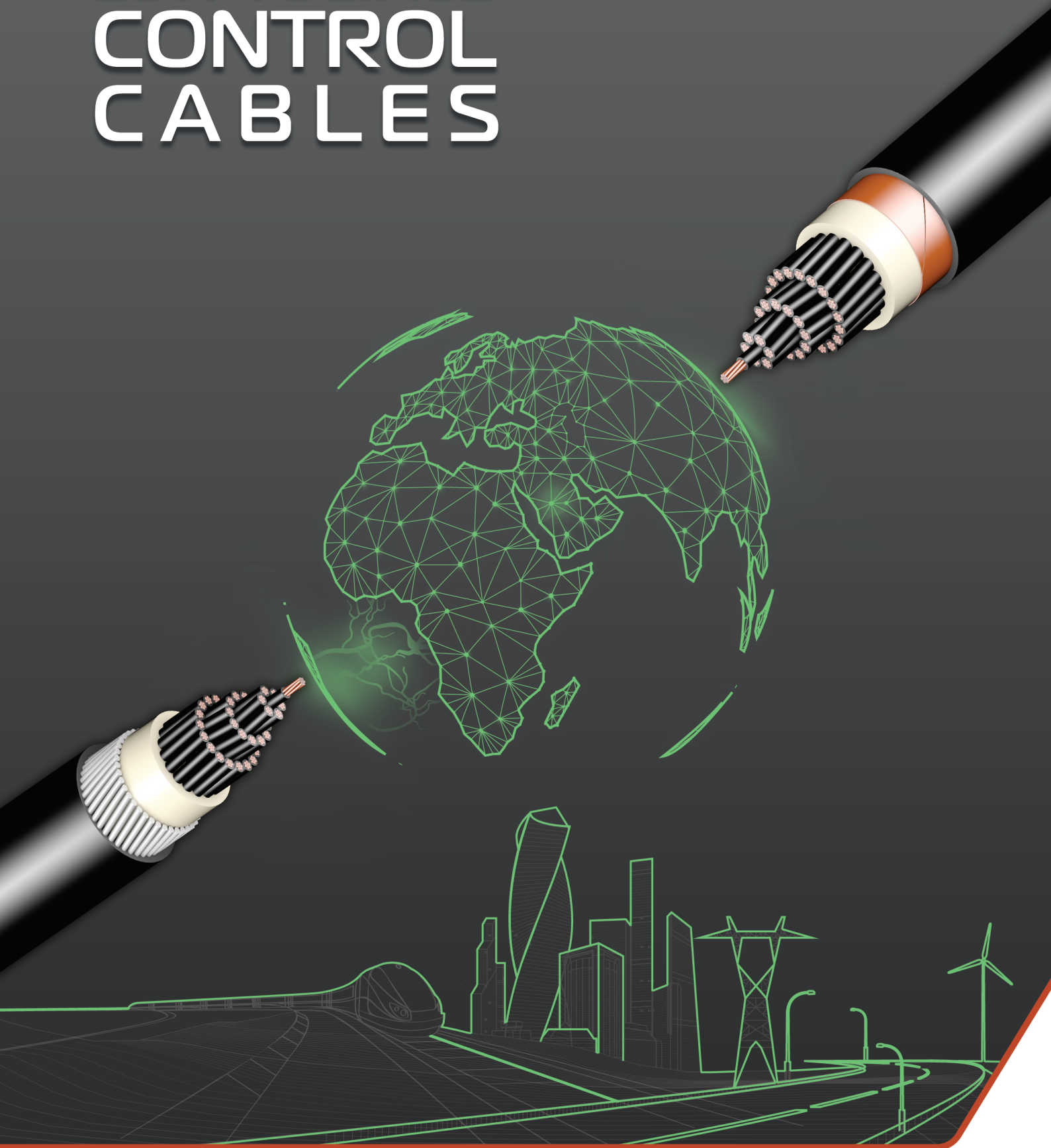


# LOW VOLTAGE CONTROL CABLES



مجموعة كابلات الرياض  
Riyadh Cables Group





# INTRODUCTION

## **Conductors:**

Conductors shall be Round Stranded Class 2 to IEC 60228. Solid Conductors Class 1 to IEC 60228 can also be provided based on special request.

## **Insulation:**

XLPE Insulation material and thickness shall be as per IEC 60502-1 rated for 90°C continuous operation.

PVC Insulation material and thickness shall be as per IEC 60502-1. PVC material shall be Type A as per IEC 60502-1

## **Assembly:**

The insulated cores are laid-up together with non-hygroscopic fillers wherever necessary. The assembly is bedded with an extruded layer of PVC. In case of non-armoured cables, this layer may be omitted provided the outer shape of cable remains practically circular.

## **Colour Code:**

Colour code (1) is followed by all utilities in the Middle East and colour of insulation for cables shall be as mentioned below. However, cables as per colour code (2) mentioned below is also provided based on customer request.

### Colour Code (1):

1 Core: Red or Black  
2 Core: Red, Black  
3 Core: Red, Yellow, Blue  
4 Core: Red, Yellow, Blue Black  
5 Cores: Red, Yellow, Blue, Black, Green  
Above 5 cores: Black Cores with White numerals

### Colour Code (2)

1 Core: Brown or Blue  
2 Core: Brown, Blue  
3 Core: Brown, Black, Grey  
4 Core: Blue, Brown, Black, Grey  
5 Cores: Green/Yellow, Blue, Brown, Black, Grey  
Above 5 cores: Black Cores with White numerals

## **Armour (Optional):**

Armour shall comprise of either:

Galvanized Steel Wires in accordance with IEC 60502-1 laid helically over PVC bedding

Galvanized Steel Tapes applied helically over PVC bedding in accordance with IEC 60502-1.

## **Screening (Optional):**

Copper tapes of nominal thickness 0.075 mm applied helically with suitable overlap.

