



通光集团  
T G G

*TGG Cables*  
*Global Cable Solution Provider*

MEETING GLOBAL NEEDS **WITH QUALIFIED CABLES**



Founded in 1991



TGG listed in Shenzhen Stock Exchange in  
SEP. 2011, CODE 300265



Total assets over 5 billion



> 80 Oversea markets



>1700 Employees



9 Production bases



15 Subsidiaries



# Five Industries





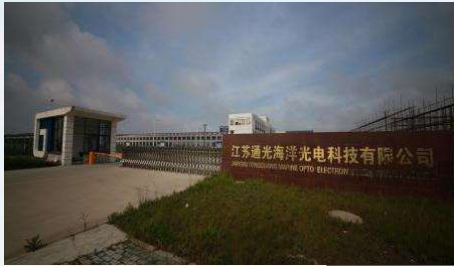
Sutong Bridge, Chongqi Bridge, Yangtze River (Haimen to Taicang) Steam Ferry and the Shanghai-Nantong Railway, Nantong New Airport and the North-Riverside High-speed Railway are under construction, which make Haimen District of Nantong become the northern portal city of Shanghai and integrate into the half-hour metropolitan economic circle of Shanghai.



We sales all over China



Have 32 regional offices



Submarine Cable



Power Optical Cable



Telecom Optical Cable



Equipment Cable



Aerial Conductor



Power Cable



Optical Fiber

Shaanxi  
Production Base



Jiangsu  
Production Base



Shanghai R&D  
Center

Sichuan  
Production Base





 | 20 overseas offices ● | Sale to 80 countries



Speed-up

- 2018, TG-A Indian Plant and production; Construction ship for sub sea cable launched.
- 2017, Set up CSIC; holding DOROU Cable Co.,Ltd
- 2016, Merger and acquisition, holding, purchases ChangLong electrical engeering Co.,Ltd, TG communication Co.,Ltd、 Xi'an Gold Wave Technology Co., Ltd.
- 2015, Expansion and relocation the factory, Subsea cable&cable transport deep sea dock
- 2013, set up loan&credit company, get into financial industry
- 2012, AA cable project implementation; Set up Sichuan Tongguang company.
- 2011, TGG listed in Shenzhen Stock Exchange

Development

- 2010, set up Jiangsu Sterlite-TG Fiber Optic Co.,Ltd
- 2008, Joint-stock reform
- 2007,Start to built TG industrial Park,  
set up Jiangsu Tongguang Optical Fiber Cable Co.,Ltd  
Set up Jiangsu Tongguang Transmission Line Co.,Ltd, Get into Transmission conductor field.
- 2005, indoor optical cable mass production.
- 2003, reform and rename as Tongguang Group Co.,Ltd  
set up Jiangsu Tongguang Communication Co.,Ltd  
Start to built TG Subsea Cable Base, commercial operation.  
TG Electronic wire&cable get into the national defense field.
- 2000,set up Jiangsu Electronic wire&cable Co.,Ltd, get into equipment cable industry

Start-Up

- 1998, ADSS Mass Production
- 1997, Accessories for production.
- 1995, Set up Jiangsu Tongguang Group Company.
- 1992,Set up Haimen Optical Cable Factory, get into optical fiber&cable industry
- 1991, Set up Haimen Aluminium Foil Composite factory



