thickness of Conductor Screen	Thickness of Insulation	Thickness of Insulation Screen	Screen C.S.A	Thickness of Outer Sheath	Approx. Outer Diameter of Cable	Approx. Weight of Cable	Max. DC Conductor Resistance at 20°C	Capacitance
	Cross Sectional Area	Shape									
	mm2										
KT18B6018X	150 R	Round Compact	1.0	12	1.0	70	3.0	55	3050	0.2060	0.173
KT19B6018X	185 R		1.0	12	1.0	70	3.0	58	3200	0.164	0.186
KT20B6018X	240 R		1.0	12	1.0	70	3.0	61.0	3500	0.125	0.203
KT30B6018X	300 R		1.0	12	1.0	70	3.0	62.5	3750	0.1	0.221
KT40B6018X	400 R		1.0	12	1.0	70	3.0	65.0	4205	0.0778	0.239
KT50B6018X	500 R		1.0	12	1.0	70	3.0	69.0	4670	0.0605	0.263
KT60B6018X	630 R		1.0	12	1.0	70	3.5	73.0	5420	0.0469	0.288
KT70B6018X	800 R		1.0	12	1.0	70	3.5	79.0	6230	0.0367	0.319
KZ80B6018X	1000 S	Segmental Stranded(S) (Milliken)	1.2	13	1.2	70	3.5	89.0	7565	0.0291	0.380
KZ81B6018X	1200 S		1.2	13	1.2	70	3.5	93.0	8210	0.0247	0.395
KZ83B6018X	1600 S		1.5	13	1.2	70	4.0	102.0	10105	0.0186	0.453

Cables Current Carrying Capacity

Continuous Current Ratings Load Factor = 100% for one circuit in operation (Amperes)											
Laying conditions: trefoil formation						Laying condition: flat formation					
Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)		Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)	
											
		pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C			pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C
Bonded at both ends	mm²					Cross or single point bonding	mm²				
	150 R	281	237	380	343		150 R	298	251	432	391
	185 R	317	267	434	392		185 R	337	284	495	448
	240 R	366	307	510	480		240 R	390	328	586	530
	300 R	412	345	583	526		300 R	439	369	673	609
	400 R	469	392	676	610		400 R	502	421	786	711
	500 R	532	445	782	705		500 R	573	480	917	829
	630 R	602	503	907	817		630 R	653	547	1074	971
	800 R	678	565	1047	943		800 R	767	642	1257	1136
	1000 S	785	654	1257	1132		1000 S	891	744	1519	1373
1200 S	847	705	1370	1234	1200 S	970	810	1671	1510		
1600 S	867	721	1447	1303	1600 S	983	819	1765	1594		

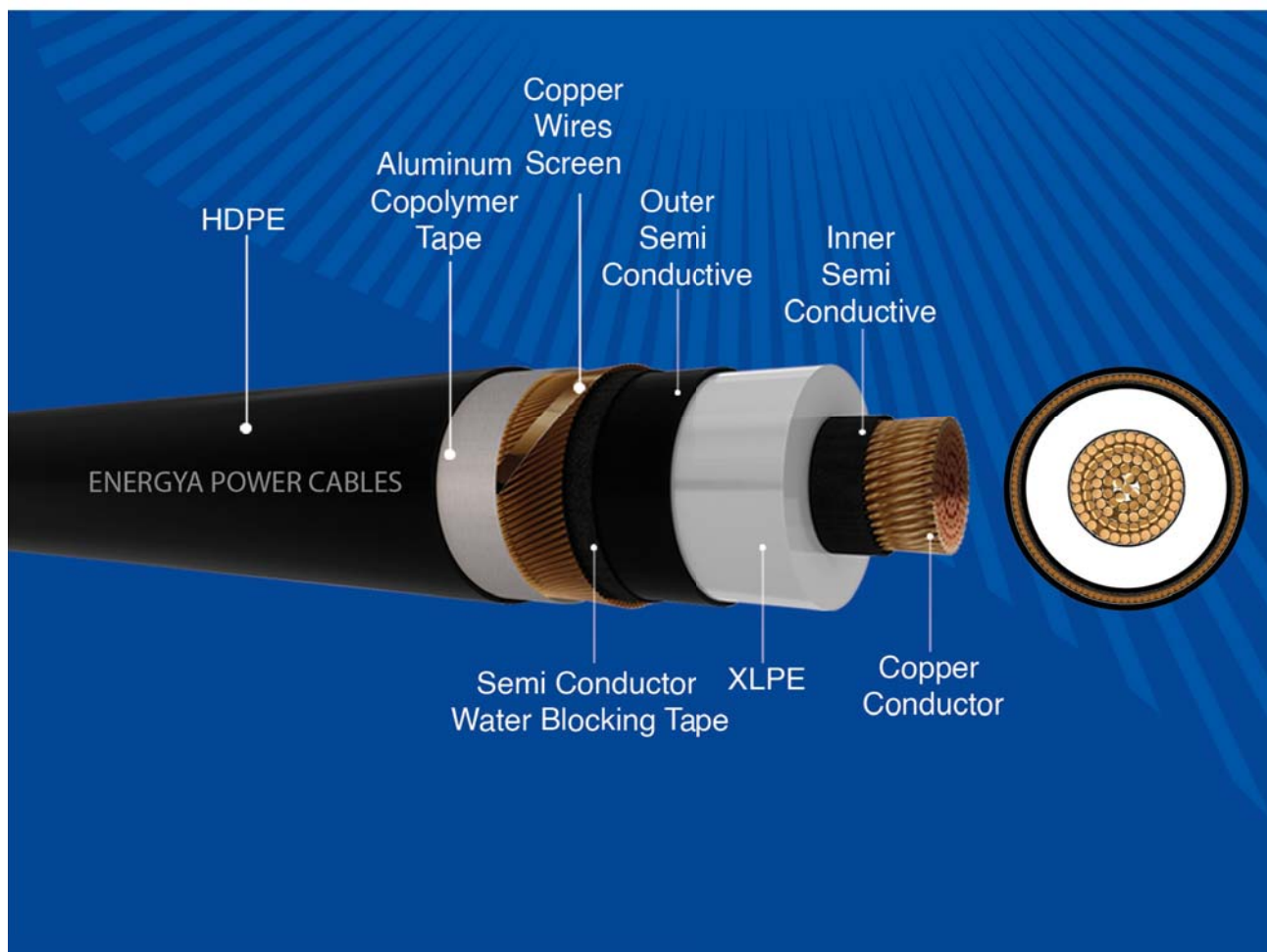
- The above data is approximate and subjected to manufacturing tolerance.