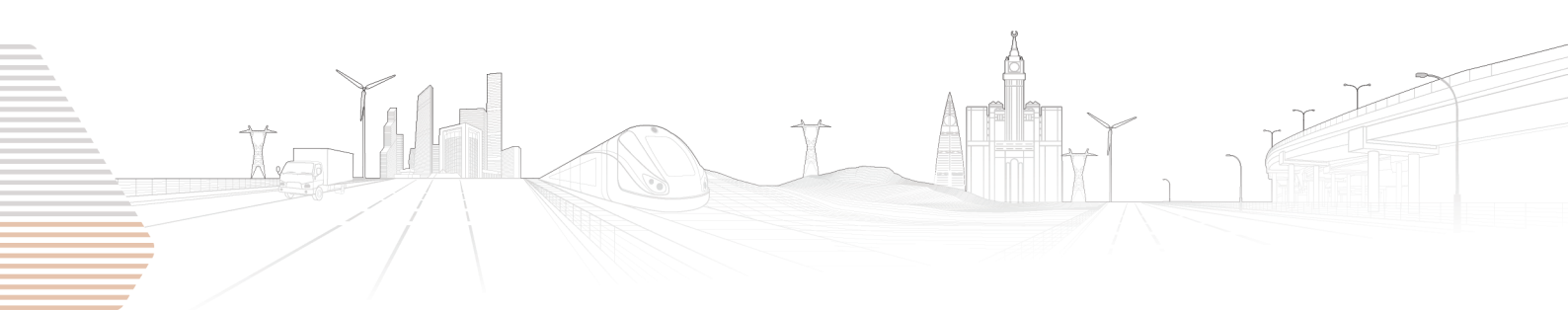
Copper Wires with copper tape binder (open helix) upon request.

## **Outer Sheath:**

Outer sheath shall be of Extruded PVC Type ST2 as per IEC 60502-1 .

Special type of PVC sheathing material such as Fire Retardant PVC, Anti-termite PVC, Anti-rodent PVC, Sunlight resistant PVC, Oil Resistant PVC are available on special request. Also, special sheathing materials such LLDPE, MDPE, HDPE, LSHF are available on request.





PVC INSULATION

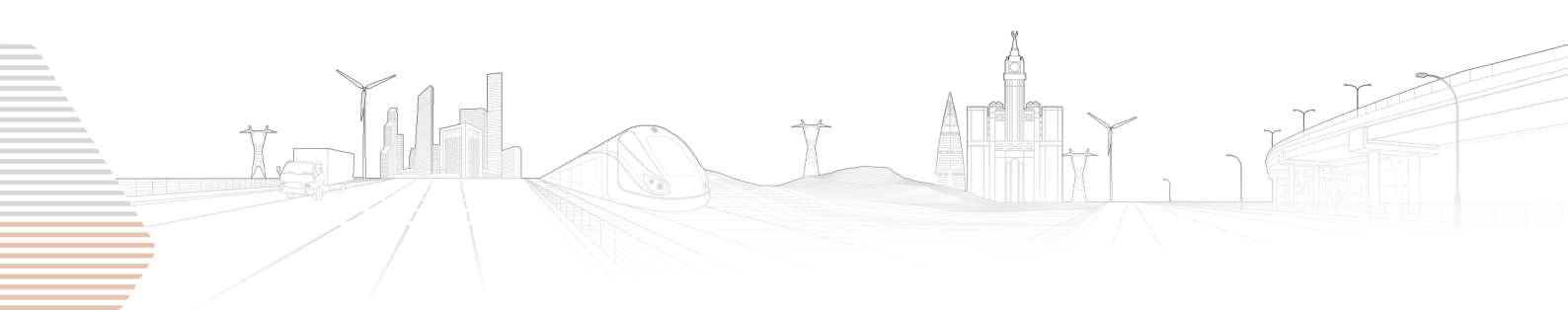
STANDARD IEC 1-60502



**PARTICULARS & GUARANTEES RELATING TO PVC INSULATING COMPOUND (TYPE A)**

SL. NO.	DESCRIPTION	UNIT	GUARANTEED PARTICULARS
1	<b>Tensile Strength and Elongation at break :</b> Min. tensile strength Min. elongation at break	N/mm <sup>2</sup> %	12.5 150
2	<b>Low temperature bend test :</b> Temperature at which specimen shall not crack	°C	-15 ± 2
3	<b>Low temperature elongation test :</b> Test temperature Min. Elongation	°C %	-15 ± 2 20
4	<b>Low temperature Impact test :</b> Test temperature Min. Elongation	°C	-
5	Accelerated ageing for specified period at specified temperature followed by loss of mass test : Max. loss of mass, after ageing 7 days at 80 ± 2 °C	mg/cm <sup>2</sup>	-
6	Accelerated ageing for specified period at specified temperature followed by tensile strength & elongation at break Number of days ageing Ageing temperature <b>Tensile Strength after ageing :</b> Min. value Max. variation <b>Elongation at break after ageing :</b> Min. value Max. variation from unaged value	Days °C N/mm <sup>2</sup> % % %	7 100 ± 2 12.5 25 150 25
7	<b>Pressure test at high temperature :</b> Test temperature Max. indentation	°C %	80 ± 2 50
8	<b>Resistance to cracking :</b> Temperature at which specimen shall not crack	°C	150 ± 2
9	<b>Insulation resistance constant :</b> Min. K. value at 70°C	M.Ohm.km	-





