www.hengtonggroup.com/en

Hengtong Group
Stock Code:600487 SS.
No. 2288, North Zhongshan Rd.,
Wujiang District, Suzhou, Jiangsu Province, China
Website: www.hengtonggroup.com/en
Email: info@hengtonggroup.com
subsea.cable@htgd.com.cn
Tel: +86 512 6395 7850
Fax: +86 512 6395 7922

Version：2023-07

@ Hengtong Group

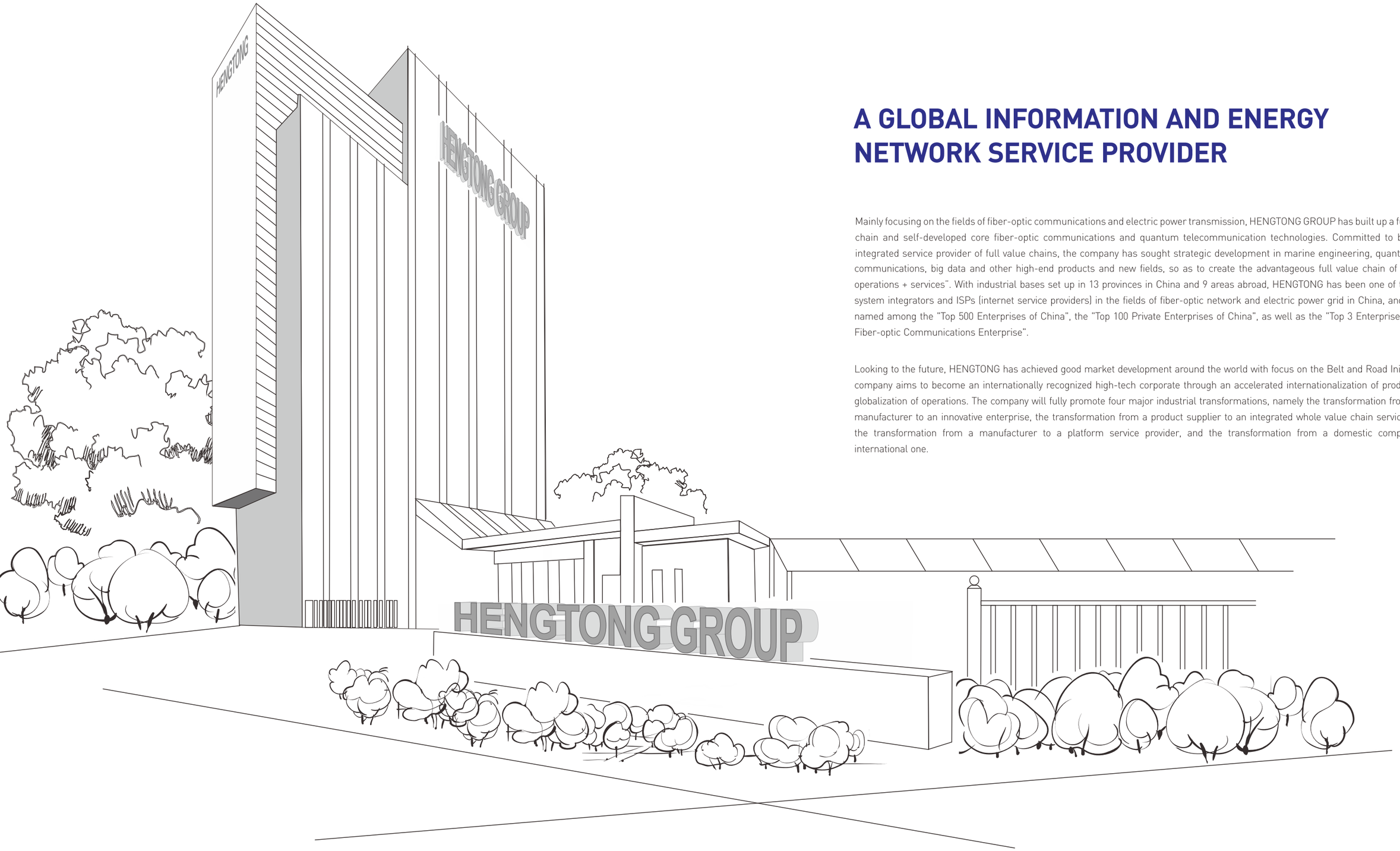
@ Hengtong Group

@ Hengtong Group
@ Hengtong Submarine Power Cable

SUBMARINE CABLE SYSTEM

HENGTONG GROUP
A Global Information and Energy Network Service Provider

Introduction



A GLOBAL INFORMATION AND ENERGY NETWORK SERVICE PROVIDER

Mainly focusing on the fields of fiber-optic communications and electric power transmission, HENGTONG GROUP has built up a full industry chain and self-developed core fiber-optic communications and quantum telecommunication technologies. Committed to building an integrated service provider of full value chains, the company has sought strategic development in marine engineering, quantum secure communications, big data and other high-end products and new fields, so as to create the advantageous full value chain of "product + operations + services". With industrial bases set up in 13 provinces in China and 9 areas abroad, HENGTONG has been one of the leading system integrators and ISPs (internet service providers) in the fields of fiber-optic network and electric power grid in China, and has been named among the "Top 500 Enterprises of China", the "Top 100 Private Enterprises of China", as well as the "Top 3 Enterprises of Global Fiber-optic Communications Enterprise".

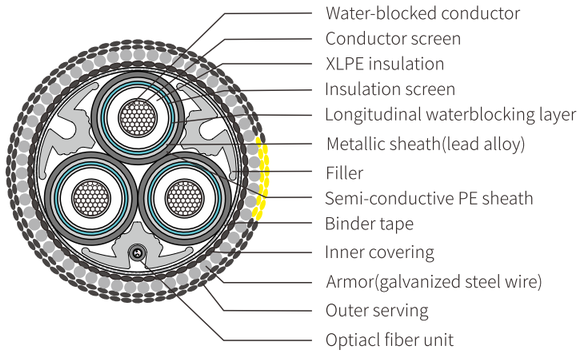
Looking to the future, HENGTONG has achieved good market development around the world with focus on the Belt and Road Initiative. The company aims to become an internationally recognized high-tech corporate through an accelerated internationalization of production and globalization of operations. The company will fully promote four major industrial transformations, namely the transformation from an R&D manufacturer to an innovative enterprise, the transformation from a product supplier to an integrated whole value chain service provider, the transformation from a manufacturer to a platform service provider, and the transformation from a domestic company to an international one.

THE SUBMARINE CABLE SYSTEM

The industry of marine energy always requires a stable transmission of power, which is mainly realized by a submarine cable system. The system is composed of the submarine (composite) cable and accessories such as cable termination, joint, bend restrictor, etc., depending on the system design requirements. Hengtong, as a systems integration solution provider, covers the business of submarine cable manufacture, cable accessories development, equipment transportation, system installation, as well as maintenance works. Our solutions are available for all applications including but not limited to offshore wind farms, submarine power interconnection and offshore oil & gas platforms; we are able to develop and offer customized solutions to our clients.

