2MKABLO

CATHODIC PROTECTION CABLES


2MKABLO

appliCable to life...

About Us

Established in Istanbul in 1993, 2M KABLO, produces standard and special cables for energy, industry, petrochemical, transportation and building sectors, with its fully equipped, state of the art technology, specialist staff and development with open structure in the sector and a pioneering company by considering investment as one of the most important objectives.

2M KABLO, which is located in Tekirdağ with a total area of 25.000 m², has been cooperated the solution partner of many companies and projects in Turkiye and abroad since its establishment. Local sales offices are located in Istanbul and Ankara. 2M KABLO, which incorporated in the year 2024 in United States of America, has a sales office located in Texas.

2M KABLO export to more than 80 countries in 6 continents. 2M KABLO is one of Turkiye's global brand in the cable industry, with export volume increasing every year Export Achievement Award in 2008, the year in 2011 and 2012 was awarded the Honorary Award IMMIB export. 2M KABLO which was listed in Turkiye's second 500 Industrial Enterprises list published by the Istanbul Chamber of Industry (ISO) for the first time in 2016, was also awarded the Best Managed Companies in Turkiye's Cable Industry in 2019 by Deloitte organization.

2M KABLO has quality management system documents which are ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, ISO 50001:2018 and ISO 27001:2013. 2M KABLO has become a R&D center registered by the Ministry of Science, Industry and Technology. 2M KABLO is the first local Low-Voltage cable manufacturer with a registered R&D Center.

2M KABLO BEST MANAGED COMPANIES TURKIYE 2019

BEST MANAGED COMPANIES TURKEY
Deloitte.

R&D Innovation

Since 1993, 2M KABLO has been supporting its customers with new and user-specific product designs.

2M KABLO is the first locally-funded LV cable manufacturer who is awarded with a R&D Centre License by Turkish Goverment.

With the Cable Builder design program, all data related to the product can be created quickly and accurately.

The Professional engineers in 2M KABLO R&D department make design for 6 different product groups and also special cable types.

2M KABLO's R&D activities are always customer oriented.

2M KABLO invests 5% of its revenue to generate resources for R&D innovation activities.These investments create the success of 2M KABLO.

The R&D center of 2M KABLO, we cooperates with the best research institutes and universities in various projects.

The key factors, which create the success of 2M KABLO, are the high – quality products and technical support capabilities.

WE ARE THE ONLY CABLE SUPPLIER OF THE EUROPEAN NUCLEAR RESEACH CENTER IN TURKIYE!

Areas of Usage and Features

Cathodic protection (CP) is a method of corrosion control that can be applied to buried and submerged metallic structures. It is normally used in conjunction with coatings and can be considered as a secondary corrosion control technique.

The primary corrosion control method on any given structure is normally a coating system which can be between 50 and 99 % efficient depending upon age, type, method of installation, etc. A properly designed and maintained cathodic protection system will take up the remainder resulting in a 100 % efficient corrosion protection system.

CP Cable is used as direct earth burial DC feeder cable in cathodic protection systems to protect against galvanic and electrolytic corrosion of metallic objects - such as storage tanks, pipelines, wells and ocean vessels - that are buried or submerged in water.

It has excellent abrasion, crush, chemical, oil, sunlight and moisture resistance. PVDF insulation offers additional resistance to corrosive gases and brackish water, and can be used for deep anode ground-bed installations. Cathodic protection can protect all types of buried and submerged metallic structures.

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WHICH structures can it protect?

