

Nexans



**Enhanced cable solutions and services
for the world's navies**

Challenges to naval shipbuilding

Europe, the United States, Asia and many developing nations are looking to enlarge their fleets, often with high-tech ships that reflect the shift to littoral operations, intelligence-gathering and electronic warfare.

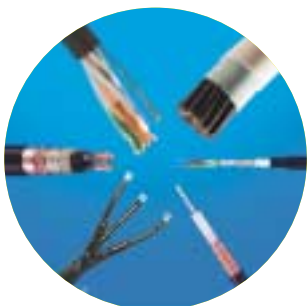
Some self-sufficient countries (US) are now looking overseas for shipbuilders and suppliers. In Europe, there is a trend towards international cooperation and heightened export activities.

Today's navies are seeking ways to customize their warships, stretch their life spans, and apply new systems and technologies to improve combat effectiveness and reduce crew requirements.

What naval contractors and their suppliers expect of a cable manufacturer:

- A full range of cables to cover increasing warship complexity
- Ability to meet all naval specifications, plus interoperability
- Expertise in energy and telecommunications
- System and subsystem development
- Innovations for defense electronics and network-centric warfare
- Quality and reliability to increase the life cycle of platforms
- Combat survival through electronic discretion, fire-safety, shock-resistance, redundancy
- Approved supplier status, product availability, on-time delivery, maintenance training

Because cables play a key role in vessels, Nexans' enhanced cable solutions and services will contribute to your warship's operational and combat effectiveness.





Nexans reinforces warship capabilities

For the integrated onboard environment, Nexans provides a wide range of quality cables which fully conform to the world's strict naval standards.

Wherever possible, we apply proven commercial and interoperable solutions for easier procurement, maintenance and repair. Since every warship is made-to-order, we often customize our cables, e.g. smaller and lighter cables so that ship speeds and armament loads can be optimized.


To keep pace with the information revolution, we constantly innovate to improve data speeds, protect vital combat & control systems and reduce crew size, while ensuring high operational efficiency and survival under actual battle conditions.

High performance cables:

- resistance to heat, cold, humidity, oil, vibration, shock, corrosion
- advanced fiber and copper LANs for next generation naval telecommunications
- a complete range of telecom cables and low and medium-voltage power cables
- reduced weight and volume through advanced designs and materials
- expertise in connectivity at all levels, and provider of fully-integrated systems
- global presence and fast delivery worldwide

Compliance with world standards:

- NATO specifications and IEC standards
- ISO 9001 quality standards
- Qualified Products List (QPL)
- German VG
- American Mil-Dtl-24643, Mil-Dtl-24640, Mil-PRF-85045, Mil-C-17
- UK Naval Engineering Standard (NES 525), DG211
- French Navy Standard (NF STF 41-06)
- Japanese JIS specifications
- Advanced fire-performance (IEC 60332-3 and/or IEC 60331), low-smoke (IEC 61034), halogen-free (60754-1/60754-2), low toxicity (NES713)

 Nexans provides enhanced cables and services worldwide...

ENERGY

Energy cables for propulsion

1.8/3 kV up to 8.7/15 kV.
In cooperation with shipyards, Nexans has raised the voltage rate, which increases power capacity, but not conductor cross-section.

Nexans' Korean subsidiary, Kukdong, is fully outfitting a 1,800 ton submarine being built by Hyundai Heavy Industries (Korea) according to strict VG-95218 German standards.

LV power distribution cables

Halogen-Free Fire-Retardant (HFFR) LV (0.6/1 kV) cables provide onboard power distribution.

Nexans was the first to deliver energy cables according to IEC standards for naval ships, meeting fire-retardant and/or fire resistant, low-smoke and halogen-free requirements.

INSTRUMENTATION & CONTROL

Instrumentation and control cables

Standard and thin-wall Halogen-Free Fire-Resistant (HFFR) cables carry vital technical information for sensors, measurement, control panel, etc.

Multipair 0.22 mm² cable was used by DCN on the Mistral Class Landing Helicopter Dock (LHD), the most employed asset within the French navy. Nexans also provides lightweight cables with tape insulation according to the MIL-DTL-24640 US Navy Standard.