R: Round
S: Segmental



HIGH VOLTAGE CABLES

76 / 132 (145) kV



Single Core Copper Conductor, XLPE insulated, Lead Sheathed and HDPE Sheathed.

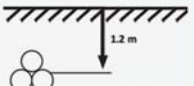

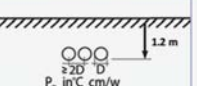
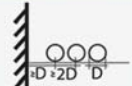
Description

- Stranded circular or segmental compacted copper conductor, semi-conducting layer as a non conductor screen, XLPE insulated, semi-conducting layer as a non metallic insulation screen, Semi-conductive water blocking tape, copper wires as a metallic insulation screen to withstand the required earth fault current, non-conductive water blocking tape to protect the screen area from longitudinal water penetration, copolymer aluminum tape to protect the cable from radial water penetration and HDPE sheathed with graphite coating or extruded semi-conducting layer.
- Cables are designed and tested to comply with IEC 60228, IEC 60840, IEC 60811.

Cable Construction

Products Code	Conductor		Thickness of Conductor Screen	Thickness of Insulation	Thickness of Insulation Screen	Screen C.S.A	Thickness of Outer Sheath	Approx. Outer Diameter of Cable	Approx. Weight of Cable	Max. DC Conductor Resistance at 20°C	Capacitance
	Cross Sectional Area	Shape									
RT40B7018X	400 R	Compact Round(R) Stranded	1.2	17	1.1	110.0	3.5	78.0	8300	0.0470	0.172
RT50B7018X	500 R		1.2	17	1.1	110.0	3.5	81.0	9600	0.0366	0.188
RT60B7018X	630 R		1.2	17	1.1	110.0	3.5	85.0	11000	0.0283	0.204
RT70B7018X	800 R		1.2	17	1.1	110.0	3.5	89.0	13000	0.0221	0.220
RZ80B7018X	1000 S	Segmental Stranded(S) (Milliken)	1.2	17	1.2	110.0	3.5	97	15515	0.0176	0.245
RZ81B7018X	1200 S		1.2	17	1.2	110.0	3.5	101	17450	0.0151	0.260
RZ83B7018X	1600 S		1.5	17	1.5	110.0	3.5	109	21800	0.0113	0.300
RZ85B7018X	2000 S		1.5	17	1.5	110.0	4.0	116	26200	0.0090	0.320
RZ86B7018X	2500 S		1.5	17	1.5	110.0	4.0	124	31700	0.0072	0.350

Cables Current Carrying Capacity

Continuous Current Ratings Load Factor = 100% for one circuit in operation (Amperes)											
Laying conditions: trefoil formation								Laying condition: flat formation			
Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)		Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)	
											
	mm²	pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C		mm²	pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C
Bonded at both ends	400 R	641	515	875	790	Cross or Single point Bonding	400 R	640	540	979	886
	500 R	695	585	1012	915		500 R	731	615	1139	1031
	630 R	790	660	1169	1055		630 R	832	699	1320	1195
	800 R	872	731	1329	1200		800 R	938	788	1521	1376
	1000 S	940	720	1535	1370		1000 S	1015	835	1755	1575
	1200 S	1024	840	1875	1504		1200 S	1100	900	1930	1729
	1600 S	1170	970	1957	1750		1600 S	1299	1071	2400	2080
	2000 S	1302	1172	2200	1990		2000 S	1400	1150	2650	2320
	2500 S	1443	1210	2393	2159		2500 S	1500	1250	3000	2600