PVC XLPE INSULATION

STANDARD IEC 1-60502



**PARTICULARS & GUARANTEES RELATING TO XLPE INSULATION**

SL. NO.	DESCRIPTION	UNIT	GUARANTEED PARTICULARS
1	<b>Tensile Strength and Elongation at break :</b>		
	Min. tensile strength	N/mm <sup>2</sup>	12.5
	Min. elongation at break	%	200
2	Accelerated ageing for specified period at specified temperature followed by tensile strength and elongation at break		
	No. of days ageing	Days	7
	Ageing temperature	°C	135 ± 3
	Max. variation of tensile strength from unaged specimen	%	- + 25
	Max. variation of elongation from unaged specimen	%	- + 25
3	<b>Hot Set Test :</b>		
	<b>Treatment</b>		
	- Temperature	°C	200 ± 3
	- Time under load	Minutes	15
	- Mechanical stress	N/cm <sup>2</sup>	20
	Max. elongation under load	%	175
Max permanent elongation after cooling	%	15	
4	<b>Water Absorption :</b>		
	<b>Treatment :</b>		
	- Temperature	°C	85 ± 2
	- Duration	Days	14
Max. variation of mass	mg/cm <sup>2</sup>	1.0	
5	<b>Maximum permissible shrinkage :</b>		
	<b>Treatment :</b>		
	- Temperature	°C	130 ± 3
	- Duration	Hours	1
Maximum permissible shrinkage	%	4	
6	Insulation Resistance constant (ki) at maximum rated temperature (90°C)	M.Ohm.Km	3.67
7	Volume Resistivity at maximum rated temperature (90°C)	Ohm.cm	10 <sup>12</sup>





**PARTICULARS & GUARANTEES RELATING TO PVC  
OUTER SHEATH TYPE ST2 (IEC 60502)**

SL. NO.	DESCRIPTION	UNIT	GUARANTEED
1	<b>Tensile Strength and Elongation at break :</b> Min. tensile strength Min. elongation at break	N/mm <sup>2</sup> %	12.5 150
2	<b>Low temperature bend test :</b> Temperature at which specimen shall not crack	°C	-15 ± 2
3	<b>Low temperature elongation test :</b> Test temperature Min. Elongation	°C %	-15 ± 2 20
4	<b>Low temperature impact test :</b> Temperature at which specimen shall not crack	°C	-15 ± 2
5	<b>Loss of mass:</b> After ageing for 7 days at 100 ± 2 °C Max. loss of mass	mg/cm <sup>2</sup>	1.5
6	Accelerated ageing for specified period at specified temperature followed by tensile strength and elongation at break test Number of days ageing Ageing temperature <b>Tensile Strength after ageing :</b> Min. value Max. variation <b>Elongation at break after ageing :</b> Min. Value Max. variation from unaged value	°C N/mm <sup>2</sup> % % %	7 100 ± 2 12.5 25 150 25
7	<b>Pressure test a high temperature :</b> Test temperature Max. indentation	°C %	90 ± 2 50
8	<b>Heat Shock Test :</b> Temperature at which specimen shall not crack	°C	150 ± 2
9	<b>Insulation resistance constant :</b> Min. K. value at 20 °C	M.Ohm.km	0.0035
10	<b>Flame Retardancy test (if required)</b>	As per IEC 60332-1-2 (upon request)	

## CONTROL CABLES INSULATED AND SHEATHED

COPPER CONDUCTORS  
STANDARD IEC 1-60502  
1000/600 VOLTS



Cross sectional area of Conductor : 1.5 mm<sup>2</sup> (Round Standard)  
Nominal thickness of insulation : 0.8 mm  
Conductor D.C@ 20°C : 12.1 Ohm/Km  
Thickness of Copper Tape Screen : 0.075 mm (Applicable for CU/PVC/CUT/PVC)

Number of Cores	CU/PVC/PVC				CU/PVC/SWA/PVC					CU/PVC/STA/PVC					CU/PVC/CUT/PVC			
	Un-Armoured				Steel wire Armour					Steel Tape Armour					Copper Tape Screened			
	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal Steel wire	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal St. Tape Thickness	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing
mm	mm	Kg/km	M	mm	mm	mm	Kg/km	M	mm	mm	mm	Kg/km	M	mm	mm	Kg/km	M	
2	1.8	13	210	2000	0.8	1.8	14	375	2000	0.2	1.8	14	275	2000	1.8	13	235	2000
3	1.8	13	235	2000	0.8	1.8	15	400	2000	0.2	1.8	14	300	2000	1.8	14	265	2000
4	1.8	14	275	2000	0.8	1.8	16	450	2000	0.2	1.8	15	350	2000	1.8	14	300	2000
5	1.8	15	300	2000	0.8	1.8	17	500	2000	0.2	1.8	16	400	2000	1.8	15	350	2000
7	1.8	16	350	2000	0.8	1.8	18	550	2000	0.2	1.8	17	450	2000	1.8	16	400	2000
10	1.8	19	475	2000	1.25	1.8	22	875	2000	0.2	1.8	20	575	2000	1.8	19	500	2000
12	1.8	20	525	2000	1.25	1.8	22	925	2000	0.2	1.8	20	625	2000	1.8	20	575	2000
14	1.8	20	575	2000	1.25	1.8	23	1000	2000	0.2	1.8	21	700	2000	1.8	21	625	2000
16	1.8	21	650	2000	1.25	1.8	24	1100	2000	0.2	1.8	22	750	2000	1.8	22	700	2000
19	1.8	22	715	2000	1.6	1.8	26	1350	1000	0.2	1.8	23	850	2000	1.8	23	775	2000
24	1.8	25	875	2000	1.6	1.8	29	1600	1000	0.2	1.8	26	1025	1000	1.8	26	950	1000
27	1.8	26	950	1000	1.6	1.8	29	1700	1000	0.2	1.8	27	1100	1000	1.8	26	1025	1000
30	1.8	27	1030	1000	1.6	1.8	30	1800	1000	0.2	1.8	28	1200	1000	1.8	27	1100	1000
37	1.8	29	1225	1000	1.6	1.9	32	2050	500	0.2	1.8	29	1375	1000	1.8	29	1300	1000
44	1.9	32	1450	500	1.6	2.0	35	2350	500	0.2	1.9	33	1625	500	1.9	32	1525	500
48	1.9	32	1525	500	2.0	2.0	37	2725	500	0.2	1.9	33	1725	500	1.9	33	1625	500
52	1.9	34	1675	500	2.0	2.0	38	2925	500	0.2	2.0	35	1900	500	1.9	34	1750	500
61	2.0	36	1925	500	2.0	2.1	40	3225	500	0.2	2.0	37	2150	500	2.0	36	2000	500

### Colour Code (1):

1 Core: Red or Black  
2 Core: Red, Black  
3 Core: Red, Yellow, Blue  
4 Core: Red, Yellow, Blue Black  
5 Cores: Red, Yellow, Blue, Black, Green  
Above 5 cores: Black Cores with White numerals

### Colour Code (2)

1 Core: Brown or Blue  
2 Core: Brown, Blue  
3 Core: Brown, Black, Grey  
4 Core: Blue, Brown, Black, Grey  
5 Cores: Green/Yellow, Blue, Brown, Black, Grey  
Above 5 cores: Black Cores with White numerals

Also available upon request :

- a) Solid (re) Conductors.
- b) Control Cables with Copper Wire Screen.
- c) Cables with one core Green/Yellow.

