

COSMOLINK

CATHODIC PROTECTION CABLES

THINKING FOR FUTURE VALUE



YOUR FRIENDLY PARTNER, COSMOLINK, IN THE GLOBAL CABLE INDUSTRY

Cosmolink Co., Ltd. is a leading cable manufacturer in Korea with accumulated technical skills and know-how. Cosmolink has specialized in manufacturing and supplying various cables since, including:

- LV/MH/HV (up to 66kV) power cables
- Control & instrument cables
- Cathodic protection cables for cathodic protection systems
- Fire retardant cable for extra high temperature (950°C)
- TIW (Triple Insulated Wire) for transformers (mainly applied to electronic components)
- LAN UTP cables, optical fiber cables

Our cables are supplied to domestic and overseas customers in many regions, such as the Middle East (including Saudi Arabia, UAE, Jordan and Kuwait), Asia (including Myanmar, Singapore, Vietnam, Philippines and Indonesia), as well as North and South America.

Additionally, Cosmolink participates in domestic and overseas EPC (Engineering, Procurement and Construction) companies' projects as a trusted vendor to supply cables. We have earned faith and trust through cable delivery and quality, by supplying to plant, oil and gas, environment and other various construction projects.

Cosmolink Co., Ltd. is a member of Kabul International Group, a multinational corporation with affiliates spanning many industries, including automobile, cables, raw materials, construction, textiles, environment, and medical care.



C O N T E N T

Cathodic Protection Cables

0.6/1kV CU/XLPE/PVC & CU/XLPE/XLPE

0.6/1kV CU/XLPE/AWA/PVC

CU/HMWPE (IEC & ASTM)

CU/PVDF/HMWPE (IEC & ASTM)

CU/HMWPE/PVC/DSWA/HMWPE (IEC & ASTM)

0.6/1kV CU/XLPE/PVC & CU/XLPE/XLPE

SCOPE

This specification covers 0.6/1kV copper conductor, XLPE insulated and PVC or XLPE oversheathed cables for cathodic protection system

APPLICATION STANDARDS

- IEC 60228 Conductors of insulated cables
- IEC 60502-1 Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV)
Part 1:Cables for rated voltages of 1 kV (Um = 1,2 kV) and 3 kV (Um = 3.6 kV)

CONDUCTOR

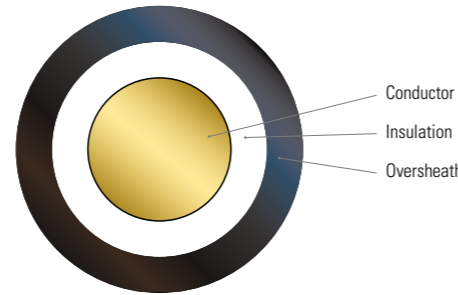
The conductor shall consist of plain annealed copper wires, and shall be class 2 in accordance with IEC 60228

INSULATION

The insulation shall be extruded with natural color of XLPE compound itself complying with IEC 60502-1

OVERSHEATH

The oversheath shall be extruded with black PVC/ST2 or XLPE compound complying with IEC 60502-1



Size mm ²	Conductor		Insulation Thickness (nom.) mm	Oversheath Thickness (nom.) mm	Overall Diameter (approx.) mm	Net Weight (approx.)		Conductor Resistance at 20°C (max.) Ω/km
	No of wire	Outer Dia.(approx.) mm				XLPE/PVC	XLPE/XLPE	
	Nos.	mm				kg/km	kg/km	
10	7	4.05	0.7	1.4	10	158	140	1.83
16	7	4.7	0.7	1.4	10	212	190	1.15
25	7	5.9	0.9	1.4	12	316	290	0.727
35	7	6.9	0.9	1.4	13	415	380	0.524
50	7	8.1	1.0	1.4	15	544	510	0.387
70	19	9.8	1.1	1.4	17	759	710	0.268
95	19	11.4	1.1	1.5	19	1027	960	0.193
120	19	12.9	1.2	1.5	21	1279	1200	0.153

0.6/1kV CU/XLPE/AWA/PVC

SCOPE

This specification covers 0.6/1kV copper conductor, XLPE insulated, PVC inner covering, single layer of aluminum round wire armoured and PVC oversheathed cables for cathodic protection system.

