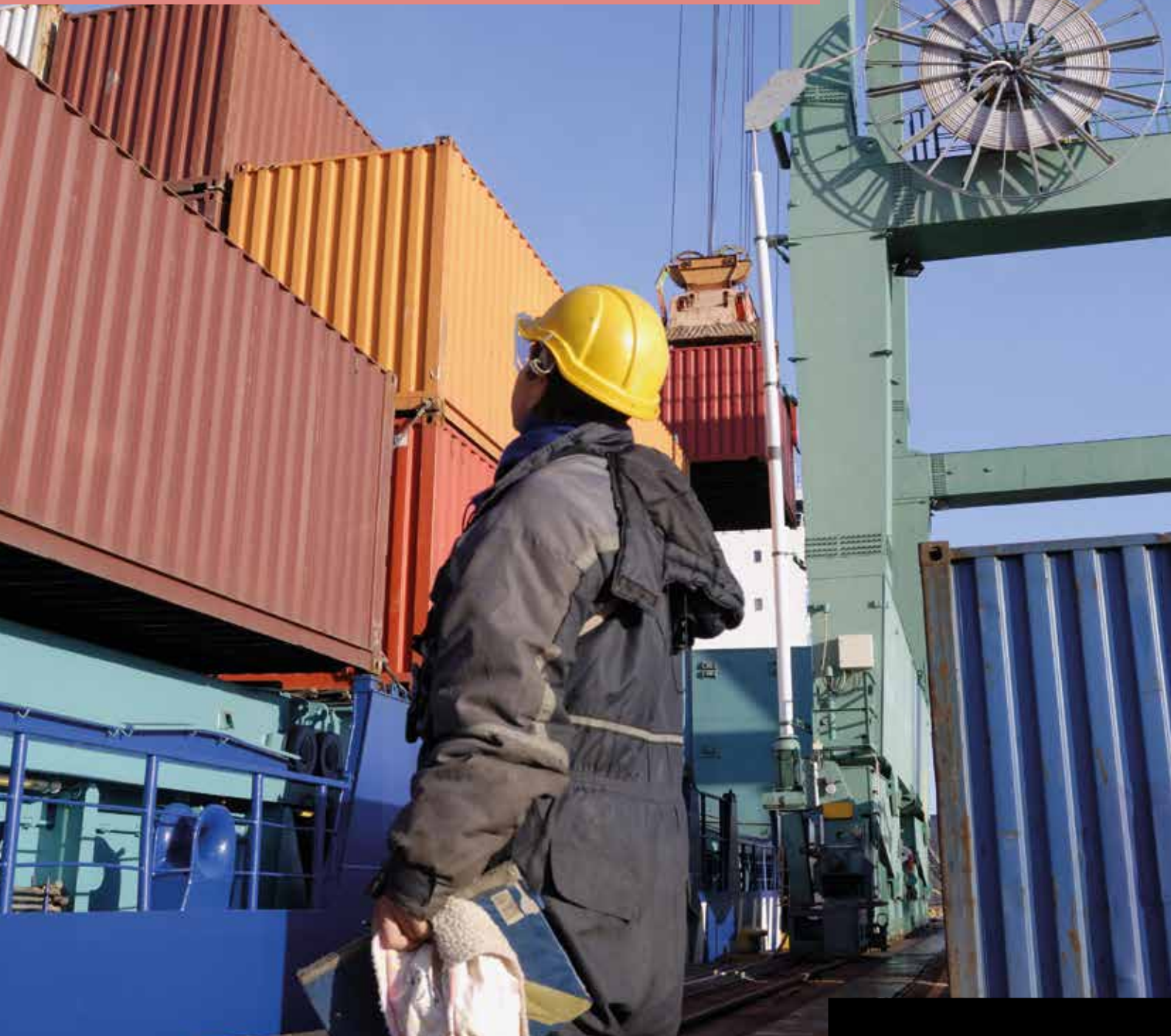


COMPLETE, INNOVATIVE
AND RELIABLE CABLE SOLUTIONS
FOR MATERIAL HANDLING SYSTEMS





MATERIAL HANDLING SYSTEMS: A HEAVYWEIGHT IN THE WORLD ECONOMY

“Time is money” is especially true of the material handling industry, which covers the movement, storage, control and production of materials and products. It is worth countless billions of Euros worldwide. Nearly all other industries depend on it: construction, agriculture, power utilities and heavy industry.