**Shaped conductor  
innovation tech forum**



**OPPC optical cable tech seminar**



**QC group achievement  
competition**



**Submarine cable tech  
presentation**



**AA Cable tech promotion**



**1000m<sup>2</sup> large cross-section  
conductor experimental scene**

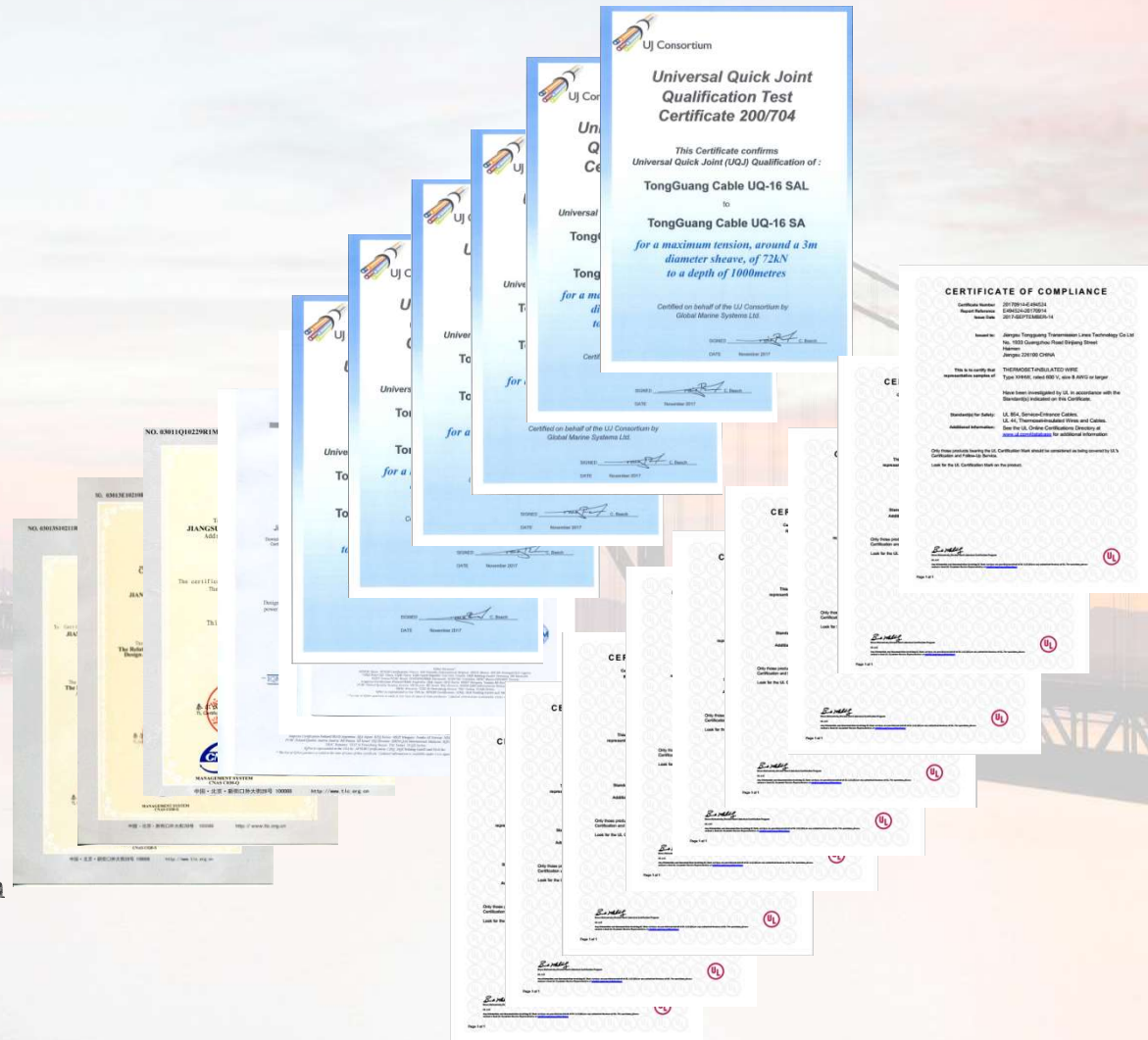
Innovation- **OUR Core Competence**

# International Standards & Management System

- IEC, ASTM, BS, IEEE, EIA/TIA, GB, ITU, UL44, UQJ and other standards.



- ISO14001, Environmental Management System Certificate
- OHSAS 18001, Occupational Health Safety Management System Certification
- ISO9001, Quality management system certificate
- UL44, UL854
- UQJ, UJ







□ We participated the drafting process of over 40 Chinese national standards & 5 items of international standards

## Cooperation Partner

### Cooperation-----Testing Agencies



中国电力科学研究所



中国电子科技集团公司



上海电缆研究所  
Shanghai Electric Cable Research Institute



中国科学院沈阳自动化研究所  
SHENYANG INSTITUTE OF AUTOMATION CHINESE ACADEMY OF SCIENCES



Underwriters Laboratories Inc.



Global Marine Systems Limited

## Cooperation Partner

### Cooperation----Universities



Cooperation-----Grid Companies



पावरग्रिड  
Power Grid  
Corporation of India



EVNNPT-NPMB



Polskie Sieci  
Elektroenergetyczne



PT Perusahaan  
Listrik Negara (PLN)



中国南方电网  
CHINA SOUTHERN POWER GRID



Power for Thai Happiness



TANZANIA ELECTRIC SUPPLY  
COMPANY LIMITED



BRIDGING POWER & PROGRESS



Zambia Electricity  
Supply Corporation  
Limited



Better. Brighter.