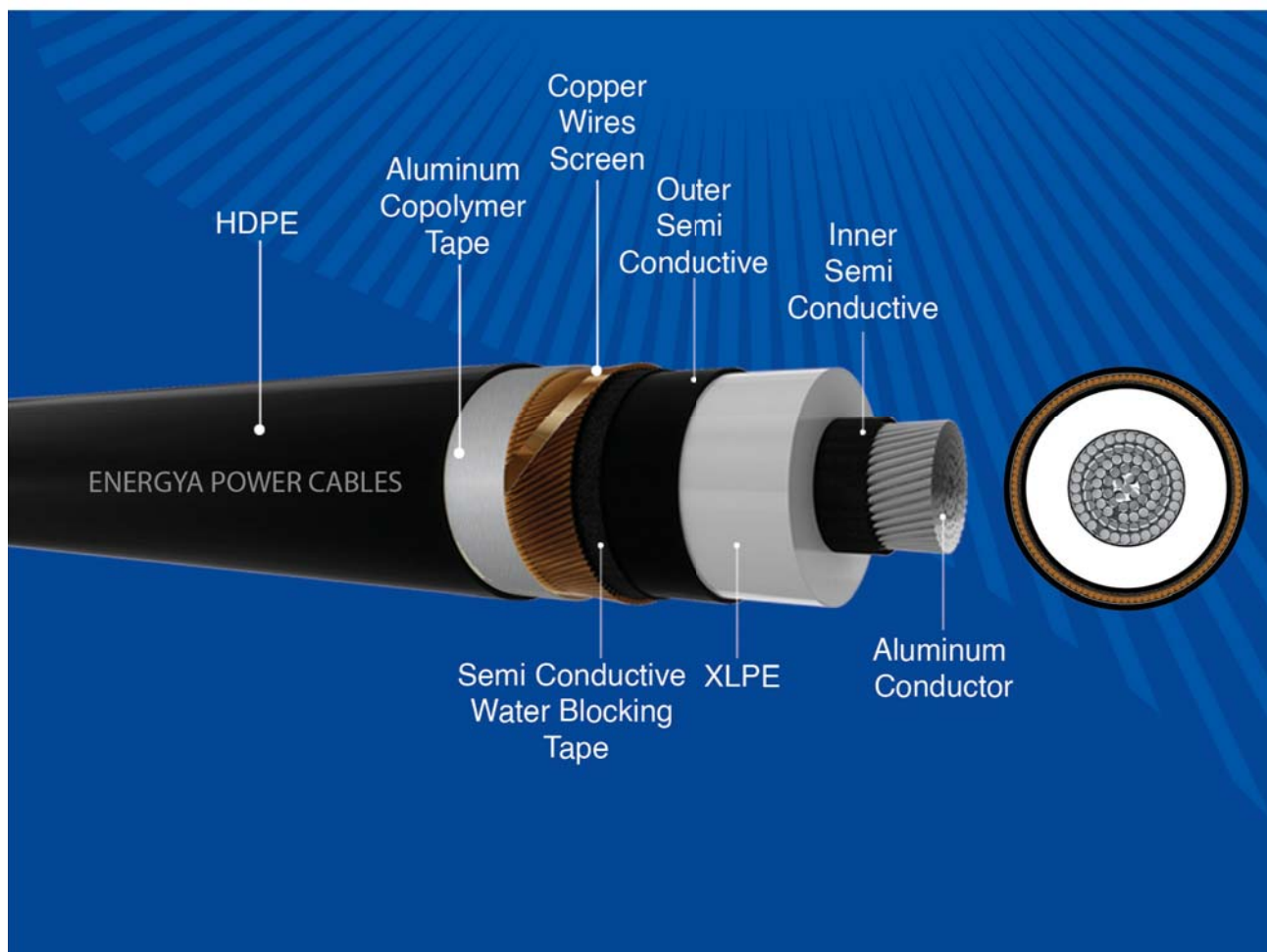
- The above data is approximate and subjected to manufacturing tolerance.

R: Round
S: Segmental



HIGH VOLTAGE CABLES

76 / 132 (145) kV



Single Core Aluminum Conductor, XLPE insulated, Copper Wires Screen and HDPE Sheathed.

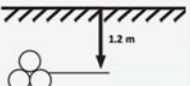


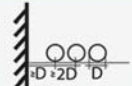
Description

- Stranded circular or segmental compacted Aluminum conductor, semi-conducting layer as a non conductor screen, XLPE insulated, semi-conducting layer as a non metallic insulation screen, Semi-conductive water blocking tape, copper wires as a metallic insulation screen to withstand the required earth fault current, non-conductive water blocking tape to protect the screen area from longitudinal water penetration, copolymer aluminum tape to protect the cable from radial water penetration and HDPE sheathed with graphite coating or extruded semi-conducting layer.
- Cables are designed and tested to comply with IEC 60228, IEC 60840, IEC 60811.

Cable Construction

Products Code	Conductor		Thickness of Conductor Screen	Thickness of Insulation	Thickness of Insulation Screen	Screen C.S.A	Thickness of Outer Sheath	Approx. Outer Diameter of Cable	Approx. Weight of Cable	Max. DC Conductor Resistance at 20°C	Capacitance
	Cross Sectional Area	Shape									
	mm2										
RT40B7018X	400 R	Compact Round(R) Stranded	1.2	17	1.1	110.0	3.5	78.0	5905	0.0778	0.172
RT50B7018X	500 R		1.2	17	1.1	110.0	3.5	81.0	6435	0.0605	0.188
RT60B7018X	630 R		1.2	17	1.1	110.0	3.5	85.0	7125	0.0469	0.204
RT70B7018X	800 R		1.2	17	1.1	110.0	3.5	89.0	8025	0.0367	0.220
RZ80B7018X	1000 S	Segmental Stranded(S) (Milliken)	1.2	17	1.2	110.0	3.5	97	9125	0.0291	0.245
RZ81B7018X	1200 S		1.2	17	1.2	110.0	3.5	100.0	9805	0.0247	0.260
RZ83B7018X	1600 S		1.5	17	1.5	110.0	3.5	109	11975	0.0186	0.300
RZ85B7018X	2000 S		1.5	17	1.5	110.0	4.0	116	13330	0.0149	0.320