Tolerance :

Overall diameter : - 2% , + 8%  
Packing : ± 5%



## CONTROL CABLES PVC INSULATED AND PVC SHEATHED

COPPER CONDUCTORS  
STANDARD IEC 1-60502  
1000/600 VOLTS



Cross sectional area of Conductor : 2.5 mm<sup>2</sup> (Round Stranded)  
Nominal thickness of insulation : 0.8 mm  
Conductor D.C@ 20°C : 7.41 Ohm/Km  
Thickness of Copper Tape Screen : 0.075 mm (Applicable for CU/PVC/CUT/PVC)

Number of Cores	CU/PVC/PVC				CU/PVC/STA/PVC					CU/PVC/STA/PVC				CU/PVC/CUT/PVC				
	Un-Armoured				Steel wire Armour					Steel Tape Armour				Copper Tape Screened				
	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal Steel wire	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal St. Tape Thickness	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing
mm	mm	Kg/km	M	mm	mm	mm	Kg/km	M	mm	mm	mm	Kg/km	M	mm	mm	Kg/km	M	
2	1.8	14	250	2000	0.8	1.8	15	425	2000	0.2	1.8	15	325	2000	1.8	14	280	2000
3	1.8	14	300	2000	0.8	1.8	16	475	2000	0.2	1.8	15	375	2000	1.8	15	325	2000
4	1.8	15	335	2000	0.8	1.8	17	525	2000	0.2	1.8	16	425	2000	1.8	16	375	2000
5	1.8	16	400	2000	0.8	1.8	18	600	2000	0.2	1.8	17	475	2000	1.8	17	425	2000
7	1.8	17	450	2000	1.25	1.8	20	825	2000	0.2	1.8	18	550	2000	1.8	18	500	2000
10	1.8	21	600	2000	1.25	1.8	23	1050	2000	0.2	1.8	22	725	2000	1.8	21	650	2000
12	1.8	22	675	2000	1.25	1.8	24	1135	2000	0.2	1.8	22	800	2000	1.8	22	725	2000
14	1.8	22	775	2000	1.6	1.8	26	1400	1000	0.2	1.8	23	900	2000	1.8	23	825	2000
16	1.8	23	850	2000	1.6	1.8	27	1500	1000	0.2	1.8	24	1000	2000	1.8	24	900	2000
19	1.8	25	975	2000	1.6	1.8	28	1650	1000	0.2	1.8	25	1100	1000	1.8	25	1025	2000
24	1.8	28	1185	1000	1.6	1.9	32	2000	500	0.2	1.8	29	1350	1000	1.8	28	1250	1000
27	1.8	29	1300	1000	1.6	1.9	32	2125	500	0.2	1.8	30	1475	1000	1.8	29	1375	1000
30	1.8	30	1425	1000	1.6	1.9	33	2275	500	0.2	1.9	31	1600	500	1.8	30	1500	1000
37	1.9	32	1700	500	1.6	2.0	35	2625	500	0.2	1.9	33	1900	500	1.9	32	1775	500
44	2.0	36	2050	500	2.0	2.1	40	3375	500	0.2	2.0	37	2250	500	2.0	36	2125	500
48	2.0	37	2175	500	2.0	2.1	41	3550	500	0.2	2.1	38	2425	500	2.0	37	2275	500
52	2.0	38	2350	500	2.0	2.2	42	3750	500	0.2	2.1	39	2600	500	2.0	38	2425	500
61	2.1	40	2700	500	2.0	2.2	44	4150	500	0.5	2.2	42	3325	500	2.1	40	2800	500

### Colour Code (1):

1 Core: Red or Black  
2 Core: Red, Black  
3 Core: Red, Yellow, Blue  
4 Core: Red, Yellow, Blue Black  
5 Cores: Red, Yellow, Blue, Black, Green  
Above 5 cores: Black Cores with White numerals

### Colour Code (2)

1 Core: Brown or Blue  
2 Core: Brown, Blue  
3 Core: Brown, Black, Grey  
4 Core: Blue, Brown, Black, Grey  
5 Cores: Green/Yellow, Blue, Brown, Black, Grey  
Above 5 cores: Black Cores with White numerals

Also available upon request :

- a) Solid (re) Conductors.
- b) Control Cables with Copper Wire Screen.
- c) Control Cables with one core Green/Yellow.

Tolerance :

Overall diameter : - 2% , + 8%  
Packing : ± 5%

## CONTROL CABLES PVC INSULATED AND PVC SHEATHED

COPPER CONDUCTORS  
STANDARD IEC 1-60502  
1000/600 VOLTS



Cross sectional area of Conductor : 4 mm<sup>2</sup> (Round Stranded)  
Nominal thickness of insulation : 1.0 mm  
Conductor D.C@ 20°C : 4.61 Ohm/Km  
Thickness of Copper Tape Screen : 0.075 mm (Applicable for CU/PVC/CUT/PVC)

