



HYPRON®

**The lead-free eco-friendly cables for the refinery,
petrochemical and gas-treatment industries**

Safe refining and petrochemical processing...

Refineries and petrochemical plants depend on a wide range of cables. In fact there are approximately 3,000 km of them in a typical plant. These cables have to survive in an environment where there are serious risks of damage due to the penetration of chemical products (acids, bases, aliphatic and aromatic hydrocarbons). That is why they were traditionally covered with a lead sheath and buried to assure plant safety and process continuity.

Although a good protective barrier, lead has several drawbacks: it is not biodegradable and there are real concerns in some countries that buried lead can irreversibly contaminate underground water tables, causing a serious health threat to the population.

In recent years, sustainable development initiatives have resulted in a number of new national and international hazardous substances standards (EU, AFNOR, etc.) calling for a new generation of eco-friendly cables. These standards cover the full life cycle of the cable, from production, installation and use to recycling. Meanwhile, a number of oil companies and governments are already demanding lead-free cables for both new projects and upgrades.



Resistant cables for tough conditions

As an international oil and gas company or a national refinery or (plastics) petrochemical producer, you want high-performance cables that offer:

- Resistance to aliphatic hydrocarbons, unleaded aromatics, olefins, sulfur, etc.
- Conformity to all national and international environmental regulations, present and future
- Significant cost-efficiencies over lead-shielded cables
- Compactness and lightness for easy transportation and installation
- Longevity equal to lead products, backed up by age-testing
- Lower installation costs, and easy connectivity
- Rapid delivery, especially for large international projects
- Dependable stock of cables for ongoing maintenance operations
- Easy removal at end of lifetime, and easy and complete recycling



...require lead-free HYPRON® cables

Nexans HYPRON® cables are an environmentally-friendly alternative to traditional lead-sheathed cables. The technology took five years to develop, and consists of three concentric, co-extruded sheaths working together to provide three important characteristics:

1. The inner aluminum polyethylene (AluPE) tape for watertightness
2. High Density Polyethylene (HDPE) sheath for resistance to inorganic chemicals (chlorine, synthetic oils)
3. Polyamide (PA) for resistance to organic chemicals (aromatics, benzene, petrol, oil, etc.)

Diversity

HYPRON® technology can be used on a full range of refinery/petrochemical cables:

- energy cables (medium-voltage networks and low-voltage circuits, earth/ground cables)
- control, instrumentation and compensation cables for power supply, automatic process, control centers
- communication cables (Fieldbus and copper and fiber optic LANs).



Synergy

These cables are especially tough, resistant, and nearly indestructible because of the excellent adhesion between the three extruded protective layers. Built-in synergy means that each layer adds its own protective properties, while an innovative co-extrusion process guarantees complete, lifetime adhesion between the three elements.

Customization

All HYPRON® cables can be customized to offer fire-reaction (reduced flammability, fire spread, heat release smoke emission and toxicity) and fire-resistance (electrical continuity under fire conditions), the latter achieved by Nexans patented INFIT® technology. In the event of a fire, INFIT® insulations are transformed into a tough ceramic jacket to assure circuit integrity and keep alarms, exit lighting, elevators, pumps, public address systems and fans operating. Cables can also be protected against rodents, UV, sulfur, etc.



Benefits of Nexans HYPRON® lead-free cables:

- eco-friendly cable solutions that meet international standards
- costs up to 20% less than traditional lead-sheathed cables
- more compact for higher plant network density
- up to 45% lighter for easier transportation, storage and installation
- no lead joints, for easier connection and longer cable runs
- protection equal to lead, with a minimum of 25-30 year longevity
- ability to withstand scorching temperatures of up to 87°C
- can be specially armored and customized to requirements
- lower transportation costs





Global expert in cables and cabling systems

With energy as the basis of its development, Nexans, worldwide leading expert in the cable industry, offers an extensive range of cables and cabling systems. The Group is a global player in the infrastructure, industry, building and Local Area Network markets. Nexans addresses a series of market segments: from energy, transport and telecom networks to shipbuilding, oil and gas, nuclear power, automotives, electronics, aeronautics, material handling and automation. Nexans is a responsible industrial company that regards sustainable development as integral to its global and operational strategy. Continuous innovation in products, solutions and services, employee development and engagement, and the introduction of safe industrial processes with limited environmental impact are among the key initiatives that place Nexans at the core of a sustainable future. With an industrial presence in 40 countries and commercial activities worldwide, Nexans employs 23,700 people and had sales in 2010 of more than 6 billion euros. Nexans is listed on NYSE Euronext Paris, compartment A.

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