Contents

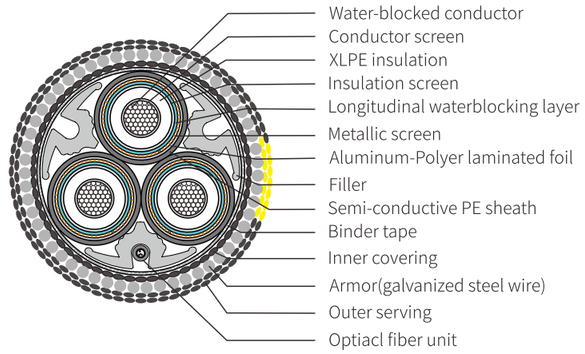
33kV THREE-CORE SUBMARINE CABLE WITH INDIVIDUAL LEAD SHEATH



33kV Three-core Submarine Cable With Individual Lead Sheath

Parameter Specification (mm^2)		3X50	3X70	3X95	3X120	3X150	3X185	3X240	3X300	3X400	3X500
current capacity (A)	seabed	217	265	315	355	396	442	506	559	621	684
	intertidal	202	246	292	329	367	409	457	516	522	630
	land	189	230	272	307	341	381	434	479	531	584
resistance (Ω/km)	Max DC Resistaroe at 20°C	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.047	0.0366
	Max AC Resistance at90°C	0.494	0.342	0.247	0.196	0.159	0.127	0.0976	0.0785	0.0624	0.0499
capacitance (μF/km)		0.144	0.160	0.176	0.189	0.202	0.217	0.238	0.256	0.281	0.311
cable diameter (approximate) (mm)		96.3	101.1	104.6	108.4	111.9	116.2	120.9	128.6	135.5	143.8
Min bending radius (mm)		1926	2022	2091	2168	2237	2324	2419	2571	2709	2975
weight of cable (kg/km)	in air	19148	21286	22809	24902	26692	29292	32030	38084	43143	49009
	in water	11864	13258	14332	16873	16859	18687	20560	26095	28723	32768

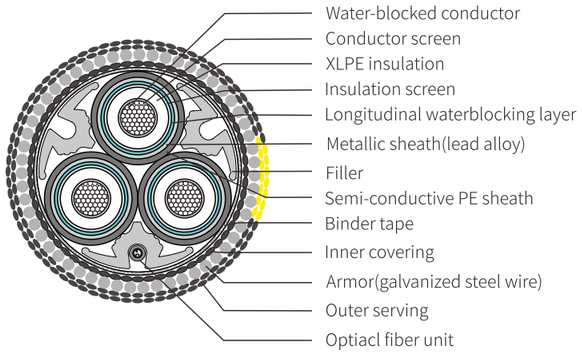
33kV THREE-CORE SUBMARINE CABLE WITH INDIVIDUAL AL-PE COMPOSITE SHEATH



33kV Three-core Submarine Cable With Individual Al-PE Composite Sheath

Parameter Specification (mm^2)		3X50	3X70	3X95	3X120	3X150	3X185	3X240	3X300	3X400	3X500
current capacity (A)	seabed	199	243	288	324	359	401	456	507	560	620
	intertidal	187	227	268	302	336	373	425	472	521	576
	land	177	214	253	295	315	351	399	443	489	540
resistance (Ω/km)	Max DC Resistaroe at 20°C	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.047	0.0366
	Max AC Resistance at90°C	0.494	0.342	0.247	0.196	0.159	0.127	0.0976	0.0785	0.0624	0.0499
capacitance (μF/km)		0.144	0.160	0.175	0.188	0.202	0.217	0.238	0.256	0.281	0.311
cable diameter (approximate) (mm)		98.4	102.7	106.1	109.6	113.1	116.9	122.1	128.9	136.4	143.2
Min bending radius (mm)		1967	2054	2123	2192	2261	2339	2443	2678	2707	2865
weight of cable (kg/km)	in air	15184	16869	18013	19356	21117	22813	25361	30267	34507	39109
	in water	7579	8375	9172	9922	11070	12080	13652	17217	20108	23003

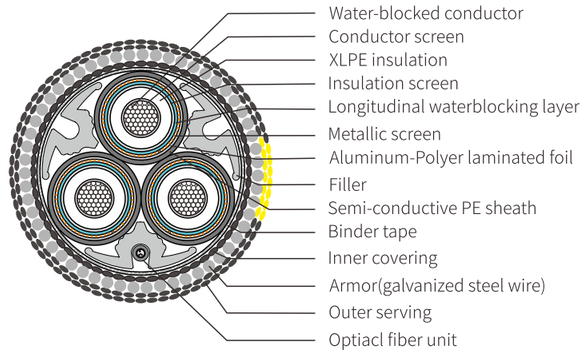
66kV THREE-CORE SUBMARINE CABLE WITH INDIVIDUAL LEAD SHEATH



66kV Three-core Submarine Cable With Individual Lead Sheath

Parameter Specification (mm^2)		3X120	3X150	3X185	3X240	3X300	3X400	3X500	3X630	3X800
current capacity (A)	seabed	355	396	442	504	559	621	685	747	802
	intertidal	330	368	410	466	517	573	631	687	738
	land	310	344	383	435	481	533	587	638	684
resistance (Ω/km)	Max DC Resistaroe at 20°C	0.153	0.124	0.0991	0.0754	0.0601	0.047	0.0366	0.0283	0.0221
	Max AC Resistance at90°C	0.196	0.159	0.127	0.0974	0.0783	0.0621	0.0496	0.0398	0.0329
capacitance (μF/km)		0.142	0.160	0.169	0.183	0.197	0.214	0.233	0.252	0.274
cable diameter (approximate) (mm)		140.6	139.3	143.6	148.8	154.6	161.5	169.1	177.1	186
Min bending radius (mm)		2812	2786	2873	2976	3092	3230	3382	3542	3720
weight of cable (kg/km)	In air	38752	38926	41821	45257	49505	54693	60985	68501	77206
	in water	23226	23686	25625	27867	30733	34208	38526	43867	50034

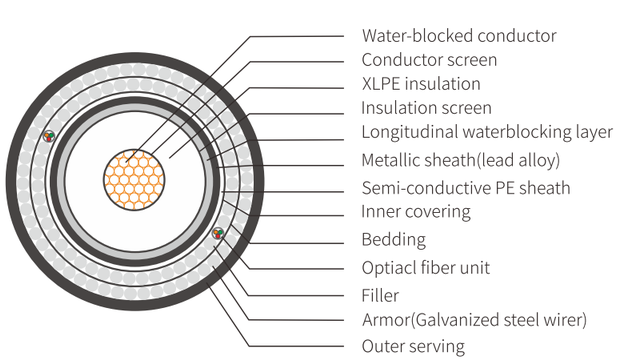
66kV THREE-CORE SUBMARINE CABLE WITH INDIVIDUAL AL-PE COMPOSITE SHEATH



66kV Three-core Submarine Cable With ALPE Composite Sheath

Parameter Specification (mm^2)		3X120	3X150	3X185	3X240	3X300	3X400	3X500	3X630	3X800
current capacity (A)	seabed	321	358	400	456	507	566	622	674	729
	intertidal	300	334	373	425	472	523	579	627	676
	land	285	316	353	402	446	493	545	590	635
resistance (Ω/km)	Max DC Resistaroe at 20°C	0.153	0.124	0.0991	0.0754	0.0601	0.047	0.0366	0.0283	0.0221
	Max AC Resistance at90°C	0.196	0.159	0.127	0.0974	0.0783	0.0621	0.0496	0.0398	0.033
capacitance (μF/km)		0.142	0.160	0.169	0.183	0.197	0.214	0.233	0.252	0.274
cable diameter (approximate) (mm)		141.4	140.1	143.6	148.3	153.3	159.8	166.4	174.6	183.1
Min bending radius (mm)		2828	2802	2872	2966	3066	3196	3328	3492	3662
weight of cable (kg/km)	in air	29165	29636	31346	34265	37110	41031	45928	52036	58922
	in water	13464	14221	15162	16992	18649	20978	24178	28089	32591