Number of Cores	CU/PVC/PVC				CU/PVC/SWA/PVC					CU/PVC/STA/PVC					CU/PVC/CUT/PVC			
	Un-Armoured				Steel wire Armour					Steel Tape Armour					Copper Tape Screened			
	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal Steel wire	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal St. Tape Thickness	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing
mm	mm	Kg/km	M	mm	mm	mm	Kg/km	M	mm	mm	mm	Kg/km	M	mm	mm	Kg/km	M	
2	1.8	16	335	2000	0.8	1.8	17	535	2000	0.2	1.8	16	425	2000	1.8	16	375	2000
3	1.8	16	400	2000	1.25	1.8	19	750	2000	0.2	1.8	17	500	2000	1.8	17	435	2000
4	1.8	18	465	2000	1.25	1.8	20	825	2000	0.2	1.8	18	575	2000	1.8	18	500	2000
5	1.8	19	550	2000	1.25	1.8	21	950	2000	0.2	1.8	20	650	2000	1.8	19	600	2000
7	1.8	20	650	2000	1.25	1.8	23	1075	2000	0.2	1.8	21	775	2000	1.8	20	700	2000
10	1.8	25	850	2000	1.6	1.8	28	1550	1000	0.2	1.8	26	1000	1000	1.8	25	925	2000
12	1.8	25	975	2000	1.6	1.8	29	1700	1000	0.2	1.8	26	1125	1000	1.8	26	1050	1000
14	1.8	27	1100	1000	1.6	1.8	30	1875	1000	0.2	1.8	27	1275	1000	1.8	27	1175	1000
16	1.8	28	1250	1000	1.6	1.8	31	2050	500	0.2	1.8	29	1425	1000	1.8	28	1325	1000
19	1.8	29	1425	1000	1.6	1.9	33	2250	500	0.2	1.8	30	1600	1000	1.8	30	1500	1000
24	1.9	34	1800	500	2.0	2.1	39	3100	500	0.2	2.0	35	2025	500	2.0	35	1900	500
27	2.0	35	2000	500	2.0	2.1	39	3275	500	0.2	2.0	36	2200	500	2.0	36	2100	500
30	2.0	36	2175	500	2.0	2.1	41	3500	500	0.2	2.1	37	2425	500	2.0	37	2275	500
37	2.1	39	2625	500	2.0	2.2	44	4050	500	0.5	2.2	42	3250	500	2.1	40	2725	500
44	2.2	44	3100	500	2.5	2.4	50	5150	500	0.5	2.4	47	3825	500	2.3	45	3225	500
48	2.3	45	3400	500	2.5	2.4	51	5450	500	0.5	2.4	48	4100	500	2.3	46	3500	500
52	2.3	47	3625	500	2.5	2.5	52	5800	500	0.5	2.4	49	4375	500	2.3	47	3750	500
61	2.4	49	4175	500	2.5	2.6	55	6475	500	0.5	2.5	52	4975	500	2.4	50	4300	500

### Colour Code (1):

1 Core: Red or Black  
2 Core: Red, Black  
3 Core: Red, Yellow, Blue  
4 Core: Red, Yellow, Blue Black  
5 Cores: Red, Yellow, Blue, Black, Green  
Above 5 cores: Black Cores with White numerals

### Colour Code (2)

1 Core: Brown or Blue  
2 Core: Brown, Blue  
3 Core: Brown, Black, Grey  
4 Core: Blue, Brown, Black, Grey  
5 Cores: Green/Yellow, Blue, Brown, Black, Grey  
Above 5 cores: Black Cores with White numerals

Also available upon request :

- Solid (re) Conductors.
- Control Cables with Copper Wire Screen.
- Control Cables with one core Green/Yellow.

Tolerance :

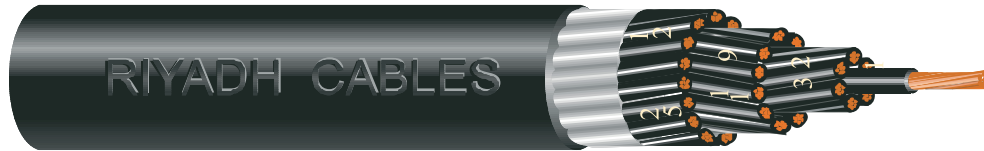
Overall diameter : - 2% , + 8%  
Packing : ± 5%





## CONTROL CABLES XLPE INSULATED AND PVC SHEATHED

COPPER CONDUCTORS  
STANDARD IEC 1-60502  
1000/600 VOLTS



Cross sectional area of Conductor : 1.5 mm<sup>2</sup> (Round Stranded)  
Nominal thickness of insulation : 0.7 mm  
Conductor D.C@ 20°C : 12.1 Ohm/Km  
Thickness of Copper Tape Screen : 0.075 mm (Applicable for CU/XLPE/CUT/PVC)

Number of Cores	CU/XLPE/PVC				CU/XLPE/SWA/PVC					CU/XLPE/STA/PVC					CU/XLPE/CUT/PVC			
	Un-Armoured				Steel wire Armour					Steel Tape Armour					Copper Tape Screened			
	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal Steel wire	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal St. Tape Thickness	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing
No	mm	mm	Kg/km	M	mm	mm	mm	Kg/km	M	mm	mm	mm	Kg/km	M	mm	mm	Kg/km	M
2	1.8	12	190	2000	0.8	1.8	14	350	2000	0.2	1.8	13	250	2000	1.8	13	220	2000
3	1.8	13	215	2000	0.8	1.8	14	375	2000	0.2	1.8	14	285	2000	1.8	13	250	2000
4	1.8	14	240	2000	0.8	1.8	15	415	2000	0.2	1.8	14	315	2000	1.8	14	275	2000
5	1.8	14	275	2000	0.8	1.8	16	460	2000	0.2	1.8	15	350	2000	1.8	15	300	2000
7	1.8	15	315	2000	0.8	1.8	17	500	2000	0.2	1.8	16	400	2000	1.8	16	350	2000
10	1.8	18	400	2000	1.25	1.8	21	790	2000	0.2	1.8	19	500	2000	1.8	19	450	2000
12	1.8	19	450	2000	1.25	1.8	21	850	2000	0.2	1.8	20	550	2000	1.8	19	500	2000
14	1.8	20	500	2000	1.25	1.8	22	915	2000	0.2	1.8	20	600	2000	1.8	20	550	2000
16	1.8	20	550	2000	1.25	1.8	23	990	2000	0.2	1.8	21	675	2000	1.8	21	600	2000
19	1.8	21	615	2000	1.25	1.8	24	1075	2000	0.2	1.8	22	750	2000	1.8	22	675	2000
24	1.8	24	750	2000	1.6	1.8	27	1450	1000	0.2	1.8	25	900	2000	1.8	25	800	2000
27	1.8	25	800	2000	1.6	1.8	28	1500	1000	0.2	1.8	26	950	1000	1.8	25	875	2000
30	1.8	25	875	2000	1.6	1.8	29	1600	1000	0.2	1.8	26	1025	1000	1.8	26	950	1000
37	1.8	27	1025	1000	1.6	1.8	30	1800	1000	0.2	1.8	28	1200	1000	1.8	28	1100	1000
44	1.8	30	1200	1000	1.6	1.9	34	2075	500	0.2	1.9	31	1400	500	1.8	30	1275	1000
48	1.8	31	1275	500	1.6	1.9	34	2175	500	0.2	1.9	32	1475	500	1.8	31	1350	500
52	1.9	32	1375	500	1.6	2.0	35	2300	500	0.2	1.9	32	1575	500	1.9	32	1450	500
61	1.9	34	1600	500	2.0	2.0	38	2850	500	0.2	2.0	35	1825	500	1.9	34	1700	500