Material handling systems involves everything from small overhead cranes for production lines, to huge Ship-To-Shore Cranes (STS) for megaports, or Rail Mounted Gantry Cranes (RMGs) used in intermodal freight terminals: the giant backbones of global trade.

You are a wholesaler, a component and system supplier, a complete crane manufacturer (OEM), or an end-user, like a port/rail terminal authority, public utility, or steel mill. Given the growth in the volume of goods and materials being moved today, you would like to see faster cranes which can transport/load/unload safely and without the risk of costly delays and breakdowns.

You would also like more control and data functions to facilitate your operations. You want both off-the-shelf cable types, and high-end cables which can help lower your “expense per unit handled” and enhance efficiency.

What you expect from a cable manufacturer:

- A complete range of products and cable solutions adapted to your specifications and products
- Short delivery times to avoid expensive production and transport stoppages
- Special cables for a new generation of cranes and large container handlers
- Technical support for high-end products and fast repair services
- Lighter, smaller cables for more compact and efficient cranes
- Cables with durable sheaths to endure high acceleration and braking
- Special braiding to resist repeated tensile and torsion stress





NEXANS SAVES YOU BOTH TIME AND MONEY

Nexans offers a complete range of material handling cables: for festoons, vertical-hoisting spreader cables, and a wide choice of energy and data cables.

Our cables come in reduced outer cable diameters, which means important savings. Also, they offer high tensile strength, flexibility and perennial wear-resistance. New anti-torsion polyester braids increase stability and minimize twisting. Moreover a second sheath bonded with a third one gives our cables unsurpassed mechanical and chemical properties, including elongation at break, and resistance to abrasion, ultraviolet rays, and ozone.

The benefits for you are cost savings, simplified cabling, greater delivery length, accommodation to smaller reeling and guiding systems, and lower shipping charges. Speedy maintenance and a secure stock of cables mean that you avoid the expense of emergency stock inventory and costly stoppages.



Nexans expertise:

- Full product range for festoons, spreaders and energy/ data supply
- Specialized products that can guarantee high traveling speed and acceleration/breaking even under dynamic stress and during continuous use
- Customized hybrid cables, including integrated databus and optical fiber
- Cost-savings through quality and constant innovation
- Coordinated product development with specialized reel and festoon manufacturers
- Long-term technical support for all high-end products
- Fast on-site repair to avoid costly delays
- Special training for wholesalers, suppliers, manufacturers and end-users
- System integration to merge energy and data needs
- Quick delivery through dedicated logistics, worldwide availability
- Conformity to VDE, EN and IEC standards
- High data capacity and low electromagnetic interference
- 1 kV festoon cables manufactured in China to serve the local market

NEXANS SAVES OPERATING EXPENSES THROUGH REDUCED

FESTOON APPLICATIONS



PVC flat cables (H07VVH6-F)

Cost-efficient, screened or unscreened, LV cables transmit energy and control for festoons in overhead cranes and are widely used on factory floors for assembly lines.

> Nexans has designed a wide selection of screened cables to eliminate EMI (Electro-Magnetic Interference), and handle frequency variations needed for variable motor speeds.

Rubber flat cables (Rheyflai® N)

Designed for frequent bending in one plane and aggressive indoor/outdoor conditions, these LV cables provide energy and control to cranes in temperatures of -35°C to 60°C.

> A high-end solution, often used in the steel industry for example. KCI Konecranes is a major customer for this type of rugged cable.

Rubber round cables (Rheystoon®)

A product range which can combine a data and energy cable with an integrated databus. Flexible, long-lasting, it is ideal for high-speed applications (+200 meters per minute and beyond).

> Nexans provides variations of this cable to worldwide market leaders of Ship-To-Shore (STS) cranes such as ZPMC.

Rubber-sheathed optical fiber (Rheycord® OFE M or R)

Totally impervious to EMI during data transmission, this cable incorporates optical fiber in two different designs.

> The smaller M cable was originally developed for mining, but both it and the thicker R version perform excellently on STS cranes in festoons and e-chain systems. For reeling applications, we developed the R version offering high tensile strength.