132kV SINGLE CORE SUBMARINE CABLE W ITH LEAD SHEATH



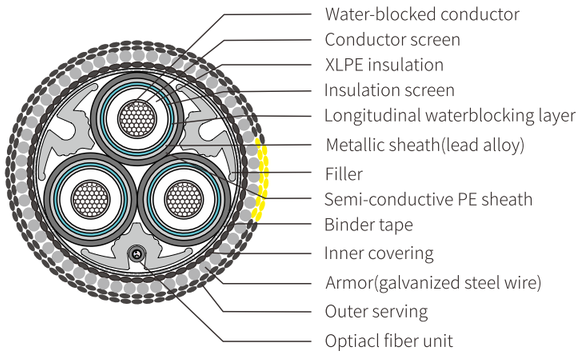
132kV Single Core Submarine Cable With Lead Sheath

Parameter Specification (mm^2)		1X240	1X300	1X400	1X500	1X630	1X800	1X1000	1X1200	1X1400	1X1600
current capacity (A)	seabed	607	666	733	801	867	936	1003	1060	1100	1140
	intertidal	507	553	604	658	709	762	809	882	896	927
	land	475	517	564	613	667	709	757	801	833	861
resistance (Ω/km)	Max DC Resistaroe at 20°C	0.0764	0.0601	0.047	0.0366	0.0283	0.0221	0.0176	0.0151	0.0129	0.0113
	Max AC Resistance at90°C	0.0970	0.0778	0.061	0.0486	0.0387	0.0315	0.0233	0.020	0.0174	0.0154
capacitance (μF/km)		0.125	0.136	0.148	0.16	0.173	0.186	0.204	0.222	0.234	0.245
cable diameter (approximate) (mm)		109.8	111.1	113.2	116.7	120.4	124.5	129.9	135.8	138.4	142.7
Min bending radius (mm)		2196	2222	2264	2334	2408	2490	2598	2716	2788	2864
weight of cable (kg/km)	in air	26191	27257	28765	30593	33297	36384	40319	44732	47871	51199
	in water	16723	17582	18701	19897	21912	24210	27066	30248	32609	36206

Note 1: The design condition of current capacity
1.Seabed temperature 20°C, the thermal resistance 0.7,buried depth 2m;
2.Intertidal soil temperature 25°C, the thermal resistance 0.8,buried depth 2m;
3.Land soil temperature 25°C, the thermal resistance 1.2,buried depth 1m.

Note2: The above date is for reference only. The specific parameters should be designed according to the technical specification and actual laying environment

132kV THREE-CORE SUBMARINE CABLE WITH INDIVIDUAL LEAD SHEATH



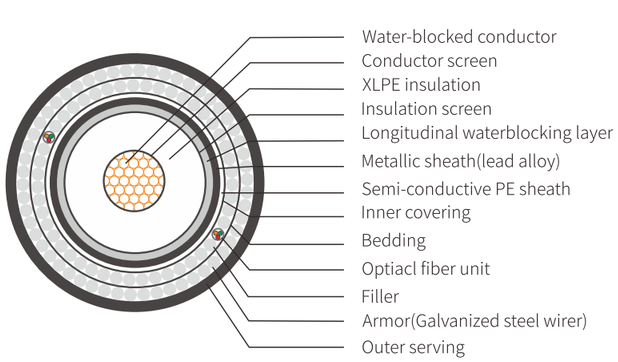
132kV Three-core Submarine Cable With Individual Lead Sheath

Parameter Specification (mm^2)		3X240	3X300	3X400	3X500	3X630	3X800	3X1000	3X1200	3X1400	3X1600
current capacity (A)	seabed	524	583	648	723	792	861	921	963	1003	1035
	intertidal	486	538	598	665	768	791	846	884	919	948
	land	421	476	537	609	670	727	771	793	814	828
resistance (Ω/km)	Max DC Resistaroe at 20°C	0.0764	0.0601	0.047	0.0366	0.0283	0.0221	0.0176	0.0151	0.0129	0.0113
	Max AC Resistance at90°C	0.0970	0.0778	0.061	0.0486	0.0387	0.0315	0.0233	0.020	0.0174	0.0154
capacitance (μF/km)		0.125	0.136	0.148	0.16	0.173	0.186	0.204	0.222	0.234	0.245
cable diameter (approximate) (mm)		186.2	189.0	193.5	201.1	205.6	214.3	223.6	238.2	264.1	253.6
Min bending radius (mm)		3724	3781	3870	4022	4112	4287	4471	4764	4922	6072
weight of cable (kg/km)	in air	62616	64697	70356	76893	94537	103915	114557	121434	131681	141690
	in water	36392	37631	40953	45133	61339	67836	75307	76868	84121	91188

Note 1: The design condition of current capacity
1.Seabed temperature 20°C, the thermal resistance 0.7,buried depth 2m;
2.Intertidal soil temperature 25°C, the thermal resistance 0.8,buried depth 2m;
3.Land soil temperature 25°C, the thermal resistance 1.2,buried depth 1m.

Note2: The above date is for reference only. The specific parameters should be designed according to the technical specification and actual laying environment

220kV SINGLE CORE SUBMARINE CABLE W ITH LEAD SHEATH



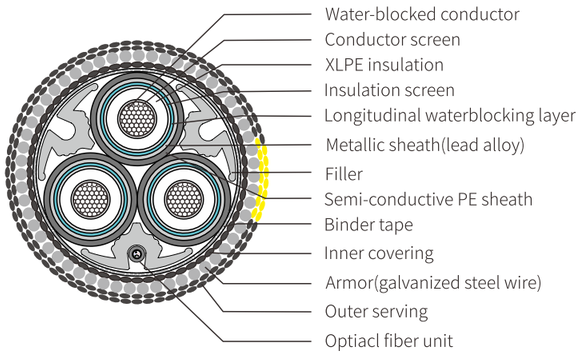
220kV Single Core Submarine Cable With Lead Sheath

Parameter Specification (mm^2)		1X400	1X500	1X630	1X800	1X1000	1X1200	1X1400	1X1600	1X1800	1X2000	1X2200	1X2500
current capacity (A)	seabed	761	839	915	985	1054	1111	1153	1196	1230	1267	1290	1333
	intertidal	644	706	764	817	869	916	950	986	1014	1044	1064	1099
	land	601	664	717	764	812	855	887	920	946	974	992	1026
resistance (Ω/km)	Max DC Resistaroe at 20°C	0.047	0.0366	0.0283	0.0221	0.0176	0.0151	0.0129	0.0113	0.0101	0.009	0.0083	0.0072
	Max AC Resistance at90°C	0.061	0.0486	0.0387	0.0315	0.0233	0.020	0.0174	0.0154	0.0140	0.0127	0.0119	0.0107
capacitance (μF/km)		0.117	0.124	0.136	0.151	0.166	0.179	0.188	0.197	0.205	0.213	0.220	0.230
cable diameter (approximate) (mm)		138.4	139.6	140.9	143.0	146.1	150.4	154.0	157.6	160.8	164.1	167.2	171.4
Min bending radius (mm)		2728	2792	2818	2860	2922	3008	3080	3152	3216	3282	3344	3428
weight of cable (kg/km)	in air	38034	40553	41966	44488	47476	51541	54722	58118	61579	65148	68419	73174
	in water	23422	25247	25984	28427	30712	33775	36095	38610	41271	43988	46483	50101

Note 1: The design condition of current capacity
1.Seabed temperature 20°C, the thermal resistance 0.7,buried depth 2m;
2.Intertidal soil temperature 25°C, the thermal resistance 0.8,buried depth 2m;
3.Land soil temperature 25°C, the thermal resistance 1.2,buried depth 1m.