APPLICATION STANDARDS

- IEC 60228 Conductors of insulated cables
- IEC 60502-1 Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV)
Part 1:Cables for rated voltages of 1 kV (Um = 1,2 kV) and 3 kV (Um = 3.6 kV)

CONDUCTOR

The conductor shall consist of plain annealed copper wires, and shall be class 2 in accordance with IEC 60228.

INSULATION

The insulation shall be extruded with natural color of XLPE compound itself complying with IEC 60502-1.

INNER COVERING

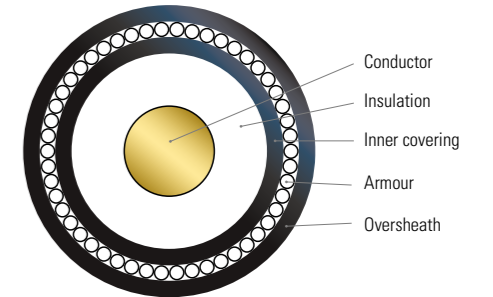
The inner covering shall be extruded with black PVC compound complying with IEC 60502-1.

ARMOUR

The armour shall consist of a single layer of aluminum wires, and the binder tape over the armour may be applied by manufacturer's option.

OVERSHEATH

The oversheath shall be extruded with black PVC/ST2 compound complying with IEC 60502-1



Size mm ²	Conductor		Insulation Thickness (nom.) mm	Inner Covering Thickness (approx.) mm	Diameter of Aluminum Wire (nom.) mm	Oversheath Thickness (nom.) mm	Overall Diameter (approx.) mm	Net Weight (approx.) kg/km	Conductor Resistance at 20°C (max.) Ω/km
	No of wire	Outer Dia.(approx.) mm							
	Nos.	mm							
16	7	4.7	0.7	1.0	1.6	1.8	17	410	1.15
25	7	5.9	0.9	1.0	1.6	1.8	19	540	0.727
35	7	6.9	0.9	1.0	1.6	1.8	20	660	0.524
50	7	8.1	1.0	1.0	1.6	1.8	22	816	0.387
70	19	9.8	1.1	1.0	1.6	1.8	24	1063	0.268
95	19	11.4	1.1	1.0	1.6	1.8	26	1356	0.193
120	19	12.9	1.2	1.0	1.6	1.8	28	1644	0.153

CU/HMWPE (IEC & ASTM)

SCOPE

This specification covers 0.6/1kV copper conductor, HMWPE insulated cables.
Application included ; a cable between a DC power source and a protected structure or a negative/an anode cable junction box, or between two negative/positive cable junction boxes, or between an anode junction box and a positive cable junction box.

APPLICATION STANDARDS

IEC Standard IEC 60228
ASTM Standard ASTM B 3, ASTM B 8 and ASTM D 1248

CONDUCTOR

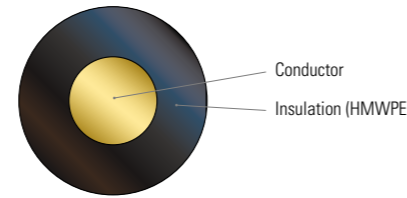
The conductor shall consist of plain annealed copper wires, and shall be class 2 in accordance with IEC 60228 or ASTM B 3 and ASTM B 8.

INSULATION

The insulation shall be extruded with black HMWPE (High Molecular Weight Polyethylene) comply with Type 1 or 3, Class C, Category 4 or 5, Grades E-4 or E-5 of ASTM D 1248.