REEL APPLICATIONS



Standard reeling cables (Buflex)

Polyurethane-sheathed LV and MV cables feed and control motors on moving equipment. A multifunctional, hybrid cable, rolled in mono or multi-spiral drums, providing maximum flexibility under high tension and traction.

> For mining and tunnel drilling, Nexans provides Sweden's Atlas Copco with cables that can resist shocks and sheathing tears, while delivering high tensile strength. Korea's Hyundai Heavy Industry uses Buflex cables on its heavy cranes.

Heavy duty rubber cables (Rheycord® and Rheycord® RTS)

These energy/control cables come in two versions for motor-driven reels and spring-operated reels. Standard Rheycord® can move at 120 meters per minute (MPM), while the Reduced Torsional Stress (RTS) version delivers 200 MPM.

> Nexans delivers this cable to diverse reel and crane manufacturers, including Delachaux (for motorized reeling drums).

High-stress rubber cables (Rheycord® RTS)

A 3 to 30 kV high-voltage cable providing energy and data for large STS cranes, in versions with or without fiber optics. Standard operation speed is 190 MPM, but with an integrated steel strength member, it can handle up to 240 MPM.

> Gottwald, one of the world's largest rail mounted gantry (RMG) crane manufacturers turned to Nexans for high-stress rubber cables for two new railway terminals in Switzerland and Italy for the rapid loading and offloading of containers.

DIAMETER AND INNOVATIVE MATERIALS



Reeling and strong reeling rubber optical fiber (Rheycord® OFE R and SR)

Similar to the rubber-sheathed optical fiber cables used for festoons, the SR version uses a steel strength member to achieve high speeds up to 240 MPM and applications requiring high tensile strength.

> The German steel factory, HKM Hüttenwerke Krupp Mannesmann uses this newly developed type in their overhead cranes because it can handle high tensile stress without being affected by EMI.

Flat reeling cables (Rheycord® Flat)

LV and MV flat energy reeling cables which are used mainly for container handling cranes, but also for special applications.

> When Germany's Stemann received an order for crane for a new Chinese coal-burning power plant, it chose this kind of cable which had the advantage of winding a longer length on one drum to accommodate long crane movements.

SPECIAL APPLICATIONS

Pendant cables (Boitalyon, Rheyflex® PN)

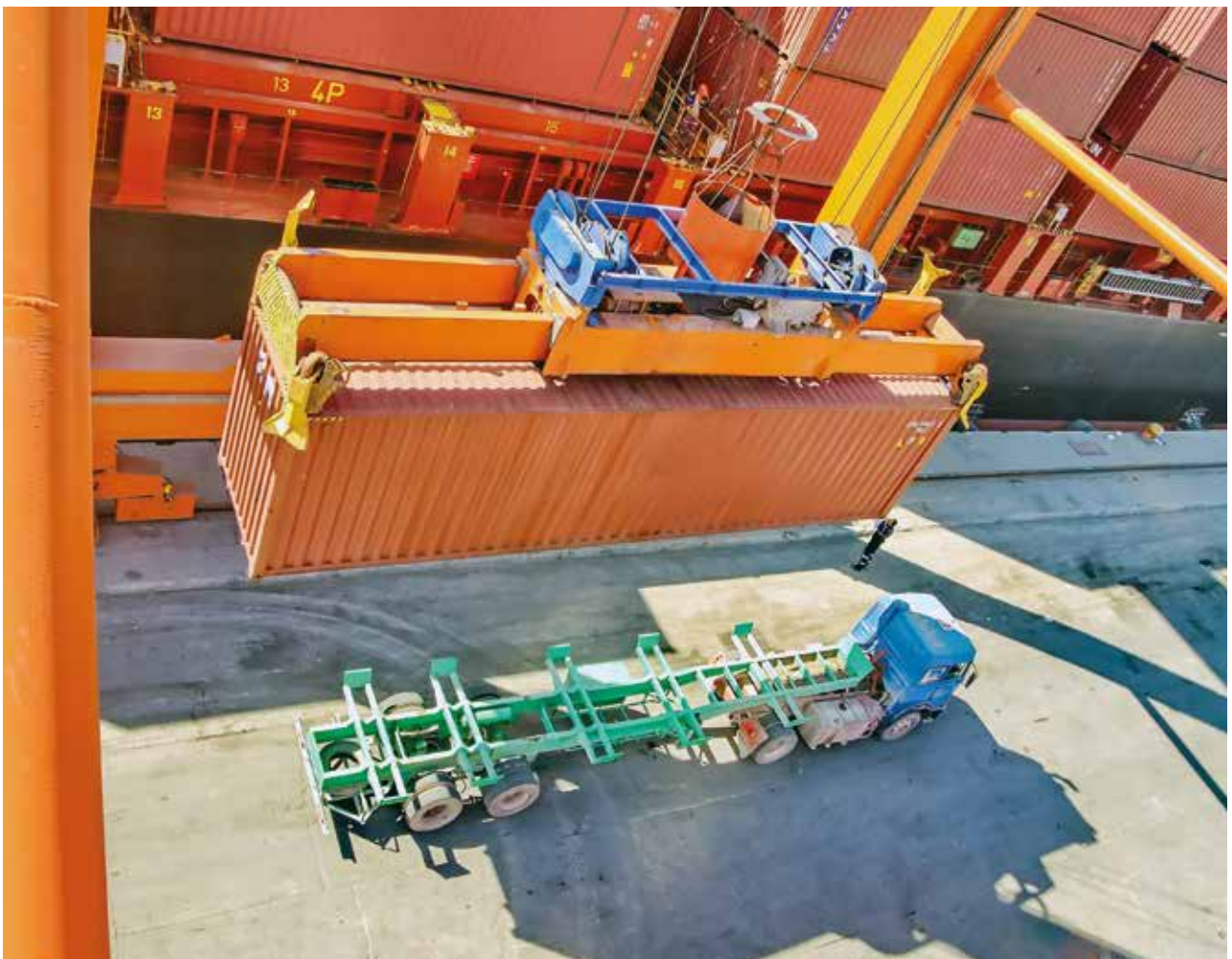
A control cable to command the three-dimensional movement of the hoist from an operator-held control box which is supported by a steel strength member. A choice of 3 to 54 cores for multiple applications.