Note2: The above date is for reference only. The specific parameters should be designed according to the technical specification and actual laying environment

220kV THREE-CORE SUBMARINE CABLE WITH INDIVIDUAL LEAD SHEATH



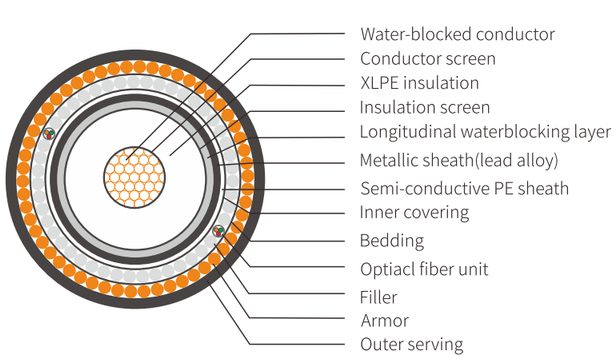
220kV Three-core Submarine Cable With Individual Lead Sheath

Parameter Specification (mm^2)		3X400	3X500	3X630	3X800	3X1000	3X1200
current capacity (A)	seabed	683	760	844	922	1018	1106
	intertidal	614	682	754	820	899	976
	land	507	561	619	673	734	798
resistance (Ω/km)	Max DC Resistaroe at 20°C	0.047	0.0366	0.0283	0.0221	0.0176	0.0151
	Max AC Resistance at90°C	0.061	0.0486	0.0387	0.0315	0.0233	0.020
capacitance (μF/km)		0.117	0.124	0.136	0.151	0.166	0.179
cable diameter (approximate) (mm)		249.5	256.4	259.7	263.7	270.4	279.7
Min bending radius (mm)		3743	3846	3896	3956	4056	4196
weight of cable (kg/km)	in air	126084	134363	139446	147366	156604	170258
	in water	77193	82730	86476	126289	99179	108815

Note 1: The design condition of current capacity
1.Seabed temperature 20°C, the thermal resistance 0.7,buried depth 2m;
2.Intertidal soil temperature 25°C, the thermal resistance 0.8,buried depth 2m;
3.Land soil temperature 25°C, the thermal resistance 1.2,buried depth 1m.

Note2: The above date is for reference only. The specific parameters should be designed according to the technical specification and actual laying environment

400kV SINGLE CORE SUBMARINE CABLE W ITH LEAD SHEATH



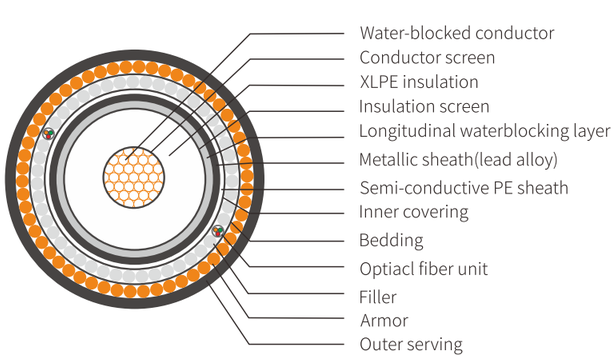
400kV Single Core Submarine Cable With Lead Sheath

Parameter Specification (mm^2)		1X630	1X800	1X1000	1X1200	1X1400	1X1600	1X1800	1X2000	1X2200	1X2500
current capacity (A)	seabed	1250	1411	1574	1697	1801	1891	1966	2045	2102	2202
	intertidal	934	1046	1156	1237	1308	1369	1417	1471	1508	1576
	land	886	990	1096	1173	1242	1301	1346	1398	1433	1500
resistance (Ω/km)	Max DC Resistaroe at 20°C	0.0283	0.0221	0.0176	0.0151	0.0129	0.0113	0.0101	0.009	0.0083	0.0072
	Max AC Resistance at90°C	0.0387	0.0315	0.0233	0.020	0.0174	0.0154	0.0140	0.0127	0.0119	0.0107
capacitance (μF/km)		0.119	0.132	0.149	0.169	0.177	0.184	0.196	0.203	0.209	0.219
cable diameter (approximate) (mm)		156.5	156.2	157.0	158.6	162.2	165.6	166.0	169.2	171.6	176.0
Min bending radius (mm)		3130	3123	3141	3172	3244	3311	3320	3384	3432	3520
weight of cable (kg/km)	in air	53082	54332	56133	58918	62614	65947	67781	71395	74463	79589
	in water	33844	35180	36766	39166	41955	44421	46138	48909	46463	50101

Note 1: The design condition of current capacity
1.Seabed temperature 20°C, the thermal resistance 0.7,buried depth 2m;
2.Intertidal soil temperature 25°C, the thermal resistance 0.8,buried depth 2m;
3.Land soil temperature 25°C, the thermal resistance 1.2,buried depth 1m.

Note2: The above date is for reference only. The specific parameters should be designed according to the technical specification and actual laying environment

500kV SINGLE CORE SUBMARINE CABLE W ITH LEAD SHEATH



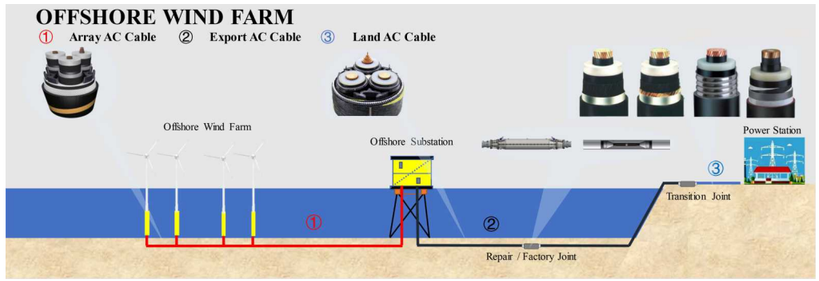
500kV Single Core Submarine Cable With Lead Sheath

Parameter Specification (mm^2)		1X800	1X1000	1X1200	1X1400	1X1600	1X1800	1X2000	1X2200	1X2500
current capacity (A)	seabed	1395	1550	1662	1766	1855	1931	2006	2065	2168
	intertidal	988	1140	1217	1286	1346	1399	1445	1484	1548
	land	930	1078	1151	1218	1276	1325	1372	1411	1470
resistance (Ω/km)	Max DC Resistaroe at 20°C	0.0221	0.0176	0.0151	0.0129	0.0113	0.0101	0.009	0.0083	0.0072
	Max AC Resistance at90°C	0.0315	0.0233	0.020	0.0174	0.0154	0.0140	0.0127	0.0119	0.0107
capacitance (μF/km)		0.127	0.138	0.147	0.157	0.163	0.168	0.179	0.183	0.192
cable diameter (approximate) (mm)		164.9	167.3	171.8	173.0	176.1	178.5	179.5	181.8	186.0
Min bending radius (mm)		3299	3346	3435	3461	3522	3570	3590	3636	3720
weight of cable (kg/km)	in air	59401	62348	66593	69089	72560	76742	78104	81258	86612
	in water	38032	40369	43424	45575	48209	50723	52804	55305	59346

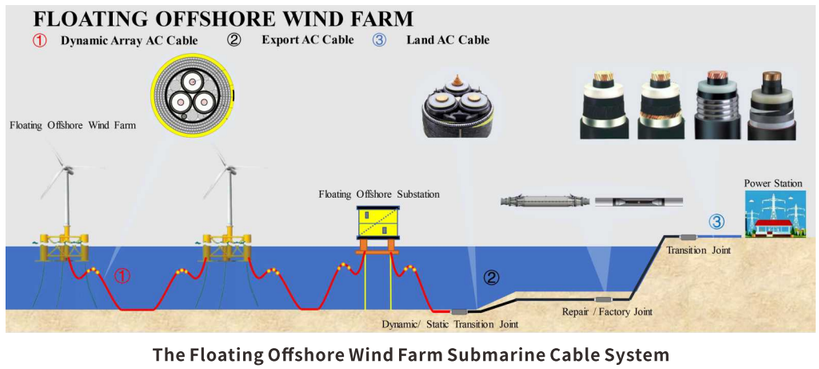
Note 1: The design condition of current capacity
1.Seabed temperature 20°C, the thermal resistance 0.7,buried depth 2m;
2.Intertidal soil temperature 25°C, the thermal resistance 0.8,buried depth 2m;
3.Land soil temperature 25°C, the thermal resistance 1.2,buried depth 1m.