### Colour Code (1):

1 Core: Red or Black  
2 Core: Red, Black  
3 Core: Red, Yellow, Blue  
4 Core: Red, Yellow, Blue Black  
5 Cores: Red, Yellow, Blue, Black, Green  
Above 5 cores: Black Cores with White numerals

### Colour Code (2)

1 Core: Brown or Blue  
2 Core: Brown, Blue  
3 Core: Brown, Black, Grey  
4 Core: Blue, Brown, Black, Grey  
5 Cores: Green/Yellow, Blue, Brown, Black, Grey  
Above 5 cores: Black Cores with White numerals

Also available upon request :

- Solid (re) Conductors.
- Control Cables with Copper Wire Screen.
- Control Cables with one core Green/Yellow.

Tolerance :

Overall diameter : - 2% , + 8%  
Packing : ± 5%



## CONTROL CABLES XLPE INSULATED AND PVC SHEATHED

COPPER CONDUCTORS  
STANDARD IEC 1-60502  
1000/600 VOLTS



Cross sectional area of Conductor : 2.5 mm<sup>2</sup> (Round Stranded)  
Nominal thickness of insulation : 0.7 mm  
Conductor D.C@ 20°C : 7.41 Ohm/Km  
Thickness of Copper Tape Screen : 0.075 mm (Applicable for CU/XLPE/CUT/PVC)

Number of Cores	CU/XLPE/PVC				CU/XLPE/STA/PVC					CU/XLPE/STA/PVC				CU/XLPE/CUT/PVC				
	Un-Armoured				Steel wire Armour					Steel Tape Armour				Copper Tape Screened				
	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal Steel wire	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal St. Tape Thickness	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing
mm	mm	Kg/km	M	mm	mm	mm	Kg/km	M	mm	mm	mm	Kg/km	M	mm	mm	Kg/km	M	
2	1.8	13	230	2000	0.8	1.8	15	400	2000	0.2	1.8	14	300	2000	1.8	14	260	2000
3	1.8	14	275	2000	0.8	1.8	15	450	2000	0.2	1.8	15	350	2000	1.8	14	300	2000
4	1.8	15	300	2000	0.8	1.8	16	500	2000	0.2	1.8	16	390	2000	1.8	15	350	2000
5	1.8	16	350	2000	0.8	1.8	17	550	2000	0.2	1.8	17	450	2000	1.8	16	400	2000
7	1.8	17	400	2000	1.25	1.8	19	765	2000	0.2	1.8	18	500	2000	1.8	17	450	2000
10	1.8	20	535	2000	1.25	1.8	23	950	2000	0.2	1.8	21	650	2000	1.8	20	575	2000
12	1.8	21	600	2000	1.25	1.8	23	1050	2000	0.2	1.8	21	725	2000	1.8	21	650	2000
14	1.8	22	675	2000	1.25	1.8	24	1150	2000	0.2	1.8	22	800	2000	1.8	22	725	2000
16	1.8	23	750	2000	1.6	1.8	26	1400	1000	0.2	1.8	23	875	2000	1.8	23	800	2000
19	1.8	24	850	2000	1.6	1.8	27	1500	1000	0.2	1.8	24	975	2000	1.8	24	900	2000
24	1.8	27	1050	1000	1.6	1.8	30	1800	1000	0.2	1.8	28	1200	1000	1.8	27	1100	1000
27	1.8	27	1125	1000	1.6	1.8	31	1900	500	0.2	1.8	28	1300	1000	1.8	28	1200	1000
30	1.8	28	1225	1000	1.6	1.9	32	2050	500	0.2	1.8	29	1400	1000	1.8	29	1300	1000
37	1.8	30	1450	1000	1.6	1.9	34	2325	500	0.2	1.9	31	1650	500	1.8	31	1525	500
44	1.9	34	1750	500	2.0	2.1	39	3025	500	0.2	2.0	35	1975	500	1.9	35	1850	500
48	1.9	35	1875	500	2.0	2.1	39	3175	500	0.2	2.0	36	2100	500	2.0	35	2000	500
52	2.0	36	2025	500	2.0	2.1	40	3325	500	0.2	2.0	37	2250	500	2.0	36	2125	500
61	2.0	38	2325	500	2.0	2.2	42	3725	500	0.2	2.1	39	2575	500	2.1	38	2425	500

### Colour Code (1):

- 1 Core: Red or Black
- 2 Core: Red, Black
- 3 Core: Red, Yellow, Blue
- 4 Core: Red, Yellow, Blue Black
- 5 Cores: Red, Yellow, Blue, Black, Green
- Above 5 cores: Black Cores with White numerals

### Colour Code (2)

- 1 Core: Brown or Blue
- 2 Core: Brown, Blue
- 3 Core: Brown, Black, Grey
- 4 Core: Blue, Brown, Black, Grey
- 5 Cores: Green/Yellow, Blue, Brown, Black, Grey
- Above 5 cores: Black Cores with White numerals

Also available upon request :

- a) Solid (re) Conductors.
- b) Control Cables with Copper Wire Screen.
- c) Control Cables with one core Green/Yellow.