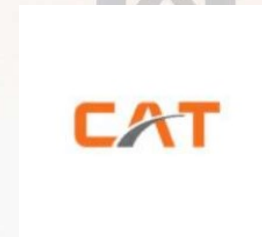
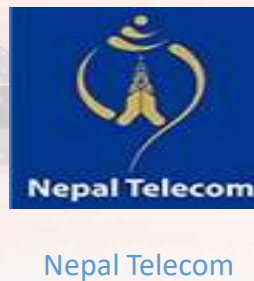
Your Light, Our Pride



Botswana Power  
Corporation



Cooperation-----Telecom Companies



Cooperation-----General Contract Companies



中船重工

China Shipbuilding Industry Corporation



中国葛洲坝集团



中电工程



中国电建



CMEC



上海电气

SHANGHAI ELECTRIC



KALPA-TARU



NCC



TATA PROJECTS  
Simplify.Create

SRI U-THONG

บริษัท ศรีอุทอง จำกัด  
Est. 1968



L&T



OIA



KEC  
KEC INTERNATIONAL LIMITED



PRECISE

Precise Corporation Co., Ltd.



POWER LINE ENGINEERING PUBLIC COMPANY LIMITED

บริษัท เพาเวอร์ไลน์ เอ็นจิเนียริง จำกัด (มหาชน)

■ Cooperation-----aerospace corporations



China North Industries Group Corporation



Aviation Industry Corporation of China



China Electronics Technology Group Corporation



中国航天科工集团  
China Aerospace Science & Industry Corp



中国航天

China Aerospace Science and Technology Corporation

Cooperation---Infrastructure Companies

 雨润集团 YURUN GROUP	 BAOSTEEL 宝钢集团	 绿地集团 Greenland Group	 CHINA TOWER 中国铁塔
 大唐集团公司 CHINA DATANG	 中南集团·中南建设 ZHONGNAN GROUP · ZHONGNAN CONSTRUCTION		 保利®地产
	 CNE CONCORD NEW ENERGY		

## TGG Plants



## Advanced Equipments



Canadian Interlocking Armoring



Germany SKET Stranding machine



OPGW SUS Production Line



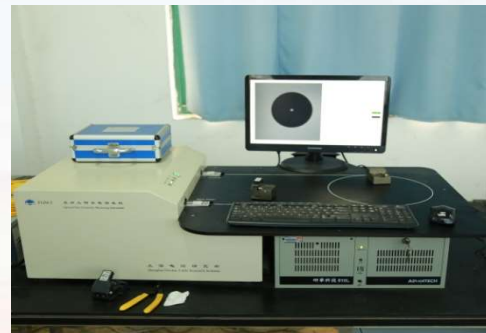
High-speed Ribbon Fiber Machine

## Testing Equipments

PK8000 Optical Time Domain  
Reflectometer (OTDR)



Optical Fiber Geometry Measuring  
Instrument



Brillouin - Optical Time Domain  
Reflectometer (B-OTDR)



Temperature Cycling Tester



CD500 Chromatic Dispersion  
Measurement System



Horizontal Tensile Testers  
(15T / 30T/ 60T/ 100T)



- Perfect test equipments
- Factory test report provided
- Strict test procedures and acceptance criteria



OPGW/OPPC

Conductors  
for HV T&D

Fittings for Overhead  
Transmission Line

Aluminum  
Alloy Cable



- Annual Capacity 60,000km
- Largest Span 2756 m
- Highest Voltage 1000kV, ±800kV
- Structures Stainless Steel Tube, Al-covered Stainless Steel Tube, Aluminum Tube, Stainless Steel Tube OPGW with Compressed Wires



Successful delivery all over the world ■ **>400,000km**

■ Total Supply

**>400,000km** OPGW

**>20,000km** OPPC

We are the NO.1 supplier in China

■ Participated the design & construction of more than 165 key projects

### OPGW/OPPC



Construction Site



ADVANTAGE

Key projects of China Power Grid, Southern Power Grid

Chinese First large cross-section OPPC project of "Gujiao-Jiangwan Transmissiin"

The first continuous big span OPGW transmission line all over the world :Zhujiajian-Liuheng"

Big Span of Yangtze River.