Note2: The above date is for reference only. The specific parameters should be designed according to the technical specification and actual laying environment

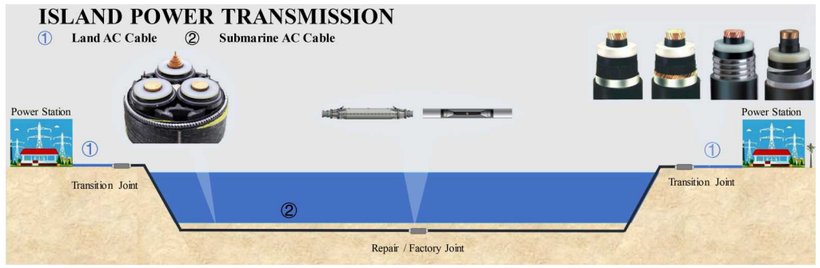
TYPICAL SUBMARINE CABLE SYSTEMS



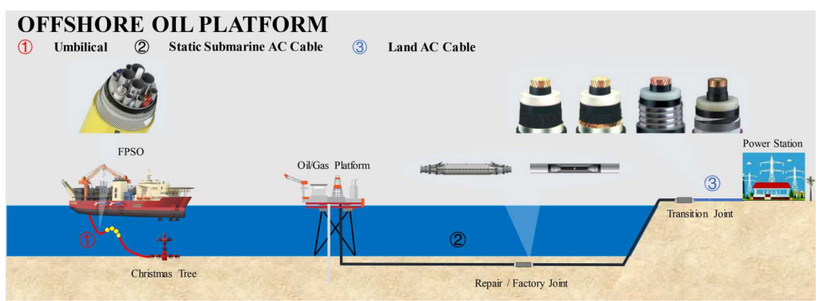
The Offshore Wind Farm Submarine Cable System



The Floating Offshore Wind Farm Submarine Cable System

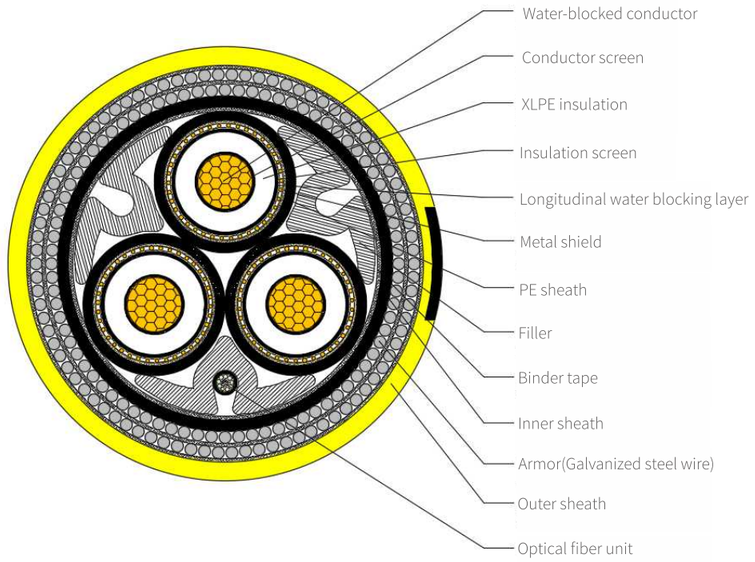


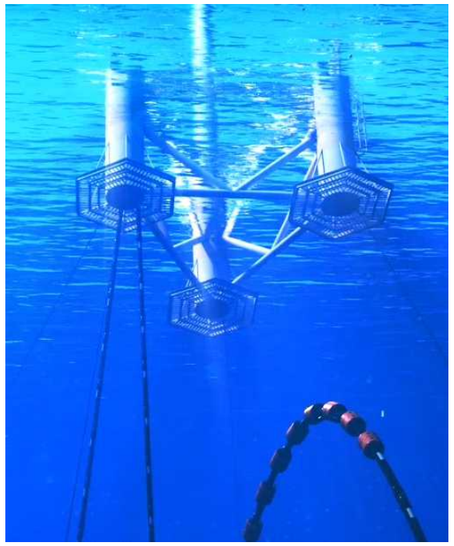
The Submarine Power Transmission System



The Submarine Oil & Gas System

DYNAMIC CABLE SYSTEM





Tools

- Mechanical & Structural analysis: Abaqus, ANSYS, Uflex
- Thermal & Electrical design: Comsol, Cymcap
- Hydrodynamic models: Orcaflex, SESAM

Current Status

- Manufacture of cable cores to umbilical manufacturers;
- Exclusive cable partner of the Chinese National Program for the development of dynamic cables for floating offshore wind farms;
- 1st worldwide 60kV DMC static-dynamic installed;
- Track records of dynamic cable in China and Europe;
- A fatigue Lab under construction in the Changshu manufacture base, China.

ACCESSORIES FOR SUBMARINE CABLE SYSTEM

Design and Manufacture

The accessories are designed by experienced personnel using state-of-art software. They are made in-house and selected components are procured from approved sub-suppliers only. The m etallic parts the accessories are made of copper, copper alloy or corrosion resistant aluminium. All fixing bolts, nuts and washers are made of stainless steel. Hence, the accessories of Heng Tong are made for real long-term service, as it is expected from the cables. Pre-molded stress cone are made of EPR rubber. This type of material is in use for several decades and has proven its high reliability due to excellent electrical and mechanical properties. Most of these components can be applied by hand to mininize the requirements for special tools. For cable with integrated optical fibres, the accessories are provided with appropriate splice housing.

Product Scope

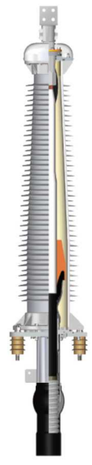
Besides the XLPE submarine cable. Heng Tong can also provide the cable accessories, include the installation on-site.

Um kV	72.5	126	145	170	245	300	420	550
Outdoor Termination	X/D/O	X/D/O	X/D/O	X	X	X	X	X
GIS Termination	X/D/O	X/D/O	X/D/O	X/D/O	X/D/O	X/D/O	X/D	X/D
Transformer Termination	X/D/O	X/D/O	X/D/O	X/D/O	X/D/O	X/D/O	X/D	X/D
Straight Joint	X/D/O	X/D/O	X/D/O	X/D	X/D	X/D	X/D	X/D
Y joint	X/D	X/D	X/D	-	-	-	-	-
Stop Joint	O	O	O	-	-	-	-	-
Transition joint	X/O	X/O	X/O	-	-	-	-	-

X: for XLPE cable ; O for oil filled cable ; D: dry type for XLDE cable ;

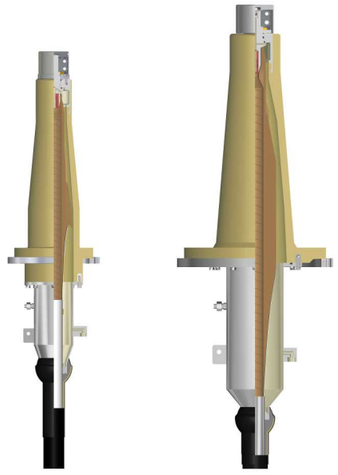
Outdoor Termination

The different versions of terminations are designed for operation under severe outdoor conditions and operation voltage up to 220kV . The termination can also be used indoor where appropriate space is provided. Standard version are designed for pollution level III or IV. For use in higher polluted areas, insulators with longer creepage distances are available.