Cables Current Carrying Capacity

Continuous Current Ratings Load Factor = 100% for one circuit in operation (Amperes)											
Laying conditions: trefoil formation						Laying condition: flat formation					
Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)		Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)	
											
	mm ²	pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C		mm ²	pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C
Bonded at both ends	400 R	460	386	667	602	Cross or Single point Bonding	400 R	510	422	767	694
	500 R	521	436	769	694		500 R	579	487	894	809
	630 R	604	505	905	817		630 R	662	555	1047	948
	800 R	680	567	1043	941		800 R	756	633	1220	1104
	1000 S	761	634	1217	1098		1000 S	899	753	1466	1326
	1200 S	909	758	1423	1284		1200 S	978	818	1607	1454
	1600 S	1062	885	1712	1544		1600 S	1140	952	1940	1755
	2000 S	1194	994	1952	1760		2000 S	1291	1077	2217	2006

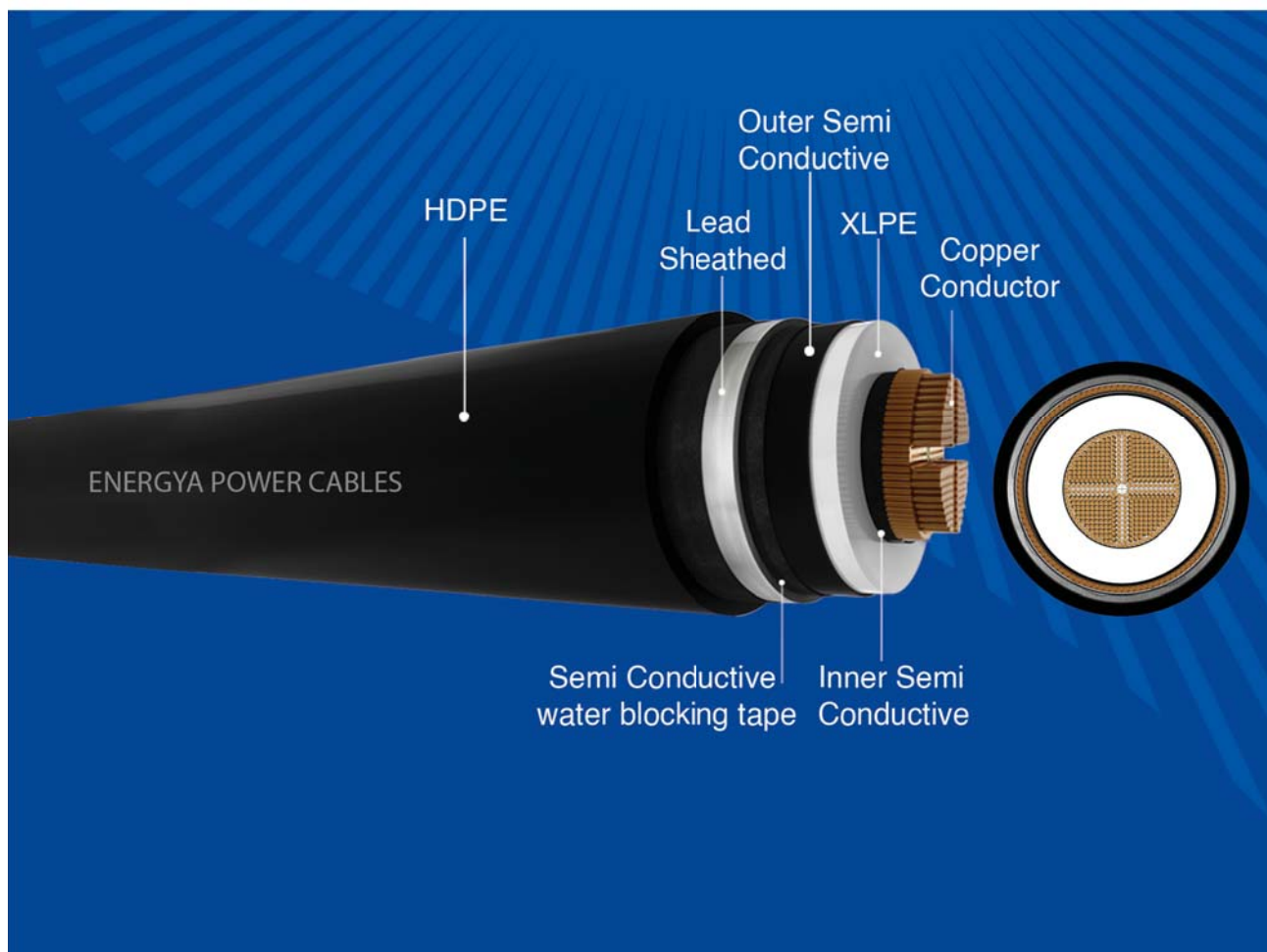
- The above data is approximate and subjected to manufacturing tolerance.

R: Round
S: Segmental



EXTRA HIGH VOLTAGE CABLES

127 / 220 (245) kV



Single Core Copper Conductor, XLPE insulated, Lead Sheathed and HDPE Sheathed.

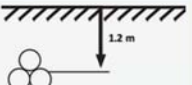

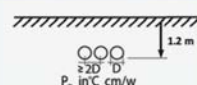
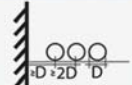
Description

- Stranded circular or segmental compacted copper conductor, semi-conducting layer as a non conductor screen, XLPE insulated, semi-conducting layer as a non metallic insulation screen, semi conductive water blocking tape to protect the screen area from longitudinal water penetration, lead sheathed with suitable thickness to withstand the required earth fault current and HDPE sheathed with graphite coating or extruded semi-conducting layer.
- Cables are designed and tested to comply with IEC 60228, IEC 62067, IEC 60811.

