Telecommunications

Furukawa Electric supports the next-generation high-capacity, high-speed communication networks essential for a broadband society, with cutting-edge technologies mainly for optical communications.

Optical fiber cables

Optical fiber cables support high-capacity communications. Our Group has a proven global track record in this field.

GE-PON FTTH systems

These represent a solution for relaying the GE-PON system with the transmission distance limit of 20 km to enable longer-distance transmission.

Communication terminals

(with wireless LAN function)

Provide a wireless Internet environment for tablets, PCs, and other devices, over a communication terminal connected to GE-PON Center equipment.

Variable wavelength laser modules

Provide optical parts that are important for optical digital coherent communication equipment that dramatically increases communication volume.

Optical fiber fusion splicers

These allow users to speedily splice optical fibers with high precision via simple operations. They serve a wide spectrum of areas including research, development and installation.

Optical fiber line monitoring system

This system contributes to the immediate detection of defects in optical communication networks and to early recovery when accidents occur aimed at making optical facility maintenance and management work, optical line design and communication circuit design more efficient.

Industrial lasers

We offer a wide range of laser products, from medium-high-power single mode industrial lasers to Kw-class industrial lasers.

Closures

Feature compact shapes and allow for the connection of multicore cables.

Cross linked polyethylene insulated power cables

Incorporating polyethylene material technologies, these cables are used for trunk lines underground and in buildings.

Submarine power cables

Submarine cables are used to provide power from onshore power generation facilities to remote islands and other similar locations, and to transmit power generated by offshore wind power generation facilities, which are gaining attention as sources of renewable energy.

EM-LMFC, halogen free, flame retardant, flexible, cross-linked polyethylene insulated wire

This is environmentally-friendly eco-insulated wire with outstanding flexibility and thermal resistance. It is used widely in various electrical equipment, including internal wiring in panels.

High-performance low-voltage aluminum conductor cable “Rakuraku Cable”

These cables use a conductor made of aluminum whose specific gravity is smaller than that of copper, along with an independently developed insulating material. Lightweight and easy to bend, they offer excellent opening stripping and help to reduce power consumption.

EFLEX underground cable-protecting pipes

The product has maintained top share for over 40 years, due to its light weight, resilience, flexibility, and other features that contribute to its usefulness. We also offer a lineup of Square EFLEX products that help to keep multi-strand piping compact.

PLAFLEKY indoor conduits

These flexible conduits of synthetic resin are indispensable to indoor wiring work. They earn high marks for their long lengths, light weights and bend-ability.

GREEN TROUGH cable troughs

Made of recycled plastics, these environmentally friendly cable troughs are lighter in weight and more durable than conventional concrete troughs.

Heat sinks for power semiconductors

Power semiconductors such as IGBTs continue to grow in capacity. We provide high thermal conductivity oxygen-free copper, tough pitch copper, and “EFT-EC-3” for DBC circuit boards, heat spreaders, and heat sinks.

High-temperature superconducting wires

High-temperature superconducting wires can be used in a wider range of temperatures and magnetic fields than low-temperature superconducting wire such as NbTi. We continue to research and develop products with the goal of applying them to a wide range of applications, including power generation, power transmission, and power storage.
Furukawa Electric fully supports next-generation vehicle development to achieve even more advanced functions and environmental performance with diverse technologies and products.

Wire harnesses

These harnesses are wired into every corner of vehicles for electricity supply and signal transmission. At Furukawa AS, we supply wire harnesses that meet the required characteristics in accordance with the wiring environment.

Junction boxes, relay boxes

These boxes are products that comprise the optimum wiring units in bus bar wiring units and substrates (glass epoxy substrates and metallic-core substrates), etc., matched to customer specifications.

Lead battery status detection sensors (BSS)

These sensors detect lead battery states using unique algorithms to contribute to the prevention of flat batteries, improvements in fuel efficiency using charge control and idling stop and reductions in CO₂ emissions.

UltraBattery

This battery is perfect as a power source for no-idling vehicles and other next-generation vehicles. Its regeneration capacity is much higher than that of conventional lead batteries.

Steering roll connectors (SRC)

These are rolling connectors that join together the steering and vehicle body. They convey airbag start-up and operating switch signals, etc., inside the steering. We use flat cables for the wiring units.

Perimeter monitoring radar

These sensors are capable of detecting obstructions toward the vehicle’s rear and in blind-spots, helping to make driving safer. These sensors use a pulse method, and boast world top level detection performance.

Furukawa Electric has supported the weight reduction and functional advancement of electronic equipment by fully utilizing diverse technologies ranging from materials to production.