Outdoor Termination oil-filled Type With Porcelain Insulator	Outdoor Termination oil-filled Type With Composite Insulator	Outdoor Termination Dry Type
		
This termination type covers the full range from 72.5kV to 220kV It is available for oil filled cable and XLPE cables. It is in use for many years and has the longest and satisfactory service history. The Insulator is supplied as alternate shed version with longer prelected creepage distance for off-shore application.	This termination type is available for XLPE cables. The basic design is identical with that of the porcel ain termination. The composite insulator, however, is of much lower weight. This is advantageous for installation when the huge lifting equipment can not be located on the installation place.	The dry type termiantion for XLPE cables is completely free from any liquid or gaseous filling medium. Apart form the environ mental aspect, the dry design provides further advantages like easier installation and no need for filling equipment, both contributing to significant savings for installation of the terminations .

SWITCHGEAR TERMINATIONS AND TRANSFORMER TERMINATIONS

The different versions of the switchgear and transformer terminations are designed for operation voltage up to 220kV. The terminations comply to the standards where dimensions and scope of supply are specified, i.e. IEC 62271-209 for the switchgear termination and EN 50229 for the transformer termination. Upon request the terminations can be adapted to fix into existing housings not in compliance with these standards.

GIS Termination For XLPE Cable	GIS Termination For oil-filled Cable
	
The switchgear and transformer terminations in the dry type design is completely free from any liquid or gaseous filling medium. Apart from the environmental aspect, the dry-type and plug-in design provides further advantages like easier installation and no need for filling equipment, both contributing to significant savings for installation. The dry type termination is comply to the dimensions stated in the relevant standards. Therefore, they can replace liquid filled terminations installed in a GIS housing or in the oil filled cable box of a transformer.	The termination is equipped with an epoxy resin insulator, and in this case the interior of the insulator is filled with silicone oil. The epoxy resin insulator is cast in one piece vbith an integrated insulating ring at the bottom. In this way it is possible to isolate the cable metal screen from earth. An additional insulating ring is not needed. Thus, the overall size of the termination is compact allowing installation even in confined space.

JOINT

The full range up to 550kV of joints is offered by Heng Tong Group. Due to optimized shapes and electrodes the joints come along with compact dimensions. The main joint body is made by high quality EPDM rubber with better re-cover force on the XLPE surface.

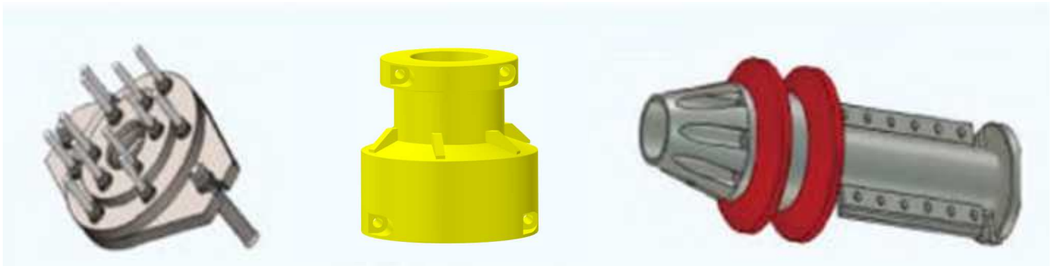
Rigid Joint	Branch Joint	Transition Joint
		
The rigid joint has the EPDM joint body with one-piece design and integrated premoulded stress controlunit. Copper housing to connect the metal shield on the cable and filled with risin as the waterproof layar. The stainless steel box as the mechnical protection and clamp system to link the armour wire and bear the tension force on the cable.	Branch joint can be applied as as the replacement of cable distribution box. It is suitable for the appication in confined space due to the compact design and then it means the saving on the civil work. Plug-in design can minimize the installation job on-site and easier on connect and dis-connect when emergency case. Stainless housing is more suitable for sea environment and coffin box is available as option.	The transition joint for single core cables, can be applied to connect the paper insulated submarine cable to the XLPE land cable The joint is installed in a metal housing also comprising the field control lapping or stress cone of the opposite cable. In this way. all types of cable can be connected. Foe three core cable a distribution head is required.

OTHER ACCESSORIES

Grounding Boxes

For earthing connections or special bonding of cable screens, we offers a wide range of grounding boxes. It is made of stainless steel, designed for both gantry mounting and underground application. Boxes of single phase and of three phase design are available. Depending on the purpose, additional function such as earthing current monitoring, sheath voltage limiters can be applied.

Cable Protection And Fixing Parts



Hang-offs: to fix the submarin cable and make sure the armour wire bear the tension force.
J-tube sealing divice: Fix the cable on the centre of J-tube and sealing between the cable and J-tube to avoid the sea water rise inside the J-tube.
Submarin cable spacer: To fix the cable on the centre of J-tube.
Submarin cable protection tube: provide the mechnical protection when landing or overlap.

TECHNICAL SERVICES

"Taking care customer* is the driving force of Heng Tong activities in this field. Starting in the earliest stages of a project, we are focussed on the customer' s benefit, to provide him with solutions tailored just to what is suitable and actually needed, to assist in modification of existing systems, always keeping an eye on technically most feasible and economic soutions. Technical services are available for below area with our own technical team:

- Oil filled power cable system
- XLPE power cable system
- Submarin power cable system

Engineering

We can provide the engineering work of submarine cable system as following:

- Design and suggestion on cable construction to meet the under water environment
- Design and calculation on the current rating and conduct size.
- Calculation on the pulling force and mechanical stress on the cable during laying.
- Suggestion of cable supply length and joint position.

Installation

Hengtong has our own skilled team and appropriate installation equipment Our team has full ability to install high voltage cable systems, for both XLPE submarine cables and related accessories with various construction, and the monitoring system as well. We can provide the installation work as.

- Submarin cable laying and cable condiction monitoring before the cable finally positioning
- Submarin cable protecting and fixing with suitable drvices
- Installation of all cable accessories, include outdoor ter mination and repair joint when necessory.

Testing

Testing of cabes and accessories comprised routine and special tests performed in the factory as well as tests on site after completion of the installation.

2500-DWT #1 HENGTONG CABLE LAYING VESSEL IN SHALLOW WATER

Size: 65m×25m×4m
No-load Draught: 0.8m
Full-load Draught: 2.68m
Anchor Machine: 30t @ 5 sets
Cable Tank: 2 (static)
Size: OD13m; ID 6m; H4m
Operation Cable OD range: Φ20~Φ320mm
Crane: 30t
Capacity: 2500t
Cable Burial Equipment: Large-diameter submarine cable burial equipment, shallow water & deep-water burial equipment, and Plough.
Note: Capable of sitting on the beach operations

5,000 MT #5 HENGTONG CABLE CRANE AND LAYING VESSEL

Size: 89.15m×27.432m×5.49m
No-load Draught: 1.5m
Full-load Draught: 4.25m
Anchor Machine: 35t @ 6 sets
Anchor Machine (Traction): 52t @ 2set
Crane: 45t
Turntable: Od24m; Id6m; H6m
Capacity: 5000t
Cable burial equipment: Large-diameter submarine cable burial equipment, shallow water & deep-water burial equipment, and Plough.
Note: Capable of sitting on beach operations with cable diameter of Φ20~Φ320mm, and burial depth upto 4m.