Sensor measurement and fieldbus cables

These HFFR cables govern all essential mechanical functions, like motors, rudder, and hydraulic systems. They have controlled impedance, and transmit an extremely precise digital signal.

Foam-skin insulation allows air or gas to be injected, optimizing the size of the cable for important weight and volume gains. Nexans also supplied these cables for the Mistral Class LHD.

COMBAT SYSTEMS AND NAVIGATION

Maritime Local Area Networks

Copper and/or fiber LANs to handle navigation, telecommunications, combat management and directions systems (CMS/CDS) and Command Support System (CSS) for Network Centric Warfare.

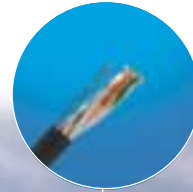
For the US Navy, Nexans tests its cables against electro-magnetic pulse (EMP) which arises from the aerial detonation of a nuclear device and can disable data transfers.



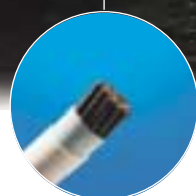
**Instrumentation
and control cables**



**Maritime
Local Area Networks**



**Thin-wall
LV cables**



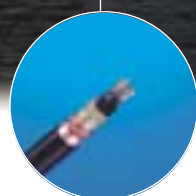
**Degaussing
cables**



**Sensor measurement
and fieldbus cables**



**Coaxial
cables**



**LV power
distribution cables**

...to strengthen your navy

Optical fiber cables



Energy cables for propulsion

Image © DCN

SURVIVAL AND COMMUNICATIONS

Thin-wall LV cables

Halogen-Free Fire-Resistant cables (Flamex) provide efficient energy for equipment, conveniences, cabin wall outlets, public address systems, automatic doors, lighting, etc.

This type of cable is currently being installed on Horizon frigates and Mistral LHDs.

Optical fiber cables

Multimode and singlemode OF cables provide a downlink from the satellite dish to equipment for video transmissions, and high-speed connections for radar and electronic combat systems.

A special shielding guarantees high mechanical strength and resistance to vibration, stress, sea salt, chemicals, etc.

Coaxial cables

Deliver video and data services throughout the vessel for information exchange, Internet access and armament connections.

Nexans supplies a wide range of coaxial cables to the Electric Boat Division of General Dynamics for use onboard the latest generation of attack submarines being built in cooperation with Newport News Shipbuilding. The German Navies 5 K 130 Corvettes are also equipped with Nexans coaxial cables.

Degaussing cables

Special cables used to demagnetize the ship's hull as it cuts through the water, thus reducing the threat from mines.

Nexans provides degaussing cables for Northrup Grumman Ship Systems, as part of the US Navy's Aegis (guided missile frigate) shipbuilding program.

COMPONENTS & ACCESSORIES

A wide range of cable accessories cover all energy and telecom needs: joints and terminations, branching units, amplifiers, etc. All items are custom-fitted and pre-processed to facilitate installation, maintenance and future upgrades.





Services to support your naval defense

As navies embark upon major programs to update the capabilities of their vessels, Nexans offers services that only a world-class cable manufacturer can provide.

Global expertise

The fact that cables are our core business means that we have the expertise and family of products to meet the tough demands of navies worldwide.

Working closely with naval prime contractors and their suppliers, we support all functions and systems for the smooth integration of modern technologies.

Local presence

Since naval shipbuilding and procurement is increasingly international, it requires a company with broad geographical presence. Nexans supplies distributors for the US Navy, and leading international shipbuilders with primary and replacement cables wherever they are needed.

Technical leadership

Nexans is already developing next-generation solutions to integrate warship and combat systems, to provide efficient communications for attack and self-defense, to assure easy maintenance at sea, and to protect crews and equipment.



Global expert in cables and cabling systems

Nexans is the worldwide leader in the cable industry, with an industrial presence in 29 countries and commercial activities in 65. The Group employs 20,000 people. Its sales amount to 4.9 billion euros. Nexans brings an extensive range of advanced copper and optical fiber cable solutions to the infrastructure, industry and building markets. Its cables and systems can be found in every area of people's lives, from telecommunications and energy networks, to automation, aeronautics, aerospace, shipbuilding, automobiles, railways, buildings, petrochemicals, medical applications, material handling, etc. Nexans is listed on the Paris Stock Exchange.

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