Electronics

TEX Series triple-insulated wires

Triple-insulation films produce high dielectric strength. They contribute to development of smaller-sized switching power source transformers to comply with IEC standards.

“EFCUBE” copper alloy strips for connecting circuit boards

Our crystal orientation control technology gives “EFCUBE” both high strength (which maintains ease-of-bending and contact pressure to allow for materials to be bent into complicated shapes) and a low Young’s modulus. “EFCUBE” helps to make advanced connectors smaller.

UV tapes for semiconductor wafer processing

The amount of adhesiveness is controlled by UV irradiation. These tapes streamline the process of manufacturing semiconductor devices and contribute to quality enhancement and cost reduction.

Ribbon wire used in low-power inductors

Ribbon wire, made by molding extra fine copper wire into a rectangular shape and molding a heat-resistant enamel film uniformly around it, is used in the inductors around a smart phone power source and contributes to a lower profile for the substrate.

μHP-HS heat sinks with micro heat pipes

Developed for cooling small semiconductors, these high-performance heat sinks incorporate micro heat pipes and open the way for high-density mounting.

Hard disc drive (HDD) substrates

Aluminum materials used with hard disc drives. The cleanest, flattest, smoothest material with a component quality indispensable for increasing its capacity.

EFTEC-64T lead frame materials

A copper alloy material with low electric resistance and high electrical conductivity is employed. Supporting fine pitch processing, these materials contribute to the evolution of semiconductors.

WS Foil electrodeposited copper foil for lithium-ion secondary batteries

This foil’s surface smoothness contributes to high battery capacity and its flexibility to long battery life. It holds world’s top share.

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Furukawa Electric Group strives to develop environmentally considerate products.

**Construction and architecture**

Through the advanced integration of the technologies Furukawa Electric has developed for materials and processing, our Group has sought to create amenity spaces in which people, cities and the environment are harmonized.

**FUNEN ACE heat-insulating materials for metal roof decks**

These plastic foam materials with ultra-high flame resistance were created using our unique technology. Worker-friendly heat insulators, they serve as an alternative to asbestos and glasswool.

**METRON water-feeding piping systems**

These systems employ piping materials with high hygienic properties and great durability. Light in weight, long in length and high in flexibility, they help improve labor efficiency at the work site.

**ROKUMARU fire-prevention products**

This highly flexible fire-resistant block is filled into walls or floor holes through which cables are installed. If fire occurs, this stops flames from spreading.

**Metal piping for construction**

We supply various copper pipes matched to the purpose of use, including for air-conditioning and medical gas piping, etc.

**Duct Heat Insulation Ace, heat insulating material for air-conditioning ducts**

This is a heat insulating material for use in air-conditioning ducts certified for flame resistance by the Minister for Land, Infrastructure, Transport and Tourism. It realizes the prefabrication of heat insulation work that has not been possible previously. This material contributes to reductions in on-site construction times.

**New Businesses & Products**

Based on the many technologies we have developed using our expertise in materials, we continue to contribute toward the life sciences and healthcare fields in order to bring better quality of life to society.

**Shape-memory alloys**

Our nickel/titanium alloy wires/pipes are highly regarded in the medical devices (such as catheters and stents) field for their shape-memory/super elastic properties.

**Fluorescent Silica Nanoparticle**

This method of analysis of biomolecules using fluorescent light detection technology is an essential tool for the analysis of life phenomena in basic research areas, the screening of drug candidate compounds, cutting-edge medical areas such as gene analysis and regenerative medicine, and the simple diagnostic area.

Furukawa Electric has developed the Quartz Dot fluorescent silica particle as a new fluorescent labeling material for use in biomolecule analysis. The Quartz Dot enables precise control of particle diameter enabling the production of particles with characteristics optimized to their applications.

**Single cell picking system**

This system is the first in the world to isolate cells on micro-chambers equipped with anywhere from several 10,000s to several 100,000s of microscopic wells, identify target cells based on fluorescence intensity and image information, and use microcapillaries to collect these target cells at the cell level—without any damage to cells. In addition to innovative high-throughput screening of drug discovery candidates focusing on next generation antibody drug development, this system also contributes toward a wide range of life sciences research, from basic single cell research to clinical diagnosis.

**Flow Cytometer**

PERFLOW is the world’s first flow cytometer that combines a semiconductor laser for optical communication with optical fiber technology. Furukawa Electric has developed a proprietary cell analysis method based on transmitted light information and a damage-free method for sorting that is ideal for living cells. PERFLOW will play an important role in cutting edge life sciences research targeting induced pluripotent stem (iPS) cells, embryonic stem (ES) cells, cancer, and more.