WATER JETTING BACK FILLING MACHINE

Dimension (L x W x H): 5300mm*2700mm*4425mm
Operation Water Depth: 5-100m
Burial Depth: 3m
Trenching Depth: 3.5m
Trenching Width: 1500mm
Cable Operation ϕ: <300mm
Operation Speed: 50m/h
Excavated Soil Shear Strength: ⩽40kPa
Adapt to Seabed Geology: Clay, sand

CABLE BURYING MACHINE IN SHALLOW WATER

Burying Depth: 0.5-4m
Burying Speed: 0-20m/min
Water Depth of Burying: 2-50m

CABLE BURYING MACHINE IN DEEP WATER

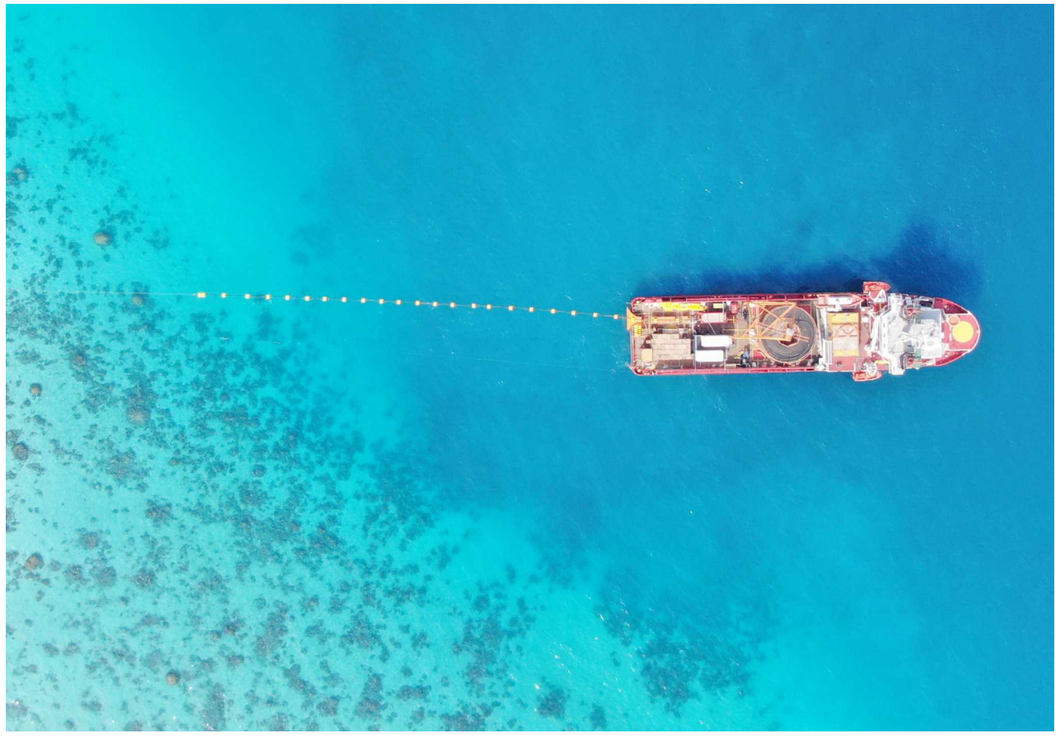
Burying Depth: 0.5-4m
Burying Speed: 0-20m/min
Water Depth of Burying: 5-200m

SELF-PROPELLED TRENCHING MACHINE -- SUITABLE FOR BEACH OPERATIONS

Model: HTHL-25/150
The Main Components Include: Walking device system, ditching device system, power hydraulic system, fairlead device, operating system, etc.
Dimensions (L x W x H): 12.1mX4.9mX7.1m
Trenching Depth: 2.5m
Trenching Width: 300mm
Max. Climbing Angle: >10 degrees
Ground Pressure: 18kpa
Max. Operating Speed: 0.6km/h

Submarine Cable System

RED SEA UTILITY ASSETS AND INFRASTRUCTURE PROJECT



2021

As main contractor, be responsible for the design, manufacture, transportation, installation and commissioning of the 33kV submarine interconnection system, in Red Sea, Saudi Arabia.

VIETNAM OFFSHORE WIND FARM EPC PROJECTS

On-going

As main contractor, be responsible for the supply, transportation and installation of 35kV submarine cable systems for offshore wind farm projects in Vietnam.

MALAYSIA OFFSHORE OIL PLATFORM PROJECT

2020

Supply of submarine composite cable & accessories; and the platform's terminal system integration works.

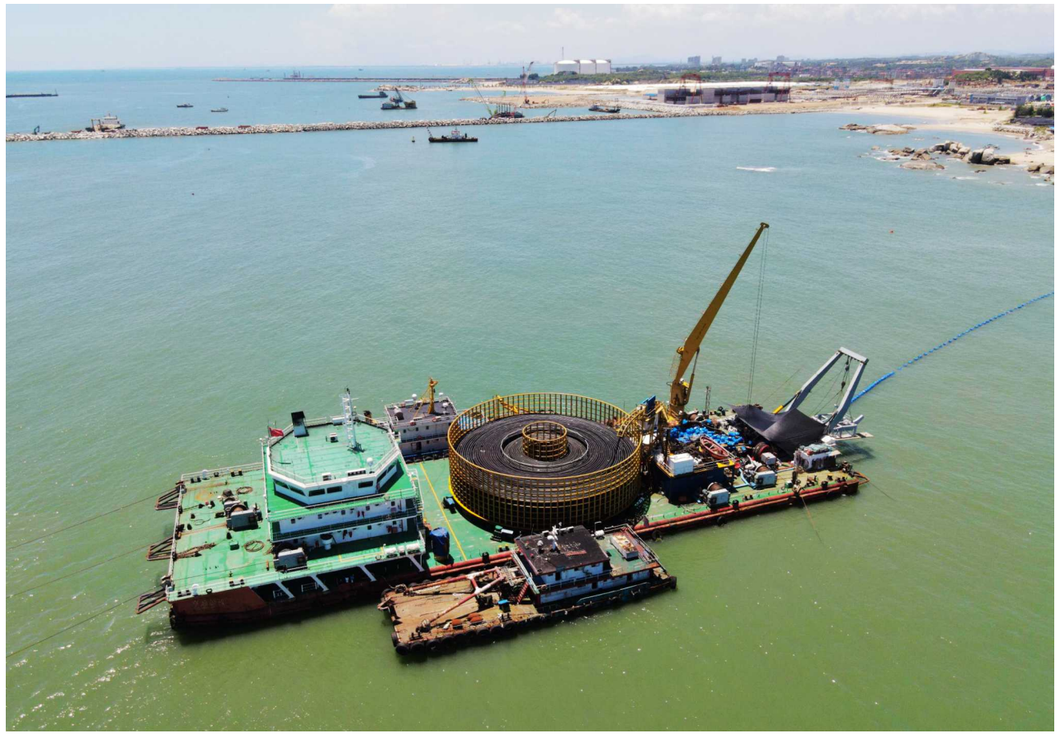
PORTUGAL WINDFLOAT EPCI & M PROJECT

2019

As main contractor, be responsible for the supply, transportation and installation of the 150kV submarine cable system, the onshore portion (HDD, substation construction, etc.) and the system maintenance works.

Submarine Cable System

JIEYANG SHENQUAN II 350MW OFFSHORE WIND FARM PROJECT



2022

As EPC contractor, be responsible for the design, manufacture, transportation and installation of the 66kV inter-array and 220kV export submarine cable system in China.

Submarine Cable System

FUYAO–THE FLOATING OFFSHORE WIND TURBINE

2021

Be responsible for the design, supply and installation works of the floating cable system for the floating offshore wind turbine ‘Fuyao’ in China.

POWER SUPPLY FOR OFFSHORE OIL PLATFORMS, CHINA

2020

As main contractor, manufacture, transport and install the high-voltage submarine power cable system for power supply to offshore oil platforms in North China.