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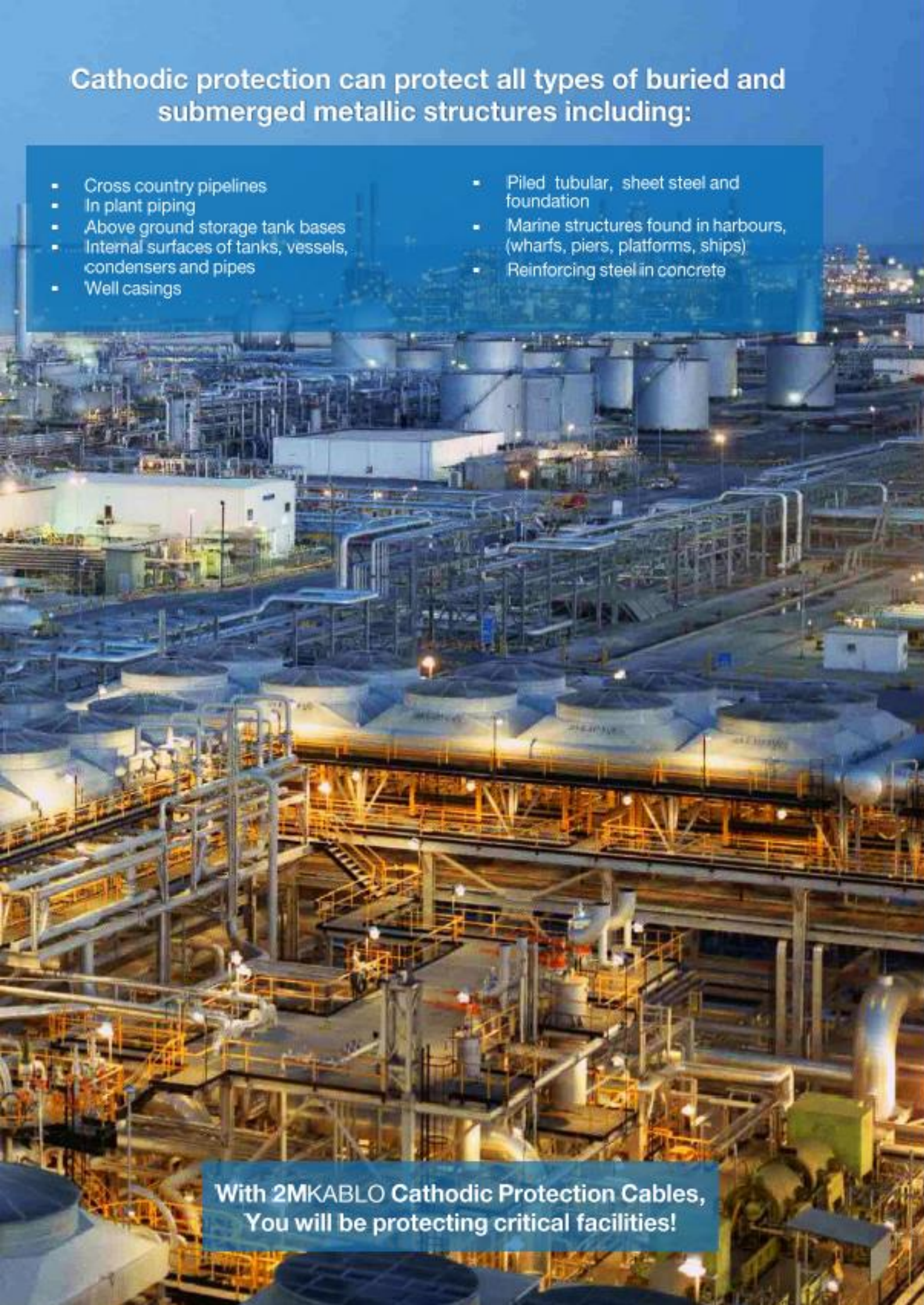
Cathodic protection can protect all types of buried and submerged metallic structures including:

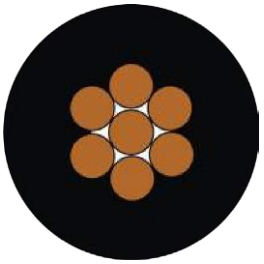
- Cross country pipelines
- In plant piping
- Above ground storage tank bases
- Internal surfaces of tanks, vessels, condensers and pipes
- Well casings
- Piled tubular, sheet steel and foundation
- Marine structures found in harbours, (wharfs, piers, platforms, ships)
- Reinforcing steel in concrete



With 2MKABLO Cathodic Protection Cables, You will be protecting critical facilities!

Cu/HMWPE

Negative and Bond Cables



Areas of Use

HMWPE cable is electrically connected (directly or indirectly) to the negative output terminal of a cathodic protection power supply. This includes bond cables to a cathodically protected structure. CP Cable is used as direct earth burial DC feeder cable in cathodic protection systems.

