Power Cable & Technology

More Efficiently & More Wisely
Contributing to the Creation of Electric Power Infrastructure Worldwide

Furukawa Electric Group manufactures a comprehensive array of electric wires and cables to meet diverse market needs, including applications ranging from ultra-high voltage cables to low-voltage cables, as well as demands for power transmission and power distribution. The Group has earned an excellent reputation in Japan and across the world for its outstanding quality.

As demand for electric power increases, we are supporting the foundations of society and industry with our extensive technologies for reliable electric power transmission.
### Power Infrastructure Worldwide

#### Business topics

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1884</td>
<td>Opens Honjo Copper Smeltery and Yamada Cable Works</td>
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<td>1920</td>
<td>Supplies the former Japan Electric Power Co. with Japan’s first ACSR</td>
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<td>1969</td>
<td>Supplies Chugoku Electric Power Co. with Japan’s largest submarine cable (jointless, 3,000 m, transmission capacity: 50,000 kVA, 110 kV, 3-core OF cable), used on Chigiri Island</td>
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<td>1974</td>
<td>Establishes Furukawa Industrial S.A. Produtos Eletricos (FISA)</td>
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<td>1974</td>
<td>Becomes the world’s first company to commercialize optical fiber cables</td>
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<td>1978</td>
<td>Supplies Electric Power Development Co. with Japan’s first long-distance DC OF submarine cable, used for DC interconnection system between Hokkaido and Honshu</td>
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<td>1997</td>
<td>Operations commence at a company manufacturing high-voltage XLPE power cable in China Shenyang Furukawa Cable Company Ltd. (SFC)</td>
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<td>1998</td>
<td>Supplies superconductive wire materials to CERN’S Large Hadron Collider project</td>
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<td>2001</td>
<td>Takes over the optical fiber solution business of Lucent Technologies</td>
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<td>2002</td>
<td>Establishes an affiliate specializing in optical fiber composite overhead ground wire (OPGW) in Jiangsu, China Suzhou Furukawa Power Optic Cable Co., Ltd. (SFPOC)</td>
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<td>2005</td>
<td>Completes field tests of the world’s longest, 500 m high-temperature superconductive power cable</td>
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<td>2010</td>
<td>Furukawa Electric Industrial Cable establishes industrial rubber cable joint venture in China Huatong Furukawa (Tangshan) Cable Co., Ltd. (HFC)</td>
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The needs that electric power companies have with respect to overhead power transmission lines change year by year, creating requirements for new products with added functions such as superior reliability and eco-friendly performance. Furukawa Electric Group offers an extensive lineup of power transmission cables and accessories that respond to these needs.

Optical ground wire (OPGW)
A cable that combines an optical ground wire with a high-capacity communication wire.

Thermo-resistant aluminum alloy wire

Aluminum cable steel reinforced (ACSR) transmission wire

Phase-to-phase spacer

Loose spacer damper

Surge-resistant (SR) arcing horn

Globalization prevails throughout the world, and the transmission line business is no exception. Submarine cables are needed for long-distance power transmission from regions or countries where electric power is generated efficiently at low cost to other regions or countries where there is demand for electric power. The cables are also used for power transmission to isolated islands where obsolete power generating facilities are used, or in flexible electric power accommodation programs between cooperating countries. Recently, submarine cables have found application in the transmission of electric power generated in offshore wind power stations, which is drawing attention as a form of recyclable energy. Furukawa Electric Group supplies submarine cables to countries around the world, helping them to develop their electric power transmission capacity.
Underground transmission lines

Furukawa Electric Group has been contributing to the development of underground power transmission networks in the world. The company played an important role in the world’s first 500 kV transmission project, and its technical capabilities have earned high marks from in Japan and overseas.

Distribution wire & cable

Focusing on the supply of overhead power distribution lines and underground power distribution cables, Furukawa Electric Group is contributing to the construction of power distribution networks for the reliable supply of electricity to demand centers. We manufacture and deliver a broad range of power distribution cables tailored to different installation conditions, satisfying the diverse needs of our customers.
Cablite cables for power supply and the control of heavy machinery must feature high reliability and the ability to withstand severe mechanical loading. Furukawa Electric Group has been supplying these cables for 30 years, since it developed and found practical application for cablire cable TraCab. We have been particularly successful in pioneering the use of a fiber-optic composite cablire cable.

Furukawa Electric Group offers a range of products for the construction of railroad infrastructure. As well as electric wires, our lineup includes a broad array of railroad products such as cable troughs and rail bonds.

**Industrial cables**

For Industrial Machinery & Transportation

**Railroad products**

Furukawa Electric Group offers a range of products for the construction of railroad infrastructure. As well as electric wires, our lineup includes a broad array of railroad products such as cable troughs and rail bonds.

**GREEN TROUGH**
A cable trough using recycled plastics, weighing only a quarter than of concrete trough and featuring superior ease of installation.

**Optical fiber composite cablire cables**

**Cablire cables for cargo cranes**

**Cablire cables for mine excavation**

**Various railroad cables**

**Electric wires for railroad cars**

**Coupling cable**

**Copper exothermic welding bond**
Furukawa Electric Group provides a wide variety of solutions such as trunk line cables (e.g., power trunk line and communication trunk line), equipment (e.g., power and communication), superconductive application products and storage to create a smart grid.

Products and technologies that the Furukawa Electric Group can offer for energy and smart grid

Mega Solar (solar power generation) - Information on electricity supply is transmitted
Cables and Eco Wires for solar power generation
Environmentally friendly conduit products
Wind power generation
To stabilize the electricity supply
Batteries for power storage - Storage of excess electricity generated by wind power and other means - Electricity is discharged to meet demand
Superconductive power cables - Power transmission lines for configuring a smart grid - Loss is eliminated by utilizing superconductivity
Superconductive fault current limiters - Preventing the spread of accident conditions, short-circuit current control in systems
Power electronics devices
To reduce power transmission losses
Overhead power transmission lines
Power cables
Storage power sources
Concentrated power sources
Houses
Factories
Offices
Electric vehicles
Solar power generation in households and buildings - Selling excess electricity - Transmitting demand information
Thermal power generation - Controlled to meet demand - Covers deficiency in new energy

Other products

Furukawa Electric Group also develops many other products to meet customer needs, including environmentally friendly wires and jointing materials.

ECO electric wires
These cables use a sheathing material that contains no environmentally harmful materials. The cables contain no halogens and so are RoHS compliant.

Jointing materials
This is a jointing kit of the resin injection type, enabling quick and simple jointing work.

F-TouchCover
This kit enables simple and reliable insulation/protection work, using no tapes, for the joints and branches of low-voltage electric wires.

Tapes for electrical applications
Every type of Furukawa Electric tape is a high-quality tape manufactured utilizing the long years of electric insulation technology.

Corrosion prevention materials
WRAPCO Tube is a heat-shrinkable cross-linked polyethylene tube coated with a special adhesive having a high anti-corrosive effect.
Other relevant products

**Underground cable protecting pipes**

Corrugated hard polyethylene pipe for labor and cost savings in underground cable installation.

**Storage and batteries**

Valve regulated lead acid batteries made with advanced manufacturing technology offer long life, superior performance and easy maintenance.

**High-efficiency optical reflective sheet**

With superior light reflectivity exceeding 99% in total reflectivity, this sheet reduces the number of fluorescent lamps and enhances illuminance.

**TV camera cable system**

Optical Fiber composite cables for high-definition TV systems developed by Furukawa Electric enjoy a strong reputation for their quality, and are used internationally in major events such as the Olympic Games and the FIFA World Cup.