> Nexans is the preferred supplier for Finnish KCI Konecranes, a leading manufacturer of large, moving overhead cranes for ports and intermodal terminals.

Rubber spreader cables (Rheycord® RTS)

A LV cable used for moving the spreader up and down with rapid acceleration and at high operating speeds.

> Nexans supplied this cable for STS cranes in the European Container Terminal (ECT) in Rotterdam, the biggest container port in Europe, and also in the Container Terminal of Antwerp.





SERVICES TO MEET YOUR HANDLING REQUIREMENTS

GLOBAL EXPERTISE

Above all, you need the right product for the right crane application. Often this can be a time-proven standard product with guaranteed delivery dates and availability. Or, you may require special customized cables. Nexans has been developing cables for reels, cranes and components with our customers in actual performance conditions for over two decades.

LOCAL PRESENCE

Because you are operating in a global market, we support you on multi-supplier programs and international joint ventures

and projects. Our logistics are geared to delivering what you need where you need it. We are especially adept at serving European and Asian Crane manufacturers and wholesalers.

TECHNICAL LEADERSHIP

With a long list of European and Asian references, we have a reputation for delivering both standard and customized high-end cables for the material handling industry. In recent years we have continued to develop new designs and materials in order to speed up operations, cut costs, and ensure reliability.

Nexans brings energy to life through an extensive range of cables and cabling solutions that deliver increased performance for our customers worldwide. Nexans' teams are committed to a partnership approach that supports customers in four main business areas: Power transmission and distribution (submarine and land), Energy resources (Oil & Gas, Mining and Renewables), Transportation (Road, Rail, Air, Sea) and Building (Commercial, Residential and Data Centers). Nexans' strategy is founded on continuous innovation in products, solutions and services, employee development, customer training and the introduction of safe, low-environmental-impact industrial processes. In 2013, Nexans became the first cable player to create a Foundation to introduce sustained initiatives for access to energy for disadvantaged communities worldwide. Nexans is an active member of Europacable, the European Association of Wire & Cable Manufacturers, and a signatory of the Europacable Industry Charter. The Charter expresses its members' commitment to the principles and objectives of developing ethical, sustainable and high-quality cables. We have an industrial presence in 40 countries and commercial activities worldwide, employing close to 26,000 people and generating sales in 2015 of 6.2 billion euros. Nexans is listed on NYSE Euronext Paris, compartement A.

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