Cable Construction	
Conductor	Stranded Annealed Copper (IEC 60228, Class 2)
Insulation	High Molecular Weight Polyethylene (Black) Acc. to ASTM D1248 Type 3, Class C, Category 5, IEC 60502,ST7
Reference Standards	17-SAMSS-017

Technical Properties (at 20°C)	
Operating Voltage	0.6/1 kV
Test Voltage	3.5 kV
Temperature Range	Operation: -30 °C.....+90 °C, Installation: -5 °C .....+70 °C
Conductor Resistance (max.)	IEC/EN 60228
Min. Bending Radius	7.5 x Cable Diameter

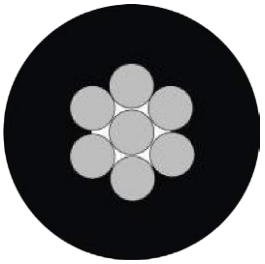
Cross Section

Configuration (mm²)	Conductor (mm)	Cable Diameter (Approx.) (mm)	Insulation Nom. Thickness (mm)	Copper Weight (kg/km)	Cable Weight (kg/km)
1x2,5*	7x0,66	7,6	2,79	22	70
1x4*	7x0,83	8,1	2,79	35	85
1x6*	7x1,02	8,7	2,79	52	110
1x10*	7x1,37	9,4	2,79	93	155
1x16	7x1,74	10,4	2,79	150	230
1x25	7x2,19	11,6	2,79	225	310
1x35	7x2,6	12,6	2,79	310	400
1x50	19x1,74	14,3	2,79	427	530
1x70	19x2,12	16,6	3,18	616	755
1x95	19x2,60	17,8	3,18	841	993
1x120	19x2,80	19,7	3,18	1082	1254
1x150*	37x2,21	23,3	3,94	1336	1590
1x185	37x2,61	23,8	3,94	1640	1905
1x240	37x2,90	26,5	3,94	2142	2427

*Out of 17-SAMSS-017 scope, based on 17-SAMSS-017 All values have ±10% tolerance

SnCu/HMWPE

Negative and Bond Cables



Areas of Use

HMWPE cable is electrically connected (directly or indirectly) to the negative output terminal of a cathodic protection power supply. This includes bond cables to a cathodically protected structure. CP Cable is used as direct earth burial DC feeder cable in cathodic protection systems.

Cable Construction	
Conductor	Stranded Annealed Tinned Copper (IEC 60228, Class 2)
Insulation	High Molecular Weight Polyethylene (Black) Acc. to ASTM D1248 Type 3, Class C, Category 5, IEC 60502,ST7
Reference Standards	With referance to 17-SAMSS-017

Technical Properties (at 20°C)	
Operating Voltage	0.6/1 kV
Test Voltage	3.5 kV
Temperature Range	Operation: -30 °C.....+90 °C, Installation: -5 °C .....+70 °C
Conductor Resistance (max.)	IEC/EN 60228
Min. Bending Radius	7.5 x Cable Diameter

Cross Section

Configuration (mm²)	Conductor (mm)	Cable Diameter (Approx.) (mm)	Insulation Nom. Thickness (mm)	Copper Weight (kg/km)	Cable Weight (kg/km)
1x2,5*	7x0,66	7,6	2,79	22	70
1x4*	7x0,83	8,2	2,79	35	85
1x6*	7x1,03	8,7	2,79	55	110
1x10*	7x1,34	9,7	2,79	99	163
1x16	7x1,69	10,7	2,79	145	225
1x25	7x2,10	11,9	2,79	227	314
1x35	7x2,6	13,4	2,79	315	423
1x50	19x1,75	14,5	2,79	420	530
1x70	19x2,12	17,1	3,18	633	779
1x95	19x2,60	18,9	3,18	861	1026
1x120	19x2,80	20,5	3,18	1081	1262
1x150*	37x2,25	23,8	3,94	1355	1590
1x185	37x2,55	25,4	3,94	1702	1850
1x240	37x2,90	28,3	3,94	2230	2400

*Out of 17-SAMSS-017 scope, based on 17-SAMSS-017 All values have ±10% tolerance

Cu/PVDF/HMWPE

Positive Cables

Areas of Use

Positive Cable is electrically connected (directly or indirectly) to the positive output terminal of an ICCP power supply, including impressed current anode cables. CP Cable is used as direct earth burial DC feeder cable in cathodic protection systems.