Shenzhou VI Spacecraft"launching base(Yagan Inno-Mongolia- Ejin Banner)

Assist national construction  
To be international leading company

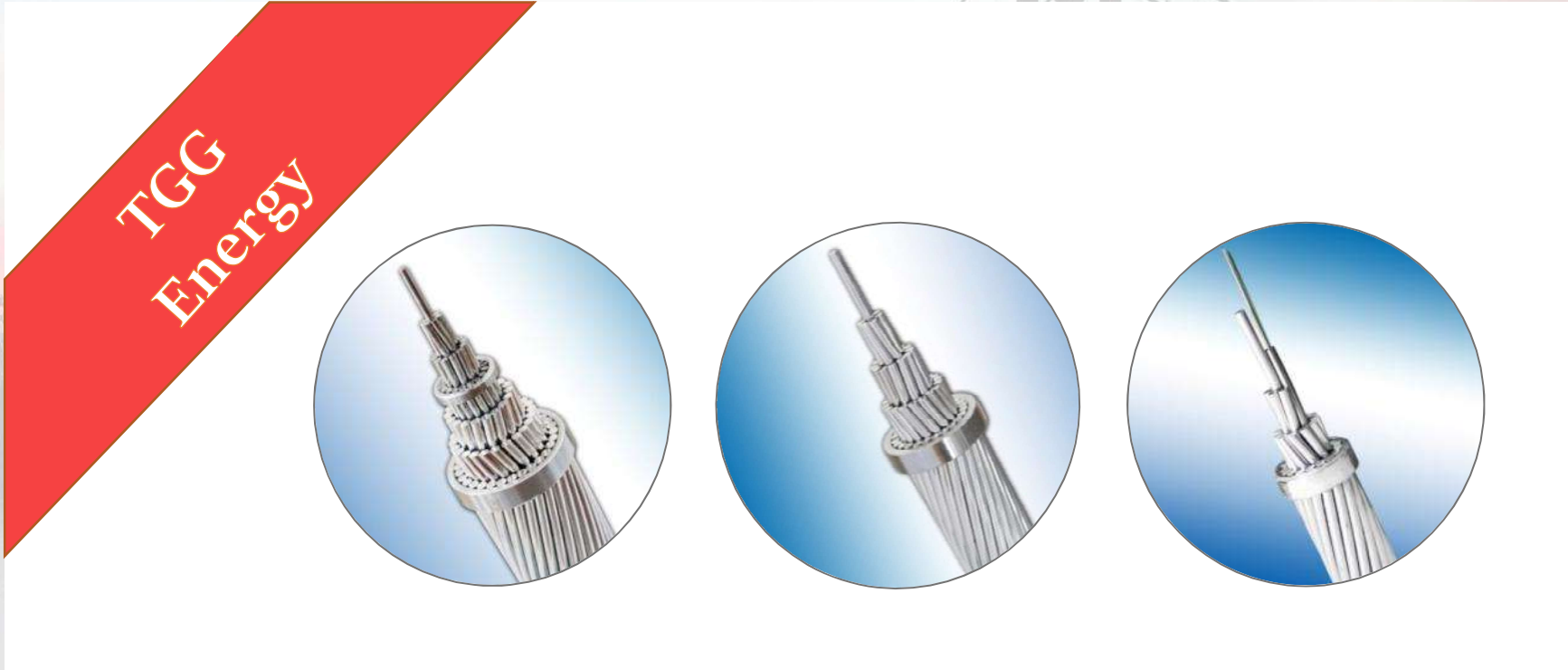


OPGW/OPPC

**Conductors  
for HV T&D**

Fittings for Overhead  
Transmission Line

Aluminum  
Alloy Cable



Annual production capacity is 150,000Ton

#### Conventional Conductors

- AAC, ACSR, ACAR, TACSR
- AAAC, AACSR
- ACS

#### Up-rating Conductors

- ACSS ACSS/TW
- Gap Type Conductor



ADVANTAGE

Our large cross-section, energy saving and capacity increasing, energy saving and capacity expanding, anti-ice&snow, anti-corrosion overhead transmission line has been used in MANY key projects of CHINA'S national power grid and southern power grid. Our products has been exported overseas in large numbers.



