

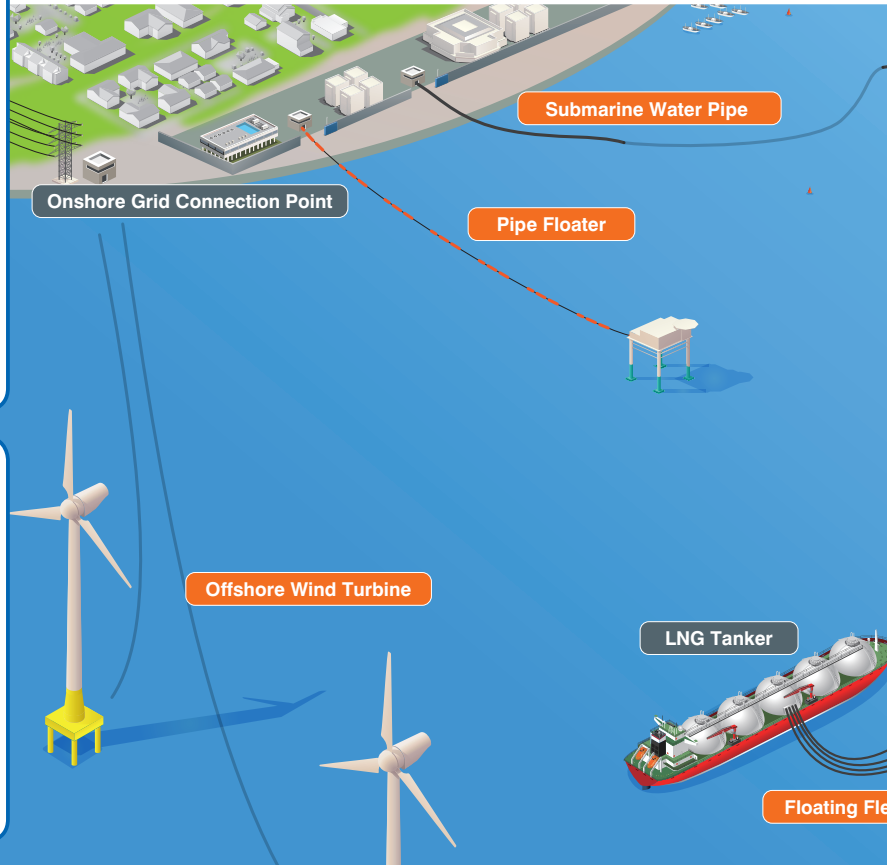
# Offering of Offshore & Marine Shipboard Products



# Furukawa Electric Group is uniquely positioned world and marine shipboard products w

## Cables for Electrical Equipment of Ships and Offshore Facilities

Furukawa Electric has a long experience in producing ship cables for class rules for countries. Our electric cables can meet the standards of Ministry of Defense, or the high durability for offshore facilities.



## ROKUMARINE series (Tight Flame-retardant material at Cable Transit for Class A60 and Class A0)

ROKUMARINE is tight flame-retardant products for Cable Transit in ships, composed of blocks and putty, having easy handling. ROKUMARINE-TIGHT for a flame-retardant and water-tight/air-tight solution is also available.



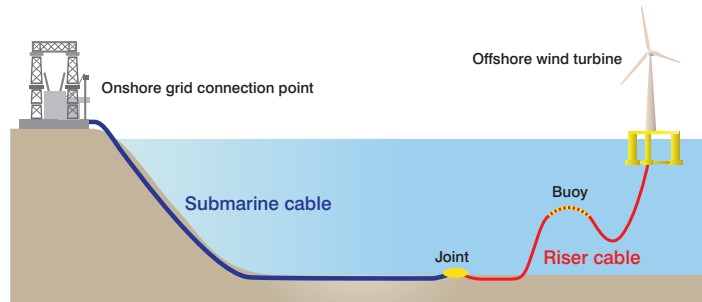
## Umbilical Cable

Undersea cable excellent in fatigue property, anti-self-twisting property and tensile fracture by adopting FRP rod and double armored structure, applicable for great deep sea.



## Submarine Cable System for Offshore Wind Turbine

Furukawa Electric has great experience of engineering of submarine cable systems around the world for over 100 years. So, Furukawa Electric can provide high reliability cable systems for Offshore wind power generation.