Cable Construction

Products Code	Conductor		Thickness of Conductor Screen	Thickness of Insulation	Thickness of Insulation Screen	Lead Thickness	Thickness of Outer Sheath	Approx. Outer Diameter of Cable	Approx. Weight of Cable	Max. DC Conductor Resistance at 20°C	Capacitance
	Cross Sectional Area	Shape									
	mm2										
RT70B801LX	800 R	Round	1.5	22	1.5	3.5	4	104.4	24565	0.0221	0.185
RZ80B801LX	1000 S	Segmental Stranded(S) (Milliken)	1.5	22	1.5	3.5	4.0	111.0	28100	0.0176	0.204
RZ81B801LX	1200 S		1.5	22	1.5	3.5	4.5	116.0	30400	0.0151	0.220
RZ83B801LX	1600 S		1.5	22	1.5	3.5	4.5	122.0	35000	0.0113	0.237
RZ85B801LX	2000 S		1.5	22	1.5	3.5	5.0	128.0	40200	0.0090	0.257
RZ86B801LX	2500 S		1.5	22	1.5	4	5.0	136.0	47000	0.0072	0.285

Cables Current Carrying Capacity

Continuous Current Ratings Load Factor = 100% for one circuit in operation (Amperes)											
Laying conditions: trefoil formation								Laying condition: flat formation			
Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)		Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)	
											
	mm ²	pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C		mm ²	pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C
Cross Bonding	800 R	864	723	1293	1168	Cross or Single point Bonding	800 R	935	785	1462	1324
	1000 S	980	810	1410	1300		1000 S	1080	860	1710	1520
	1200 S	1048	873	1639	1480		1200 S	1132	947	1838	1665
	1600 S	1155	960	1862	1681		1600 S	1259	1050	2230	2010
	2000 S	1240	1031	2038	1841		2000 S	1352	1127	2341	2120
	2500 S	1300	1080	2190	1978		2500 S	1426	1187	2622	2370

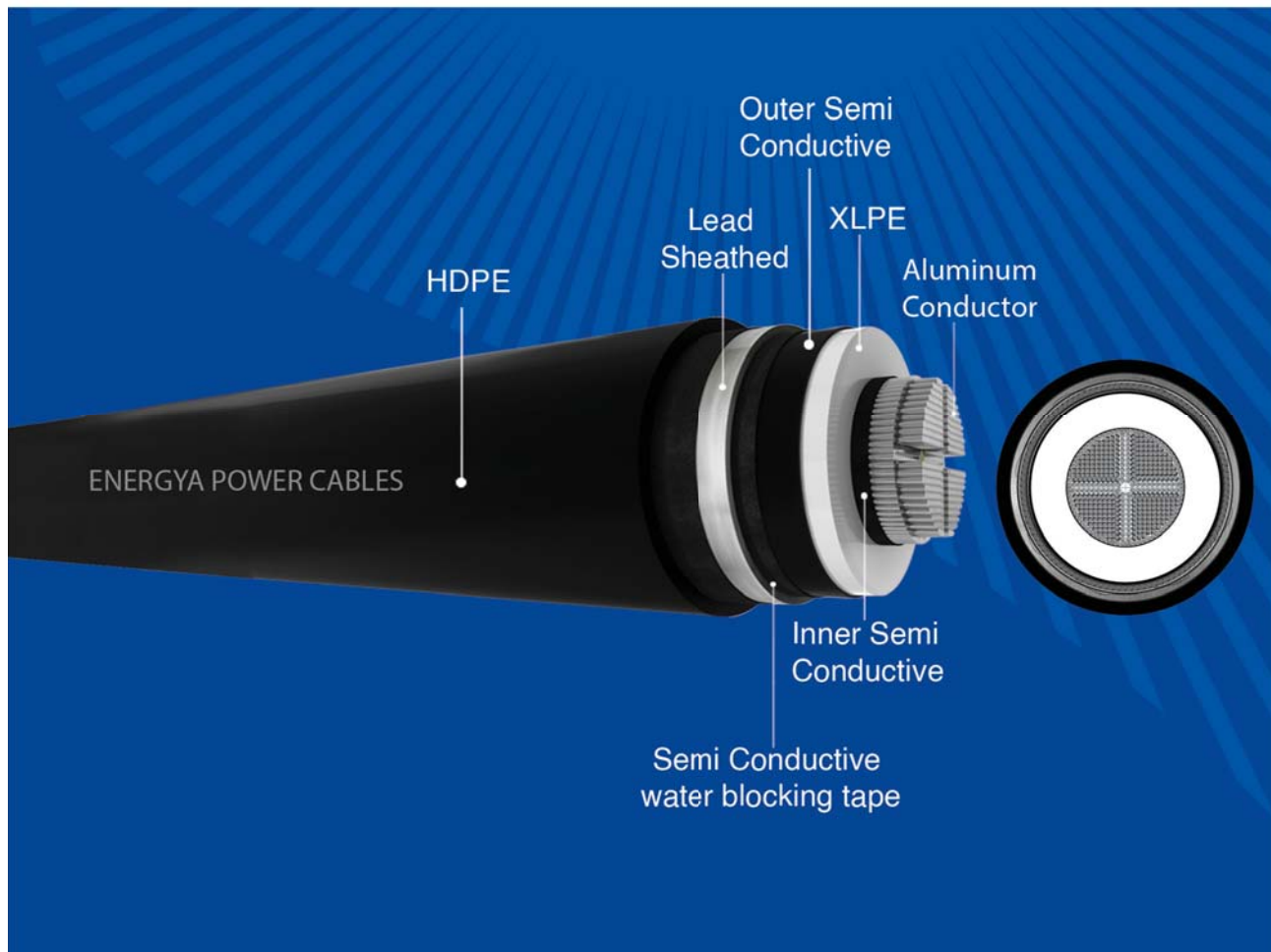
- The above data is approximate and subjected to manufacturing tolerance.