SGCC ZHOUSHAN POWER TRANSMISSION PROJECT

2019

Supply of over 18km of AC 500 kV XLPE submarine cable (without joint) and accessories.

GLOBAL SERVICE NETWORK

International Representative Offices

Contact Information

info@hengtonggroup.com
subsea.cable@htgd.com.cn

Clean Energy Team
ibd-ne@htgd.com.cn

African Region
ibd-afr@htgd.com.cn

Asia-Pacific Region II
ibd-ap2@htgd.com.cn

Central Europe
ibd-ce@htgd.com.cn

South America
latam@htgd.com.cn

Asia-Pacific Region III
ibd-ap3@htgd.com.cn

Balkans of Eastern Europe
ibd-eeb@htgd.com.cn

Central & North America
ibd-nca@htgd.com.cn

Oceania
ibd-oceania@htgd.com.cn

CIS Region
ibd-cis@htgd.com.cn

The Middle East
ibd-me@htgd.com.cn

Central-North Europe
ibd-dbn@htgd.com.cn

Asia-Pacific Region I
ibd-ap1@htgd.com.cn

Oceania
Australia
New Zealand

Central & North America
Panama
Mexico
The United States

South America
Argentina
Brazil
Chile
Columbia
Peru

Africa
Egypt
Ghana
Kenya
Morocco
Nigeria
South Africa

Middle East
Saudi Arabia
United Arab Emirates

Asia Pacific
Bangladesh
Cambodia
India
Indonesia
Japan
Korea
Malaysia
Myanmar
Singapore
Sri Lanka
Thailand
The Philippines
Vietnam

Europe
France
Germany
Greece
Italy
Northern Europe
Poland
Spain
The Benelux Region
The United Kingdom
Türkiye
Ukraine

Domestic Representative Offices

Hengtong (Beijing) Representative Office
Room B1803, Digital Building, No. 2 Zhongguancun South Avenue, Haidian District, Beijing, China
Tel: 010-51626988
Fax: 010-51626998

Hengtong (Guangdong) Representative Office
Room 1402, Bldg A, Fengxing Plaza, No. 67, Tianhe East Road, Tianhe District, Guangzhou, Guangdong Province, China
Tel/Fax: 020-87599616

Hengtong (Zhejiang) Representative Office
Room 1002, Huayuan Development Building, No. 639, Jianguo North Road, Xiacheng District, Hangzhou, Zhejiang Province, China
Tel/Fax: 0571-85392807

Hengtong (Hunan) Representative Office
Rooms 2118 and 2119, Business Building, Dahua Hotel, Dongtang, No. 528, Laodong West Road, Yuhua District, Changsha, Hunan Province, China
Tel/Fax: 0731-89710847

Hengtong (Henan) Representative Office
Room 1909, Tower A, Guomao Building, Garden Road (Southwest of the intersection with Nongye Road), Jinshui District, Zhengzhou, Henan Province, China
Tel/Fax: 0371-65720119

Hengtong (Guizhou) Representative Office
Room 704, Bldg A, Quanlin International Plaza, No. 196, Fushui South Road, Nanming District, Guiyang, China

Hengtong (Liaoning) Representative Office
Room 66-B-10C, No. 225, Youth Street, Shenhe District, Shenyang, China
Tel/Fax: 0451-51444018

Hengtong (Luoyang) Representative Office
Room 5-2-701, Zhongfu Jinyuan Community, Qianjing South Road, Jianxi District, Luoyang, China

Hengtong (Shanghai) Representative Office
12/F, Bldg A, Far East International Plaza, No. 319, Xianxia Road, Shanghai, China
Tel: 021-32084666-8030
Tel: 021-32084666-8072

Hengtong (Shenzhen) Representative Office
Rooms A703 and A503, Ruijingge, Hongrui Garden Community; and Room 2B, Bldg B, Lantiange, Xililantian Garden Community, Shenzhen, China
Tel/Fax: 020-87599616

Hengtong (Jiangsu) Representative Office
Room 602, No. 8, Huju South Road, Nanjing, Jiangsu Province, China
Tel: 025-83464575
Fax: 0512-63800538

Hengtong (Hubei) Representative Office
Room 1-2-604, Taiyin Building, No. 1, Changning Community, Changqing Road, Jianghan District, Wuhan, Hubei Province, China
Tel/Fax: 027-82647420

Hengtong (Hebei) Representative Office
Room 1-A9, 1/F, Attached Bldg, Fortune Center, No. 86, Guang'an Street, Chang' an District, Shijiazhuang, Hebei Province, China
Tel/Fax: 0311-66159890

Hengtong (Yunnan) Representative Office
15/F, Tower C, No. 96, Beijing Road, Kunming, China
Tel/Fax: 0871-65640310

Hengtong (Heilongjiang) Representative Office
Room 1-1-510, No. 146, Dongdazhi Street, Nangang District, Harbin, China
Tel/Fax: 0451-51444018

Hengtong (Tianjin) Representative Office
Room 609, Bldg 3, Yitian Garden Community (West of the intersection of Baotou Avenue and Xizang Road), Nanmenwai Street, Heping District, Tianjin, China
Tel/Fax: 022-23450605

Hengtong (Fujian) Representative Office
Room 2203, Lippo Tianma Plaza, No. 1, Wuyi North Road, Gulou District, Fuzhou, China
Tel/Fax: 0591-83314244

Hengtong (Jiangxi) Representative Office
Room 1508, Nanbin International Financial Building, Nanchang, Jiangxi Province, China
Tel/Fax: 0791-86255821

Hengtong (Shandong) Representative Office
Room 910, Bldg A, Wanda Plaza, Jingsi Road, Shizhong District, Ji'nan, Shandong Province, China
Tel: 0531-81766682
Fax: 0531-81766683

Hengtong (Shaanxi) Representative Office
Room 12507, Bldg 13-1 (2507, Langchen Building), Gaoxin 4th Road, High-tech Zone, Xi'an, China
Tel/Fax: 029-88339411

Hengtong (Gansu) Representative Office
Room 1303, 13/F, Bldg C, Century Plaza, No. 352, Qingyang Road, Chengguan District, Lanzhou, China
Tel/Fax: 0931-8824359

Hengtong (Jilin) Representative Office
Room 1401, Bldg C46, Changchunmingzhu Community, No. 8668, Renmin Street, Nanguan District, Changchun, China
Tel/Fax: 020-87599616

Hengtong (Chongqing) Representative Office
Room 7-2, No. 1, Fortune Avenue, Yubei District, Chongqing, China
Tel/Fax: 023-68691819

Hengtong (Guangxi) Representative Office
Room 906, Tower E, Huidong International Building, Jinpu Road, Qingxiu District, Nanning, Guangxi, China
Tel/Fax: 0771-5717234

Hengtong (Anhui) Representative Office
Rooms 2527, 2528 and 2529, East Community, Impression West Lake Garden, Wangjiang West Road, Shushan District, Hefei, China
Tel/Fax: 0551-65622957

Hengtong (Shanxi) Representative Office
No. 2 Jiefang South Road, Yingze District, Taiyuan, Shanxi Province, China
Tel/Fax: 0351-4605240

Hengtong (Sichuan) Representative Office
Times 8 (No. 2, Bldg 33), No. 68, Zhiquanduan, East Street, Jinjiang District, Chengdu, Sichuan Province, China
Tel/Fax: 028-84455529

Hengtong (Xinjiang) Representative Office
Room H, 14/F, Tower B, Times Square, No. 30, Guangming Road, Tianshan District, Urumqi, Xinjiang, China
Tel/Fax: 0991-4529183

Hengtong (Inner Mongolia) Representative Office
Room 1051-16, 5/F, Changxing Building, Daxue West Street, Saihan District, Hohhot, Inner Mongolia, China
Tel/Fax: 0471-3396565