OPTION

Material of conductor : Tin-coated copper conductor
Color of insulation : Various colors on request



Applicable Standard	Conductor			Insulation Thickness (nom.)	Overall Diameter (approx.)	Net Weight (approx.)	Conductor Resistance at 20 °C (max.)
	Size	No of wire	Outer Dia. (approx.)				
	mm ² /AWG	Nos.	mm	mm	mm	kg/km	Ω/km
IEC	1.5	7	1.59	2.3	6.9	48	12.1
	2.5	7	2.01	2.3	7.4	61	7.41
	4	7	2.55	2.3	7.9	80	4.61
	6	7	3.12	2.3	8.6	105	3.08
	10	7	4.05	2.79	10.7	170	1.83
	16	7	4.7	2.79	11.6	225	1.15
	25	7	5.9	2.79	13.1	320	0.727
	35	7	6.9	2.79	14.3	430	0.524
	50	19	8.1	2.79	15.7	560	0.387
	70	19	9.8	3.18	18.5	800	0.268
	95	19	11.4	3.18	20.6	1070	0.193
	120	19	12.9	3.18	22.3	1320	0.153
	150	19	14.4	3.94	24.1	1670	0.124
	185	37	15.9	3.94	27.6	2050	0.0991
240	37	18.3	3.94	30.4	2650	0.0754	
ASTM	10	7	2.93	2.79	9.3	107	3.41
	8	7	3.69	2.79	10.1	148	2.14
	6	7	4.68	2.79	11.0	200	1.35
	4	7	5.88	2.79	12.2	290	0.848
	2	7	7.41	2.79	13.8	410	0.534
	1	19	8.45	2.79	15.2	546	0.423
	1/0	19	9.45	2.79	16.0	645	0.335
	2/0	19	10.65	3.18	18.1	780	0.266
	4/0	19	13.4	3.18	21.0	1190	0.167

CU/PVDF/HMWPE (IEC & ASTM)

SCOPE

This specification covers 0.6/1kV copper conductor, HMWPE insulated cables.
Application included ; a cable between a DC power source and a protected structure or a negative/an anode cable junction box, or between two negative/positive cable junction boxes, or between an anode junction box and a positive cable junction box.

APPLICATION STANDARDS

IEC Standard IEC 60228
ASTM Standard ASTM B 3, ASTM B 8 and ASTM D 1248

CONDUCTOR

The conductor shall consist of plain annealed copper wires, and shall be class 2 in accordance with IEC 60228 or ASTM B 3 and ASTM B 8.

INSULATION

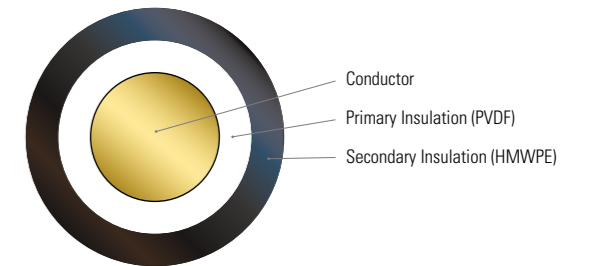
The insulation shall be extruded with a natural color of PVDF (Polyvinylidene Fluoride).

OVERSHEATH

The oversheath shall be extruded with a black HMWPE (High Molecular Weight Polyethylene) comply with Type 1 or 3, Class C, Category 4 or 5, Grades E-4 or E-5, J-1 or J-3 of ASTM D 1248.

OPTION

Material of conductor : Tin-coated copper round wires
Material of insulation : KYNAR PVDF (Polyvinylidene Fluoride)