Cable Construction	
Conductor	Stranded Annealed Copper (IEC 60228, Class 2)
Insulation	Polyvinylidene Fluoride (PVDF) (Black)
Outer Sheath	High Molecular Weight Polyethylene (Black) Acc. to ASTM D1248 Type 3, Class C, Category 5, IEC 60502,ST7
Reference Standards	17-SAMSS-017

Technical Properties (at 20°C)	
Operating Voltage	0.6/1 kV
Test Voltage	3.5 kV
Temperature Range	Operation: -30 °C.....+90 °C, Installation: -5 °C .....+70 °C
Conductor Resistance (max.)	IEC/EN 60228
Min. Bending Radius	10 x Cable Diameter

Cross Section

Configuration (mm²)	Conductor (mm)	Cable Diameter (Approx.) (mm)	Insulation Nom. Thickness (mm)	Sheating Nom. Thickness (mm)	Copper Weight (kg/km)	Cable Weight (kg/km)
1x2,5*	7x0,66	6,3	0,51	1,65	22	55
1x4*	7x0,83	6,9	0,51	1,65	35	80
1x6*	7x1,02	7,4	0,51	1,65	52	95
1x10*	7x1,37	8,1	0,51	1,65	93	140
1x16	19x1,02	9,6	0,51	1,65	145	213
1x25	19x1,27	10,7	0,51	1,65	230	303
1x35	19x1,51	11,8	0,51	1,65	323	405
1x50	19x1,74	13,1	0,51	1,65	427	520
1x70	19x2,12	15,1	0,76	1,65	616	739
1x95*	19x2,60	16,3	0,76	1,65	841	977
1x120*	19x2,80	18,2	0,76	1,65	1082	1237
1x150*	37x2,21	21,5	1,40	1,65	1336	1590

*Out of 17-SAMSS-017 scope, based on 17-SAMSS-017 All values have ±10% tolerance

SnCu/PVDF/HMWPE

Onshore Anode Cables / Tank and Vessels (Internal) Anode Cables

Areas of Use

CP Cable is used as direct earth burial DC feeder cable in cathodic protection systems to protect against galvanic and electrolytic corrosion of metallic objects - such as storage tanks, pipelines, wells and ocean vessels - that are buried or submerged in water.

Cable Construction	
Conductor	Stranded Annealed Tinned Copper (IEC 60228, Class 2)
Insulation	Polyvinylidene Fluoride (PVDF) (Black)
Outer Sheath	High Molecular Weight Polyethylene (Black) Acc. to ASTM D1248 Type 3, Class C, Category 5, IEC 60502,ST7
Reference Standards	17-SAMSS-017

Technical Properties (at 20°C)	
Operating Voltage	0.6/1 kV
Test Voltage	3.5 kV
Temperature Range	Operation: -30 °C.....+90 °C, Installation: -5 °C .....+70 °C
Conductor Resistance (max.)	IEC/EN 60228
Min. Bending Radius	10 x Cable Diameter

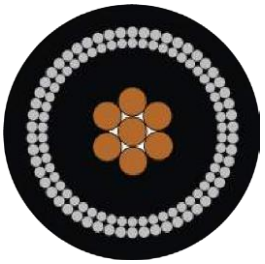
Cross Section

Configuration (mm²)	Conductor (mm)	Cable Diameter (Approx.) (mm)	Insulation Nom. Thickness (mm)	Sheating Nom. Thickness (mm)	Copper Weight (kg/km)	Cable Weight (kg/km)
1x2,5*	7x0,66	6,3	0,51	1,65	22	55
1x4*	7x0,83	6,9	0,51	1,65	35	70
1x6*	7x1,03	7,4	0,51	1,65	55	95
1x10*	7x1,34	8,4	0,51	1,65	99	150
1x16	19x1,02	9,6	0,51	1,65	145	213
1x25	19x1,27	10,7	0,51	1,65	230	303
1x35	19x1,51	12,1	0,51	1,65	315	408
1x50	19x1,75	13,1	0,51	1,65	420	522
1x70	19x2,12	15,6	0,76	1,65	633	k762
1x95	19x2,50	17,4	0,76	1,65	852	1011
1x120	19x2,80	19	0,76	1,65	1081	1250
1x150*	37x2,25	22	1,40	1,65	1355	1609