Tolerance :

- Overall diameter : - 2% , + 8%
- Packing : ± 5%



## CONTROL CABLES XLPE INSULATED AND PVC SHEATHED

COPPER CONDUCTOR  
STANDARD IEC 1-60502  
1000/600 VOLTS



Cross sectional area of Conductor : 4 mm<sup>2</sup> (Round Stranded)  
Nominal thickness of insulation : 0.7 mm  
Conductor D.C@ 20°C : 4.61 Ohm/Km  
Thickness of Copper Tape Screen : 0.075 mm (Applicable for CU/XLPE/CUT/PVC)

Number of Cores	CU/XLPE/PVC				CU/XLPE/STA/PVC					CU/XLPE/STA/PVC				CU/XLPE/CUT/PVC				
	Un-Armoured				Steel wire Armour					Steel Tape Armour				Copper Tape Screened				
	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal Steel wire	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal Tape Thickness	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing	Nominal Sheath Thickness	Approx. Overall Dia	Approx. Weight	Packing
mm	mm	Kg/km	M	mm	mm	mm	Kg/km	M	mm	mm	mm	Kg/km	M	mm	mm	Kg/km	M	
2	1.8	14	285	2000	0.8	1.8	16	475	2000	0.2	1.8	15	365	2000	1.8	15	325	2000
3	1.8	15	335	2000	0.8	1.8	17	525	2000	0.2	1.8	16	425	2000	1.8	15	375	2000
4	1.8	16	390	2000	0.8	1.8	18	600	2000	0.2	1.8	17	475	2000	1.8	16	425	2000
5	1.8	17	460	2000	1.25	1.8	20	825	2000	0.2	1.8	18	550	2000	1.8	17	500	2000
7	1.8	18	540	2000	1.25	1.8	21	925	2000	0.2	1.8	19	650	2000	1.8	19	580	2000
10	1.8	22	715	2000	1.6	1.8	26	1350	1000	0.2	1.8	23	850	2000	1.8	23	775	2000
12	1.8	23	815	2000	1.6	1.8	26	1450	1000	0.2	1.8	24	950	2000	1.8	23	875	2000
14	1.8	24	915	2000	1.6	1.8	27	1600	1000	0.2	1.8	25	1050	2000	1.8	24	975	2000
16	1.8	25	1025	2000	1.6	1.8	28	1725	1000	0.2	1.8	26	1175	1000	1.8	25	1100	2000
19	1.8	26	1175	1000	1.6	1.8	29	1900	1000	0.2	1.8	27	1325	1000	1.8	27	1225	1000
24	1.8	30	1450	1000	1.6	1.9	34	2300	500	0.2	1.9	31	1650	500	1.8	31	1525	500
27	1.8	31	1575	500	1.6	1.9	34	2475	500	0.2	1.9	32	1775	500	1.8	31	1650	500
30	1.9	32	1750	500	1.6	2.0	35	2675	500	0.2	1.9	33	1925	500	1.9	32	1825	500
37	1.9	35	2100	500	2.0	2.1	39	3400	500	0.2	2.0	36	2350	500	2.0	35	2225	500
44	2.1	39	2500	500	2.0	2.2	43	3950	500	0.5	2.2	41	3150	500	2.1	39	2600	500
48	2.1	40	2700	500	2.0	2.2	44	4125	500	0.5	2.2	42	3325	500	2.1	40	2800	500
52	2.1	41	2900	500	2.0	2.3	45	4400	500	0.5	2.2	43	3550	500	2.1	41	3000	500
61	2.2	43	3350	500	2.0	2.3	47	4900	500	0.5	2.3	45	4025	500	2.2	44	3450	500

### Colour Code (1):

1 Core: Red or Black  
2 Core: Red, Black  
3 Core: Red, Yellow, Blue  
4 Core: Red, Yellow, Blue Black  
5 Cores: Red, Yellow, Blue, Black, Green  
Above 5 cores: Black Cores with White numerals

### Colour Code (2)

1 Core: Brown or Blue  
2 Core: Brown, Blue  
3 Core: Brown, Black, Grey  
4 Core: Blue, Brown, Black, Grey  
5 Cores: Green/Yellow, Blue, Brown, Black, Grey  
Above 5 cores: Black Cores with White numerals

Also available upon request :

- Solid (re) Conductors.
- Control Cables with Copper Wire Screen.
- Control Cables with one core Green/Yellow.

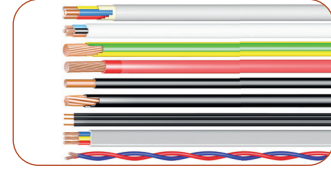
Tolerance :

Overall diameter : - 2% , + 8%  
Packing : ± 5%

# OUR PRODUCTS

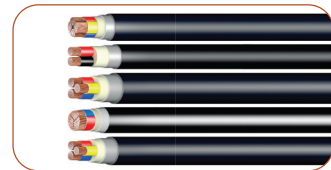
## Wires

Riyadh Cables manufactures wires, cords and wiring cables rated 300/300 V, 300/500 V, 600 V and 450/750 V to be used in the supply of electric power, lighting and internal wiring for residences and offices, and other similar environments of a non-industrial nature as specified in IEC 60227, BS 6004, UL 83 and BS EN 50525-3-41



## Low Voltage Lead Sheathed

Low Voltage Lead Sheathed Cables are used mainly in the utilities and petrochemical industries owing to the lead sheathing's resistance to sulfides, water, oil and any corrosive chemicals found in the ground water



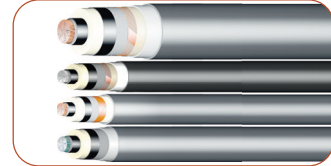
## Medium Voltage Cables

Medium Voltage Cables support a voltage range between 6 kV and 36 kV, making them ideal for use in infrastructure, including the distribution and transmission of power