R: Round
S: Segmental



EXTRA HIGH VOLTAGE CABLES

127 / 220 (245) kV



Single Core Aluminum Conductor, XLPE insulated, Lead Sheathed and HDPE Sheathed.

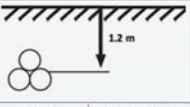
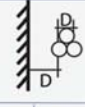
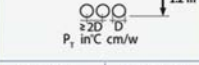

Description

- Stranded circular or segmental compacted Aluminum conductor, semi-conducting layer as a non conductor screen, XLPE insulated, semi-conducting layer as a non metallic insulation screen, semi conductive water blocking tape to protect, the screen area from longitudinal water penetration, lead sheathed with suitable thickness to withstand the required earth fault current and HDPE sheathed with graphite coating or extruded semi-conducting layer.
- Cables are designed and tested to comply with IEC 60228, IEC 62067, IEC 60811.

Cable Construction

Products Code	Conductor		Thickness of Conductor Screen	Thickness of Insulation	Thickness of Insulation Screen	Lead Thickness	Thickness of Outer Sheath	Approx. Outer Diameter of Cable	Approx. Weight of Cable	Max. DC Conductor Resistance at 20°C	Capacitance
	Cross Sectional Area	Shape									
	mm ²		mm	mm	mm	mm ²	mm	mm	kg/km	Ω/km	pF/km
RT70B801LX	800 R	Round	1.5	22	1.5	3.5	4	104.4	20140	0.0367	0.185
RZ80B801LX	1000 S	Segmental Stranded(S) (Milliken)	1.5	22	1.5	3.5	4.0	111.0	22250	0.0291	0.204
RZ81B801LX	1200 S		1.5	22	1.5	3.5	4.5	115.0	23195	0.0247	0.22
RZ83B801LX	1600 S		1.5	22	1.5	3.5	4.5	122.0	26095	0.0186	0.237
RZ85B801LX	2000 S		1.5	22	1.5	3.5	5.0	128.0	28000	0.0149	0.257

Cables Current Carrying Capacity

Continuous Current Ratings Load Factor = 100% for one circuit in operation (Amperes)											
Laying conditions: trefoil formation								Laying condition: flat formation			
Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)		Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)	
											
	mm ²	pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C		mm ²	pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C
Cross Bonding	800 R	700	586	1050	945	Cross or Single point Bonding	800 R	751	631	1163	1054
	1000 S	810	677	1253	1132		1000 S	869	727	1393	1262
	1200 S	879	733	1370	1237		1200 S	967	810	1525	1382
	1600 S	1015	844	1630	1472		1600 S	1122	938	1831	1658
	2000 S	1124	934	1814	1662		2000 S	1252	1045	2082	1885

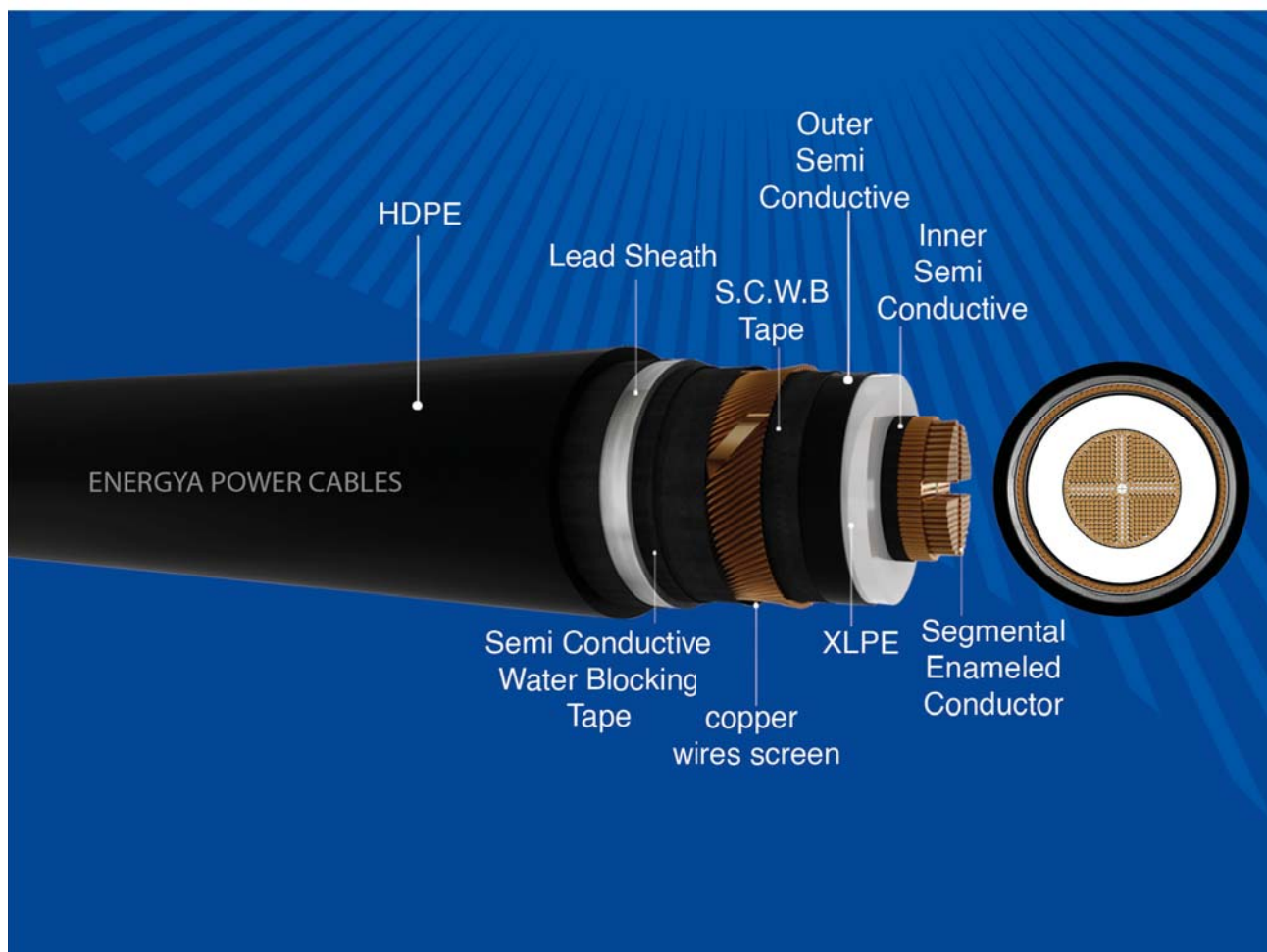
- The above data is approximate and subjected to manufacturing tolerance.

