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**ROV dynamic umbilicals  
for high tensile strength and performance  
at great depths**

# Nexans, worldwide leader in cables and cabling systems

As a global expert in cables and cabling systems, Nexans brings an extensive range of advanced copper and optical fiber solutions to three key sectors of the economy: **infrastructure, industry and buildings.**

Its cables and systems can be found in every area of people's lives, from rolling stock and railway infrastructure to telecommunications and energy networks, aeronautics, aerospace, automobiles,

petrochemicals, windmills, medical applications, etc.

The presence of Nexans in over 65 countries gives it a full mastery of both national and international standards. Its 10 Competence Centers and International Research Center work closely with customers to constantly improve its standard range of products and technologies and to develop customized, country and industry-specific solutions.



# ROV dynamic umbilicals from Nexans to assure your operational efficiency

Faced with rising demand, and green concerns, the oil & gas industry is seeking to explore new reserves, reduce costs, and improve operational efficiency. Remotely-managed “smart wells”, both land-based and offshore, are a definite trend, as well as longer and deeper umbilicals. Meanwhile, the industry is forever looking for safer, more reliable and environmentally-friendly methods in extraction and processing.

Nexans provides a wide range of energy and telecom cables for prospecting, production and distribution, as well as for refineries, storage depots and petrochemical complexes, including safer lead-free energy cables. Aside from mastering installation techniques both onshore and offshore, Nexans has developed deepwater umbilicals, new protective sheathings, high-speed

optical fiber solutions, and fire-performance products, all of which are recyclable.

Marine cable and pipeline oceanering contractors want to carry energy and signaling ever deeper to power and control Remotely Operated Vehicles (ROVs). However, the deeper one goes the more strain (in newtons) is exerted on the main lift umbilical, while the tether management system endures high water pressure. A good compromise has to be found between flexibility/bend and the ability to handle torque balance, so that the vehicle will not spin during descent. The right armoring is the key to performance.

To help you improve efficiency, Nexans offers powerful and rugged **ROV dynamic umbilicals**.



# ROV dynamic umbilicals: operating deeper and farther on the sea bottom



With a long experience in marine environments, Nexans manufacturers both lift umbilicals which can take the strain of onboard winching, and

flexible tether cables which give maximum mobility on the ocean floor. Down to 4,000 meters, a steel-armored version is used, and beyond that depth (down to 6,000 m) special aramide fibers provide high strength and watertightness through a flexible gel compound. Nexans has over 100 different cable designs, customized to the evolving ROV environment. Aside from transmitting electrical energy, dynamic umbilicals can contain coaxial cables, twisted pairs and quads, and even optical fiber for data transmission. A new zinc-aluminum alloy, Galfan, is being used to improve corrosion resistance.

## This Nexans solution gives you:

- **Deeper laying possibilities** due to new designs and materials
- **More power over longer lengths** with higher voltages (e.g. 6.6 kV) available in a more compact cable
- **Tailor-made designs** for virtually every type of ROV
- **Reliable fiber optic elements** due to tough steel-tube designs
- **Long operational lifetime** with proven performance of over a decade
- **Easy to maintain in salt water** through simple greasing, cleaning and hosing
- **Winch temperature, pressure and strain monitoring** because of embedded Fiber Bragg Gratings in the fiber element
- **High tensile strength** due to special armoring protection, including both steel and aramide
- **Versatility** in both cold and extremely hot conditions



## Nexans delivers umbilical to monitor Prestige shipwreck

Responding to strong political pressure to pump oil out of the sunk tanker, Nexans delivered 4,500 meters of umbilical, including fiber optic elements

and power conductors in a modular design capable of operating down to 4,000 meters. The customer, Thales Geosolutions, appreciated being able to receive data and pictures in record time, and drew heavily on Nexans engineering, manufacturing and logistical skills. The umbilical functioned flawlessly during the entire operation.



# ROV dynamic umbilicals



Product families	Product family names	Standards / Specs
RS (Steel armoured umbilical)	RS009-SCV RS117-NSS7/NSS8	<ul style="list-style-type: none"><li>• These cables are developed according to customer specifications. Nexans has issued a detailed handling guideline on the use of ROV umbilicals and tethers. It contains advice on transportation, lifting, spooling, termination and maintenance. This document is available on customer request.</li></ul>
RA (Aramid armoured umbilical)	RA015-Super Scorpio 2 RA014-Examiner 1A	
RT (Tether cable)	RT027-WT 1 RT081-BWT 2	
RD (Deck cable)	RS081-SCV 3 RD301-NSS 2/4	





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