# Typical Conductor Projects



Jinping - S.Jiangsu line  
( $\pm 800\text{KV}, 900\text{mm}^2$ )



North Shanxi - Nanjing line  
( $\pm 800\text{KV}, 630\text{mm}^2$ )



Jingbei - Nanjing line  
( $\pm 800\text{KV}, 1000\text{mm}^2$ )



Changji - Guquan line  
( $\pm 1100\text{KV}, 1250\text{mm}^2$ )



SGCC Qin-Wang Line  
( $\pm 500\text{KV}, 400\text{mm}^2$ )



SGCC Ling-Shao Line  
( $\pm 800\text{KV}, 800\text{mm}^2$ )



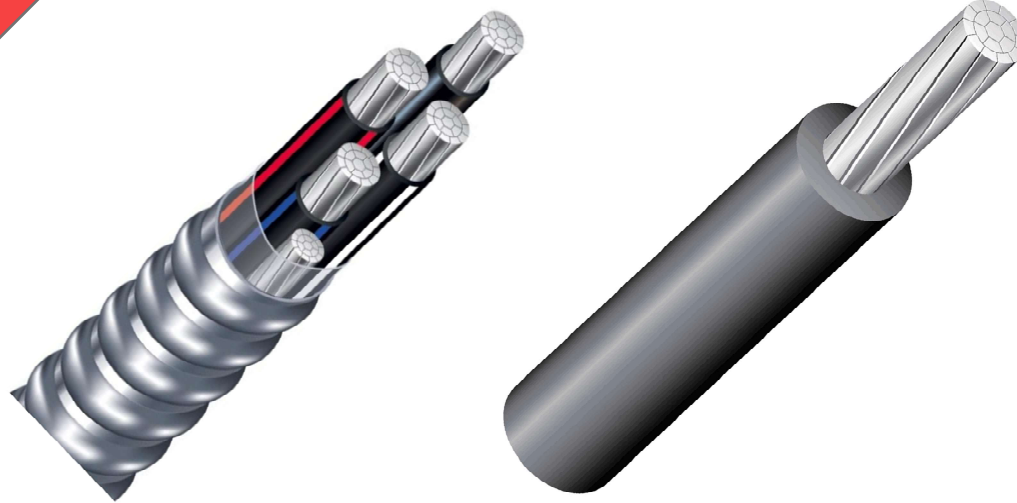
OPGW/OPPC

Conductors  
for HV T&D

Fittings for Overhead  
Transmission Line

**Aluminum  
Alloy Cable**

**Aluminum  
Alloy Cable**



Main products:

MV AA cable、 LV AA cable、 MV&LV AA composite cable



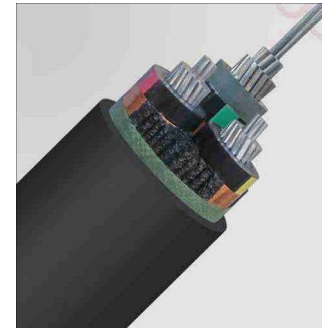
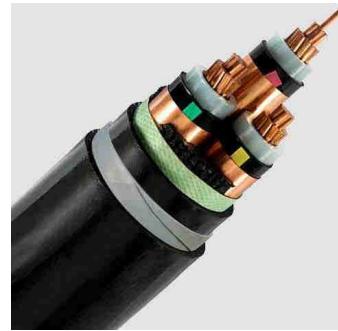
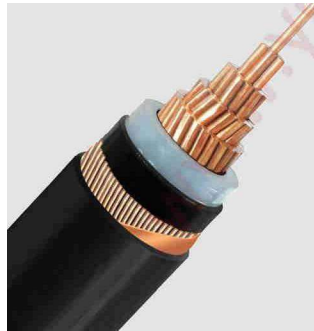
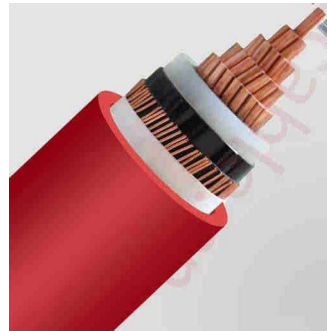
OPGW/OPPC

Conductors  
for HV T&D

Fittings for Overhead  
Transmission Line

**Power  
Cable**

**POWER CABLE**



- Excellent electrical conductivity, connectivity, corrosion resistance, creep resistance.
- Excellent user experience
- Various third-party testing reports, including the CEC identification report and the Ministry of Housing and Urban construction of scientific and technological achievements assessment report can be provided
- High-technology equipments imported from Europe and US, Such as the interlocking armoring machine from Canada, Roller pressure forming machine from US, And Pike Si spectroscopy machine from Germany.