Applicable Standard	Conductor			Insulation Thickness (nom.)	Oversheath Thickness (nom.)	Overall Diameter (approx.)	Net Weight (approx.)	Conductor Resistance at 20 °C (max.)	
	Size	No of wire	Outer Dia. (approx.)						
	mm ² /AWG	Nos.	mm	mm	mm	mm	kg/km	Ω/km	
IEC	1.5	7	1.59	0.51	1.65	6.7	50	12.1	
	2.5	7	2.01	0.51	1.65	7.2	63	7.41	
	4	7	2.55	0.51	1.65	7.7	84	4.61	
	6	7	3.12	0.51	1.65	8.4	109	3.08	
	10	7	4.05	0.51	1.65	9.3	153	1.83	
	16	7	4.7	0.51	1.65	10.5	215	1.15	
	25	7	5.9	0.51	1.65	11.9	310	0.727	
	35	7	6.9	0.51	1.65	13.1	420	0.524	
	50	19	8.1	0.51	1.65	14.5	550	0.387	
	70	19	9.8	0.76	1.65	17	790	0.268	
	95	19	11.4	0.76	1.65	19.1	1060	0.193	
	ASTM	10	7	2.93	0.51	1.65	8.2	96	3.41
		8	7	3.69	0.51	1.65	9.1	133	2.14
		6	7	4.68	0.51	1.65	10.1	200	1.35
4		7	5.88	0.51	1.65	11.4	290	0.848	
2		7	7.41	0.51	1.65	13.0	435	0.534	
1		19	8.45	0.51	1.65	14.3	513	0.423	
1/0		19	9.45	0.51	1.65	15.1	660	0.335	
2/0		19	10.65	0.51	1.65	17.0	830	0.266	

CU/HMWPE/PVC/DSWA/HMWPE (IEC & ASTM)

SCOPE

This specification covers 0.6/1kV copper conductor, HMWPE insulated and armoring cables.
 Application included ; a cable between a DC power source and a protected structure or a negative/an anode cable junction box, or between two negative/positive cable junction boxes, or between an anode junction box and a positive cable junction box, or offshore anode.

APPLICATION STANDARDS

IEC Standard IEC 60228
 ASTM Standard ASTM B 3, ASTM B 8 and ASTM D 1248

CONDUCTOR

The conductor shall consist of plain annealed copper wires, and shall be class 2 in accordance with IEC 60228 or ASTM B 3 and ASTM B 8..

INSULATION

The insulation shall be extruded with black HMWPE (High Molecular Weight Polyethylene) comply with Type 1 or 3, Class C, Category 4 or 5, Grades E-4 or E-5, J1 to J3 of ASTM D 1248.

BEDDING

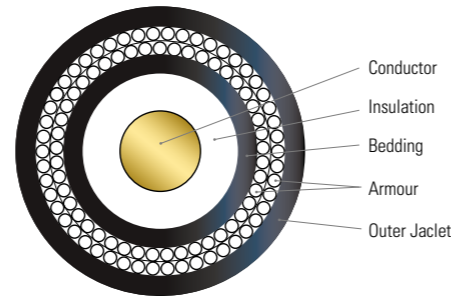
The bedding shall be extruded with black PVC compound complying with IEC 60502-1.

ARMOR

The armor shall have two layers of armor wires spirally wound over the PVC bedding to provide completed coverage. The first layer shall be a right hand lay and the second layer shall be a left hand lay, and the binder tape over the each armoring wire may be applied by manufacturer's option.

OUTER JACKET

The outer jacket shall be extruded with a black HMWPE (High Molecular Weight Polyethylene) comply with Type 1 or 3, Class C, Category 4 or 5, Grades E-4 or E-5, J1 to J3 of ASTM D 1248. option.



Conductor			Thick. of insulation (nom.)	Thick. of bedding (nom.)	Dia. of wire for armor	Thick. of outer jacket (nom.)	Completed cable diameter (approx.)	Max. DC conductor resistance at 20°C	A.C. Test Voltage	Net weight of cable (approx.)
Nominal Cross Sectional Area	No of wire	Overall Diameter (approx.)								
mm ² /AWG	No.	mm	mm	mm	mm	mm	mm	Ω/km	kV/5min.	kg/km
50	19	8.1	2.79	1.2	1.2	1.65	28	0.387	3.5	1750
(1/0AWG)		(9.45)					29	0.335		1935
70	19	9.8	3.18	1.2	1.2	1.65	31	0.268	3.5	2195
(2/0AWG)		(10.64)					32	0.266		2220



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