*Out of 17-SAMSS-017 scope, based on 17-SAMSS-017 All values have ±10% tolerance

Cu/HMWPE/PVC/SWA/SWA/HMWPE

Offshore Anode Cables



Areas of Use

CP Cable is used as direct earth burial DC feeder cable in cathodic protection systems. Anode cables for all offshore anodes that are installed with the cable lying directly on the sea bed shall be armored.*

Cable Construction	
Conductor	Stranded Annealed Copper (IEC 60228, Class 2)
Insulation	High Molecular Weight Polyethylene (Black) Acc. to ASTM D1248 Type 3, Class C, Category 5, IEC 60502,ST7
Inner Outer Sheath	PVC (Black)
1.Armour	Round Galvanized Steel Wires
2.Armour	Round Galvanized Steel Wires
Outer Sheath	High Molecular Weight Polyethylene (Black) Acc. to ASTM D1248 Type 3, Class C, Category 5, IEC 60502,ST7
Reference Standards	17-SAMSS-017 (where applicable)

Technical Properties (at 20°C)	
Operating Voltage	0.6/1 kV
Test Voltage	3.5 kV
Temperature Range	Operation: -30 °C.....+90 °C, Installation: -5 °C .....+70 °C
Conductor Resistance (max.)	IEC/EN 60228
Min. Bending Radius	15 x Cable Diameter

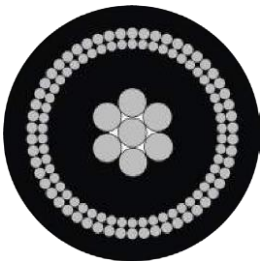
Cross Section*

Configuration (mm^2)	Conductor (mm)	Cable Diameter (Approx.) (mm)	Insulation Nom. Thickness (mm)	Copper Weight (kg/km)	Cable Weight (kg/km)
1x50	19x1,74	26,8	2,79	427	1903
1x70	19x2,12	29,30	3,18	616	2278

*Other sizes available upon request.

SnCu/HMWPE/PVC/SWA/SWA/HMWPE

Offshore Anode Cables



Areas of Use

CP Cable is used as direct earth burial DC feeder cable in cathodic protection systems. Anode cables for all offshore anodes that are installed with the cable lying directly on the sea bed shall be armored.*

Cable Construction	
Conductor	Stranded Annealed Tinned Copper (IEC 60228, Class 2)
Insulation	High Molecular Weight Polyethylene (Black) Acc. to ASTM D1248 Type 3, Class C, Category 5, IEC 60502,ST7
Inner Outer Sheath	PVC (Black)
1.Armour	Round Galvanized Steel Wires
2.Armour	Round Galvanized Steel Wires
Outer Sheath	High Molecular Weight Polyethylene (Black) Acc. to ASTM D1248 Type 3, Class C, Category 5, IEC 60502,ST7
Reference Standards	17-SAMSS-017 (where applicable)

Technical Properties (at 20°C)	
Operating Voltage	0.6/1 kV
Test Voltage	3.5 kV
Temperature Range	Operation: -30 °C.....+90 °C, Installation: -5 °C .....+70 °C
Conductor Resistance (max.)	IEC/EN 60228
Min. Bending Radius	15 x Cable Diameter

Cross Section*

Configuration (mm^2)	Conductor (mm)	Cable Diameter (Approx.) (mm)	Insulation Nom. Thickness (mm)	Copper Weight (kg/km)	Cable Weight (kg/km)
1x50	19x1,74	26,8	2,79	430	1906
1x70	19x2,12	29,30	3,18	632	2294

*Other sizes available upon request.

appliCable to life...

2M KABLO

"This document has been prepared for general purpose and covers only performance, weight and dimensions of the cable. Core identification, sheathing colour/markings may be different and can be modified upon request
2M Kablo reserves the rights of changing the specified values and dimensions without any prior notice."

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