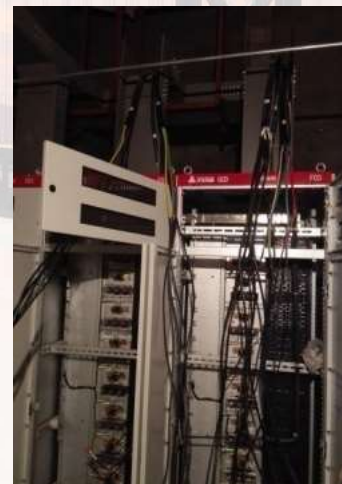
ADVANTAGE

## Product Applications

□ **Municipal engineering/public facilities:** Lianyungang port project. Nanjing street light projects optical solution provider

□ **Large companies/groups:** Baosteel Group, China Iron Tower, Lu'an Heavy Industries, Yurun Group optical solution provider

□ **Construction/Real Estate:** Greenland, poly real estate group, zhongnan group, Beijing wonderful square, Garrett treasure square, Jinan green central plaza optical solution provider







**Optical Fiber**

Fiber Optical  
Cable

ADSS/MASS

Accessories

FTTx

**TG  
Telecom**



**ADVANTAGE**

**Classification**

- G. 652
- G. 655
- G. 657

- We are the pioneer of optical cable manufacturer in China
- Top 10 most competitive enterprise in China
- Long-term cooperator with CMCC, UNICOM and China Telecom
- Annual capacity **15,000,000** core km