R: Round
S: Segmental



EXTRA HIGH VOLTAGE CABLES

290 / 500 (550) kV



Single Core Enameled Copper Conductor, XLPE insulated, copper wires screen, Lead Sheathed and HDPE Sheathed.

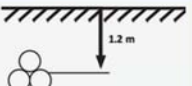

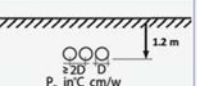

Description

- Stranded segmental compacted Enameled copper conductor, semi-conducting layer as a non conductor screen, XLPE insulated, semi-conducting layer as a non metallic insulation screen, semi conductive water blocking tape to protect copper wires screen area from longitudinal water penetration, lead sheathed with suitable thickness to withstand the required earth fault current and HDPE sheathed with graphite coating or extruded semi-conducting layer.
- Cables are designed and tested to comply with IEC 60228, IEC 62067, IEC 60811.

Cable Construction

Products Code	Conductor		Thickness of Conductor Screen	Thickness of Insulation	Thickness of Insulation Screen	Copper Wires Screen	Lead Thickness	Thickness of Outer Sheath	Approx. Outer Diameter of Cable	Approx. Weight of Cable	Max. DC Conductor Resistance at 20°C	Capacitance
	Cross Sectional Area	Shape										
	mm2											
RZ83BF01LX	1600 S	Segmental Stranded(S) (Milliken)	2.5	30	2	220	4.3	5.5	154.0	51000	0.0113	0.195
RZ85BF01LX	2000 S		2.5	30	2	220	4.3	5.5	160.0	56000	0.0090	0.210
RZ86BF01LX	2500 S		2.5	30	2	220	4.3	5.5	165.0	63000	0.0072	0.220

Cables Current Carrying Capacity

Continuous Current Ratings Load Factor = 100% for one circuit in operation (Amperes)											
Laying conditions: trefoil formation							Laying condition: flat formation				
Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)		Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)	
											
	mm²	pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C		mm²	pT=120 T = 25 °C	pT=150 T = 35 °C	T = 30 °C	T = 40 °C
Cross Bonding	1600 S	1146	924	1862	1681	Cross or Single point Bonding	1600 S	1233	1000	2340	2150
	2000 S	1244	999	2038	1841		2000 S	1341	1082	2469	2230
	2500 S	1335	1068	2190	1978		2500 S	1439	1157	2758	2490

- The above data is approximate and subjected to manufacturing tolerance.

R: Round
S: Segmental



DNV-GL

KEMA INSPECTION REPORT

3036-19

Object Single-core power cable
133/230 (245) kV - 1x1200 mm² - Al - XLPE

Client Energys Power Cables,
10th of Ramadan City A1, Cairo, Egypt

Manufacturer Energys Power Cables,
10th of Ramadan City A1, Cairo, Egypt

Inspected by DNV GL Netherlands B.V.,
Arnhem, the Netherlands

Test location Energys Cables - Jeddah Cables,
Rasouh, Kingdom of Saudi Arabia

Date of tests 20 March 2019 to 15 May 2019

Test specification The tests were in accordance with the client's specifications.

This report applies only to the object tested. The responsibility for conformity of any object having the same type references as that tested rests with the Manufacturer.

This report consists of 48 pages in total.

KEMA B.V.
[Signature]
Ray Verhoeven
Director, High-Voltage
Laboratory
Arnhem, 25 June 2019

KEMA
Laboratories

DNV-GL

KEMA TEST REPORT

1385-16

Object Single-core power cable
133/230 (245) kV - 1x2500 mm² - Cu - XLPE

Client Energys Power Cables - ELSEWEDY HELAL,
Cairo, Egypt

Manufacturer Energys Power Cables - ELSEWEDY HELAL,
Cairo, Egypt

Tested by KEMA Nederland B.V.,
Arnhem, the Netherlands

Date of tests 1 June to 16 August 2016

Test specification The tests have been carried out in accordance with client's instruction. Test procedure and test parameters were based on IEC 62067 (2011).