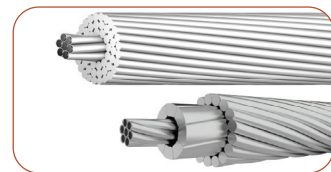
## High Voltage & Extra High Voltage Cables

High voltage power cables (HV): Up to 380 kV, ideal for transmission systems. At Riyadh Cables, all XLPE insulations of our High and Extra High Voltage Cables are done pursuant to standards outlined by IEC 60840 and IEC 62067



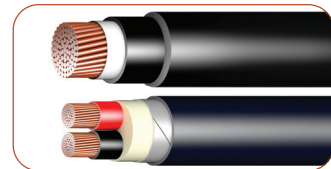
## Overhead Lines

We produce a range of Overhead Lines, all of which are manufactured as per the standards outlined in IEC, BS, BS EN and ASTM specifications, as applicable. Overhead conductors for use up to 500 kV



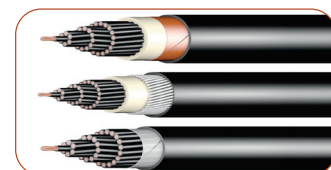
## Fire Retardant Cables

Fire Survival Cable  
(fire resistant, retardant and low smoke Halogen Free Cables)



## Control Cables

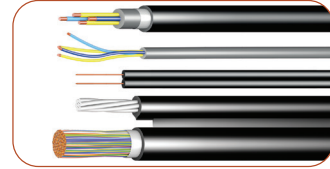
Control Cables are the cables of choice for control circuits. At Riyadh Cables, we offer a range of Control Cables, with XLPE or PVC insulation, with the option of armour and/or screening



# OUR PRODUCTS

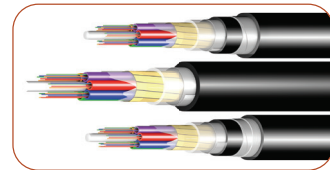
## Copper Telephone Cables

We produce an extensive range of telephone cables, up to 3,600 pairs, in accordance with specifications supplied by Saudi Telecom, as well as numerous international standards bodies



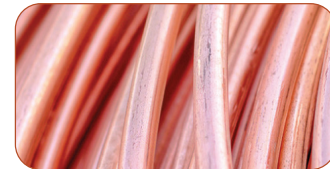
## Fiber Optic Cables

At Riyadh Cables, we produce Loose Tube Type Cables and Tight Buffer Types Cables for use as fiber optic cables for outdoor and indoor use respectively



## Copper Rods

We produce high purity copper rods of 8 mm diameter. These copper rods are used in producing conductors for all types of cables and metallic screens



## Aluminium Rods

We produce high purity aluminium rods of 9.5 mm diameter. These aluminium rods are used in producing conductors for power cables and overhead line conductors and armouring



## PVC Granules

We produce the PVC grades that are required for insulation and sheathing material in cables. Our PVC Granules are produced to the best quality specifications using state-of-the-art machines and the most advanced automatic mixing technology



## LV XLPE compounds

We produce LV XLPE material, which is used as insulation in low voltage cables. LV XLPE compounds are produced to the very best quality specifications and highest purity levels using state-of-the-art machines and the most advanced automatic mixing technology

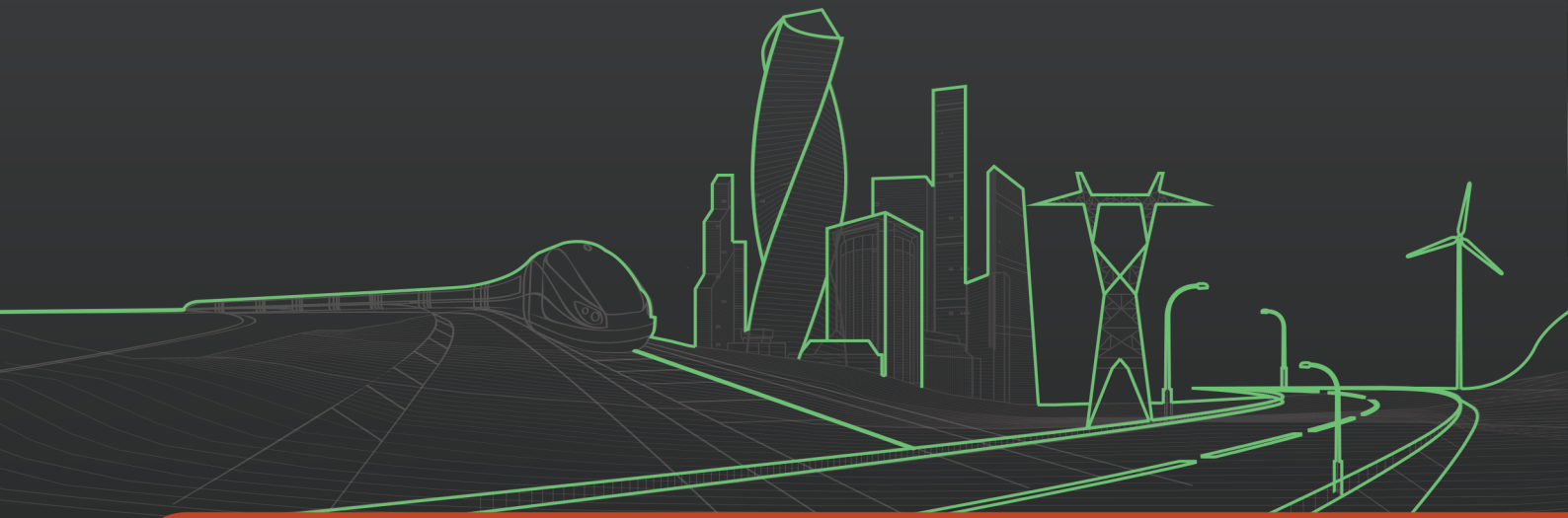




## Wooden & Steel Drums

One of the most advanced plants for manufacturing different sizes of wooden and steel drums used in the cables industry. The drums are manufactured on high-speed production lines to the highest quality, with the lowest possible costs







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