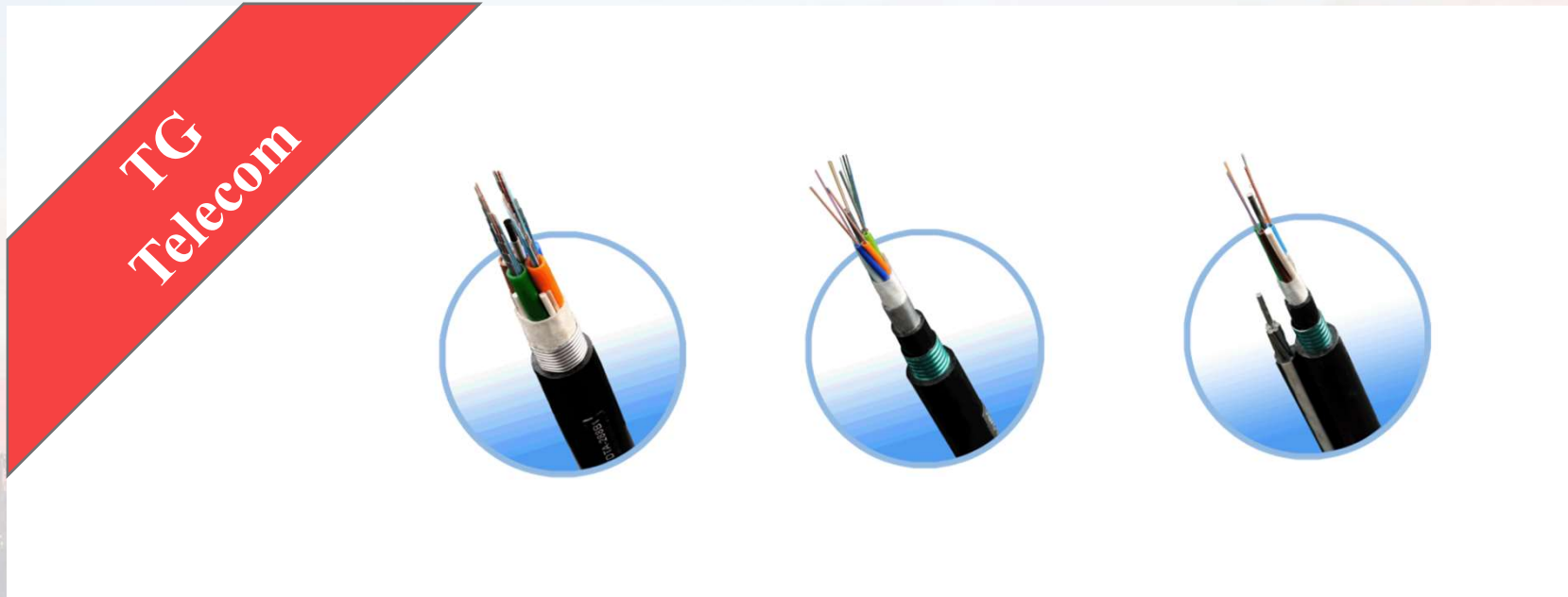
Optical Fiber

**Fiber Optical  
Cable**

ADSS/MASS

Accessories

FTTx



**ADVANTAGE**



### Classification

- Duct
- Buried
- Aerial
- Micro
- Underwater
- Ribbon



Optical Fiber  
Fiber Optical  
Cable

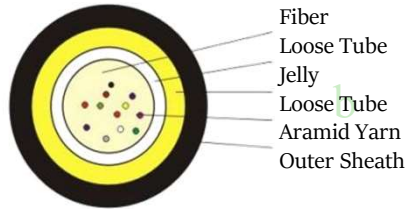
**ADSS/MASS**

Accessories

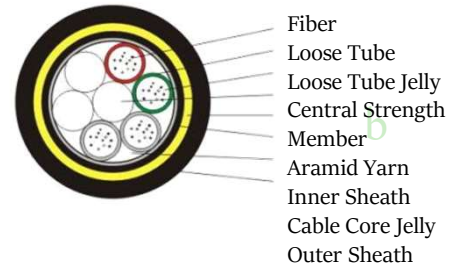
FTTx



**Central Tube Design**



**Stranding Tube Design**



□ Past 20 years, Total supply **>550,000km** ADSS

Leading Technology

□ Strategic partner of DuPont, USA

Pioneer of Production

□ Start from 1990's

Maximum Aeolian Vibration □  $10^8$  Times

Maximum Galloping □  $10^5$  Times

Maximum Salt-Spray time □ 1000 Hours



ADVANTAGE





GYTS cables supplied for The Beijing Olympic Games by us.



China Telecom, CMCC, Unicom trunk projects

International Operator's Project

Beijing Municipal Public Security telecom project,  
network CATV projects

CNPC

Dagang Petrochemical-Jinan-Zaozhuang petrol  
projects

CCTV transmitting key projects



Optical Fiber

Fiber Optical  
Cable

ADSS  
/MASS

**Accessories**

FTTx



Joint/Terminal Boxes for  
OPGW/ADSS



Joint Boxes for Submarine Cable



**ADVANTAGE**

Other Accessories





OPGW/OPPC

Conductors  
for HV T&D

Fittings for Overhead  
Transmission Line

Aluminum  
Alloy Cable



Helical Formed Fittings for  OPGW  ADSS  OPPC



**ADVANTAGE**

Fittings for Overhead Conductor

- ACSR, AAC
- In AAAC
- Invar core, Gap type
- GSW / AS Wire

Fittings for Substation

- For Cable to Switchgear
- For air break switch
- For bus-bar...

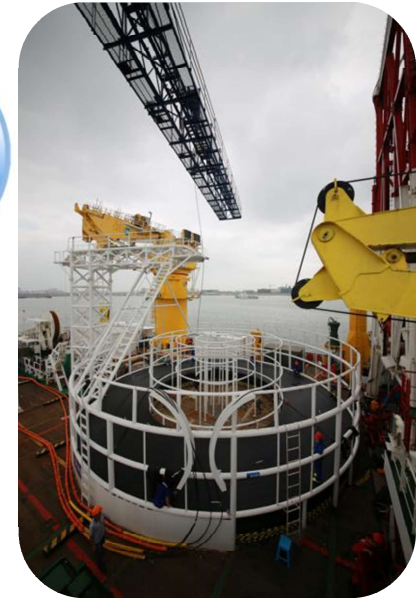


Submarine Cable  
Accessories

**Submarine Cable**

Submarine Power  
Composite Cable

**Submarine  
Equipments**



**ADVANTAGE**

Annual Capacity

3000km

Products

DA,SA,LW,LWP, SOFC





Submarine Cable

**Submarine Cable  
Accessories**

Submarine Power  
Composite Cable

**Submarine  
Equipments**



1

Submarine Cable Connector Box



2

Submarine cable Connector Box



3

Submarine Cable Splitter



**ADVANTAGE**

TG Submarine Cable Co., Ltd. is a professional manufacturer of submarine cables in China.



Submarine Cable  
Accessories

Submarine Optical  
Fiber Cable

**Submarine Equipments**

**Submarine  
Equipments**



**ADVANTAGE**

Pioneer in Submarine Cable Supply

Annual Capacity China

800km

Scope of Supply

Submarine Power Cable

Submarine Optical Fiber Composite Power Cable

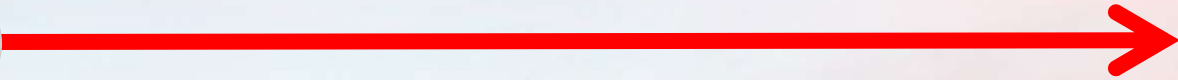
## Completed Projects:

- ❑ China's first longest deep-sea cable 100km; 360km repeatless submarine cable;
- ❑ 800km submarine cable with repeater, maximum working depth of 5000 meters.
- ❑ Deep sea cable operation and maintenance.
- ❑ National Power Grid( Zhujiajian-Dengbu & Taohua-Xiazhi. two complicated special subsea Project)
- ❑ We have supplied a large quantity of submarine cables with up to 96 fibers(Eastsea 84fibers, Fujian 96fibers).
- ❑ China Unicom Liaoning Branch(Pikou Dalian-Changhai submarine cable project)
- ❑ China telecom Fuqing-Pingtang submarine cable project.
- ❑ Gulangyu-Songyu submarine cable telecommunication project.
- ❑ Submarine cable for Mexico OMM TELMEX Project
- ❑ Submarine Optical fiber cable for South Chile of FOA Project





CSSC 6 cable laying Ship is a multi-functional offshore cable engineering ship, which can complete a series of tasks such as cable construction ,cable maintenance and so on. The ship has a length of 73m, a width of 22m and a design draft of 2.5m, its maximum loading capacity is 1500T, and its average speed is 8.5 knots. It is equipped with DP2 dynamic positioning system and 1007kw\*2 power of the main engine of the full rotary fixed pitch propeller. What's more, It is also equipped with the international advanced and domestic leading special equipment for Marine cable construction,, including linear cable laying machine system, drum wheel cable laying machine system and water jet laying machine system, with a suitable depth of 5m.



Equipment cable

Equipment  
Cable



Main  
Products:

High temperature resistance cable, RF Coaxial cable,  
Special cable for aerospace



ADVANTAGE

- The first semi-soft RF coaxial cable for mobile base station in China
- Our aerospace cables has replaced some foreign alternative products



Our Composite Insulated wire&cable, low loss cable, phase-compensated cable has been used in many key military projects.

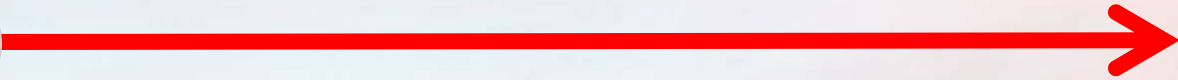


Our High temperature resistance cable for aerospace has been used in long March rocket series and Tiangong series spacecrafts.

## Our products:

- Has been used in Shenzhou Spacecraft series and Tiangong series spacecraft Successfully.
- Has been used in the optical communication between the Shenzhou spacecraft launch pad and the aerospace control center.





Flexible Cable



- Over the years, TGG has accumulated a through KNOW-HOW of traveling cable.
- Experienced in the material selection and structural design.
- Accumulated more than 50,000 application experiences, laboratory tests & design data.
- We can provide customized products to meet the needs of our customers, the quality of our products are better than our international competitors.



Main  
Products

Distributed photovoltaic



Household energy storage system

**Intelligent microgrid of multi-energy complementary:**

Combined distributed energy and storage technology , make the 'generation-storage-use' integration intelligent microgrid system,highly improved energy efficiency for customers.

**Distributed photovoltaic:**

Based on roof resources, constructing the distributed photovoltaic system on the roofs of the factories and houses,to help customers saving energy and reduction emission, thus reduce the cost of power.

**Distributed wind power:**

Constructing the wind power system on the open space to convert wind energy into electricity ,and help customers to achieve energy-saving goals.

**Energy storage system:**

Including the energy and material input and output, energy conversion and storage equipments. Energy storage systems often involve variety of energy, multiple devices, multiple substances, multiple processes.

## 15MW Distributed Photovoltaic Project

On Jurong logistics park:  
Government paid the one time subsidy 20Yuan/m<sup>2</sup> .



## 5MW Wind Farm

On the Tongzhou bay  
Tongzhou bay is close to The Yellow sea use 0.5MW direct-driven wind generator to generate wind power , with 500KWMPPT grid connected inverter; rated power generation is 500KWH per hour.



## 20MW Wind Farm

In Inner Mongolia  
This site belongs to flatland、foothill. The project has a 20MW capacity generation and 20 sets single 1MW wind power generators .



## 10000KW.h Energy Storage System

on Tonghai harbor. it covers an area of 300m<sup>2</sup>, annual production capacity is approximate 450 million KW.h.



## Agricultural Energy Storage System

on Shandong Weifang, power output is 2KW~4KW.



## Power Supply Project

for Jiangsu Dongzhao harbor area  
10000KW.h energy storage system for lighting at night,  
charging for fishing vessel and residential use





通光集团  
T G G

THANK YOU

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Create world famous brand,  
Make hundred years TGG !