This report applies only to the object tested. The responsibility for conformity of any object having the same type references as that tested rests with the Manufacturer.

This report consists of 35 pages in total.

KEMA Nederland B.V.
[Signature]
J.P. Fontelje
Executive Vice President
KEMA Laboratories
Arnhem, 5 September 2016

KEMA
Laboratories

tlv
QERT
DIN EN ISO 9001:2008
Zertifikat: 01 01020214

**LABORATORIES OF EXTRA HIGH
VOLTAGE RESEARCH CENTER SECTOR**
Km 27 Cairo-Alex. Desert Road
Report No.(295 /2014)
Page 1 of 20

TEST REPORT

REPORT No. (295/2014)

- **CLIENT :** ENERGIA POWER CABLES (ELSEWEDY HELAL) .
- **Report Date:** 30 / 12 / 2014
- **Place:**
 - Laboratories of Extra High Voltage Research Center.
 - Internal code : TO - AC - 14 - 04 - 26 - 01
- **Requirements:**
 - Loop type tests according to IEC 60840.
- **Standard Specification:**
 - IEC 60840 "Power cables with extruded insulation and their accessories for rated voltages above 30 kV (Um = 36 kV) up to 150 kV (Um = 170 kV).
- **Description of the Specimen :**
 - Loop systems, cable and accessories consist of the following:

1- **38/66 kV Power cable with the following specification:**

- Manufacturer : ENERGIA POWER CABLES(ELSEWEDY HELAL)ETC.
- Type : 38/66 kV/CU/XLPE/LEAD/HIDPE/1 x 1200 mm²
- No. of Phases : 1
- Insulation : XLPE
- Conductor Material : Copper + Swelling Powder
- Conductor cross-section : 1200 mm²
- Metallic sheath Material : Lead
- Over sheath Material : HIDPE (ST)
- Sheath Color : Black
- Water Penetration Design : A barriers are included which prevents longitudinal water penetration (water blocking tape):
Along the outer surface of the conductor,
The gap between the outer surface of the insulation screen and the metallic sheath.

[Signature]

Quality Certificates

CERTIFICATE

This is to certify that

Energya Power Cables
10th of Ramadan city, 3rd Industrial zone, Egypt.

Environmental Management System has been assessed and registered as conforming with the requirements of the ISO 14001:2015.

Scope:
Manufacturing of low Voltage Cables, Medium Voltage Cables, High Voltage Cables up to 150 kV, Extra High Voltage

Certificate Registration No. 000497-1-EG-1-EMS

Certified Since	22.01.2018
Valid from	22.01.2018
Valid until	21.01.2019
Recertification Due	21.01.2021








Managing Director
Business Systems Certification Pty. Ltd. (BCert) P.O. Box 75, St Marys NSW 1790, Australia
Certification is subject to satisfactory ongoing Surveillance Assessments.
The validity of this certificate can be verified at www.jas-anz.org/register.
Issue No.1 Date: 21.01.2018

CERTIFICATE

This is to certify that

Energya Power Cables
10th of Ramadan city, 3rd Industrial zone, Egypt.

Health and Safety Management System has been assessed and registered as conforming with the requirements of the BS OHSAS 18001:2007.

Scope:
Manufacturing of low Voltage Cables, Medium Voltage Cables, High Voltage Cables up to 150 kV, Extra High Voltage

Certificate Registration No. 000497-2-EG-1-OHS

Certified Since	22.01.2018
Valid from	22.01.2018
Valid until	21.01.2019
Recertification Due	21.01.2021







Managing Director
Business Systems Certification Pty. Ltd. (BCert) P.O. Box 75, St Marys NSW 1790, Australia
Certification is subject to satisfactory ongoing Surveillance Assessments.
The validity of this certificate can be verified at www.jas-anz.org/register.




Certificate No:
CS1-263

Certificate of Conformity

BASEC hereby certifies that:

Has implemented and maintains a Management System that fulfils the requirements of:

Energya Power Cables
10th of Ramadan City
Industrial Zone
Area A1, Cairo, Egypt

BS EN ISO 9001:2015

In respect of the location listed above and for the following scope of activities:

Scope of Certification:

Design, Development, Manufacture and Supply of the following cable types:
Building wires and cables up to 1 kV, Medium voltage power cables up to 35 kV, High voltage power cables up to 150 kV, Extra-high voltage cables up to 500 kV and Overhead transmission lines.

Issue no: 1

Date of initial certification: 25/07/2019

Issue date: 25/07/2019

Signed for and on behalf of the British Approvals Service for Cables

Trace Hunter Date: 25/07/2019




If the conditions set out in the certification agreement are not fulfilled this Certificate may be rendered invalid. This certificate is issued subject to ongoing surveillance for continued compliance, and in accordance with BASEC's Regulations.

BASEC, Priory House, Priory Way, Milton Keynes, MK9 2ES, Registered in England No. 1100227. Tel: +44(0)1908 557760
Email: info@basec.org.uk, Web: www.basec.org.uk

Expiry date: 25/07/2022



Scan the QR Code for a PDF version of the certificates

NOTE

NOTE

Handwriting practice area with 20 horizontal dashed lines.



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HIGH AND EXTRA HIGH VOLTAGE CABLES CATALOGUE
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elsewedy HELAL

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