## Polyethylene Submarine Water/Oil Pipe with steel Armor

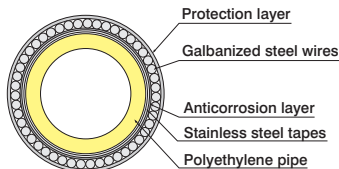
This pipe which is made of polyethylene are used for supplying water to islands, transmitting LNG or Petroleum, withdrawing deep sea water and draining sewage.

### Single steel wire armor type

This is the high-density polyethylene pipe reinforced by stainless tapes and galvanized steel wires, having high reliability and long life.



Deep ocean water pipe

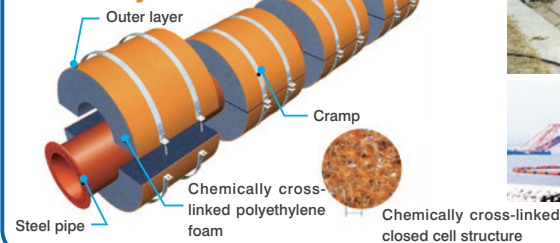


## Pipe Floater

“Woogy” is a pipe floater of laminated circular structure, obtained by interlayer thermal fusion of chemically cross-linked polyethylene foam. Woogy can be mounted directly on sand discharge pipes, enabling compact and simple installation. Eliminating sinking due to water seepage, Woogy achieves stabilized buoyancy and durability, thereby exhibiting superior performance.

### Pipe Floater for Dredging

#### Woogy



# Wide with an offering of the advanced line of offshore with comprehensive technologies.



## LNG Terminal Header and Cryogenic Cable

LNG terminal header and cryogenic cable are required for power supply of the submerged pump to be installed in the cryogenic LNG tank. This system has been used in more than 1000 LNG terminals and more than 3000 of LNG/LPG vessels around the world.



LNG terminal header



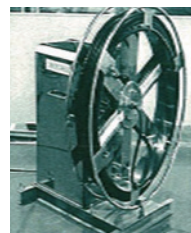
0.6/1.0kV, 6/10kV  
Cryogenic flexible cables

## LNG Ship-Shore Optical Communication System

Optical communication system between LNG ship and shore. Moored condition data, Emergency shutdown signal and Voice data are transmitted and received to secure safety of LNG transmission.



Optical combination



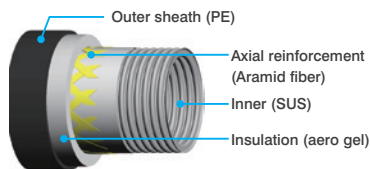
Optical cable reel with SC-Box



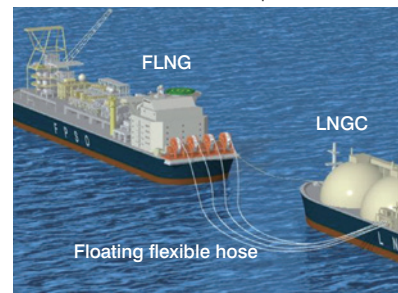
Protection box on ship

## Floating Flexible Hose for LNG Offloading

A floating hose for an FLNG facility that allows LNG to be transported at sea even under severe marine weather conditions. During severe marine weather conditions, this will help improve the operating rate and productivity and ensure safety.



Results of co-development with JOGMEC



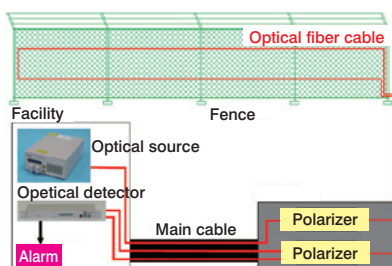
Increase safety and availability under severe marine condition

## Sensors for the Alarm System

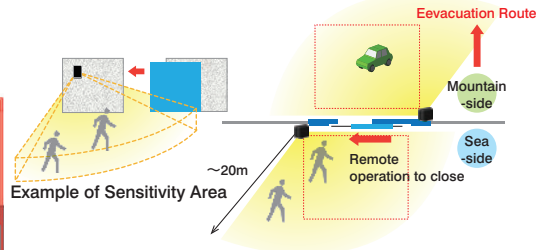
Sensor for intrusion detecting. Two options (Optical fiber fence sensor and Sub-millimeter wave band radar) are available depending on installation situation.



### Optical fiber fence sensor



### Sub-millimeter wave band radar





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