

Prysmian
Group

The sky is the limit.

With our crane cable offer, nothing is impossible.



 **PRYSMIAN**
 **Draka**
 **General Cable**

Linking the future

As the worldwide leader in the cable industry, Prysmian Group believes in the effective, efficient and sustainable supply of energy and information as a primary driver in the development of communities.

With this in mind, we provide major global organisations in many industries with best-in-class cable solutions, based on state-of-the-art technology. Through three renowned commercial brands – Prysmian, Draka and General Cable – based in almost 50 countries, we're constantly close to our customers, enabling them to further develop the world's energy and telecoms infrastructures, and achieve sustainable, profitable growth.

In our energy business, we design, produce, distribute and install cables and systems for the transmission and distribution of power at low, medium, high and extra-high voltage.

In telecoms, the Group is a leading manufacturer of all types of copper and fibre cables, systems and accessories – covering voice, video and data transmission.

Drawing on over 130 years' experience and continuously investing in R&D, we apply excellence, understanding and integrity to everything we do, meeting and exceeding the precise needs of our customers across all continents, at the same time shaping the evolution of our industry.



Crane cables

Our high-end and complete crane cable solutions are German made through and through. From innovation and engineering to manufacturing and thorough testing: every detail of the value chain is made in-house. Plus, we provide you with all the services you might need – before, during and after. That's why making business with us is a real lift.



Introduction

The development of elastomeric power cables for safe and reliable crane and industrial applications has paralleled the development of the electric motor and power generation since the 19th century.

Elastomeric cables are the natural choice for applications where durability, flexibility, and safe operation under extreme environmental conditions are important. The Prysmian Group's elastomeric cables have been "field proven" in thousands of operations, and with continuous development, utilise the best features of cables offered around the world.

In Germany, as elsewhere, there are many established guidelines governing manufacture of crane and industrial cables. Innovation in work practices, with more equipment operating at higher voltages, has required the continued development of new elastomeric cable designs. Ongoing development programs have also been required to continually improve the reliability and safety of current designs. The major design responsibility for the Prysmian Group is to ensure that cables supplied will operate reliably and safely under a wide range of conditions. Personnel often work close to energised cables, therefore the cable construction and materials must be selected to provide maximum safety during both normal operation and in the case of cable failure.

Application

Terminal operators requires ever-increasing performance of machines and methods. This has led to the technologically advanced machines in use today. These special, movable equipments require medium voltage flexible reeling cables for power supply for instance, suitable for operation under the most extreme conditions.

Prysmian and Draka branded flexible reeling, festoon, basket and chain cables for cranes and material handling equipment have been field-proven worldwide for decades. In these crane applications, particular requirements such as mechanical strength and safety have led to the use of high-grade mechanically resistant rubber.

Prysmian Group has developed extensive know-how over many years about the special operational conditions of cranes and material handling equipment. The decisive factor was close cooperation with many significant terminal operators and crane and reel manufacturers.

The experience we gain every day contributes to the design of our crane cables. The high operational reliability and service life of Prysmian's flexible reeling, festoon, basket and chain cables for cranes and material handling is based on this experience.

Made locally

We've been making cables in Germany since 1858. Today we have 2000 skilled co-workers developing state-of-the-art cables in seven plants all over the country. We can offer a complete range of cables covering everything from the deep blue sea, mines and tunnels to skyscrapers and satellites.

Two of our facilities are Centres of Excellence including R&D departments in which we develop new solutions to meet your specific needs as well as the common challenges of tomorrow.

When that is not enough, we have the largest cable manufacturer in the world to our disposal, Prysmian Group. That includes 50 countries, 112 plants, 25 R&D centres and about 29,000 skilled professionals doing nothing but developing and producing cable solutions that will solve your current and future needs.



Prysmian Group's Roadmap for sustainable crane operations

We are actively committed to promote sustainable solutions and reduce our environmental footprint. Consequently, we support and enable sustainable crane operations through the following design principles:



Sustainable solutions	Commitment	Example
Sustainable product development	To develop smart and environmental-friendly cable solutions.	Prysmian's PROTOLON(SC) cables, suitable for all shore-connection technologies, keep the vessel energized from the electrical grid while berthing, thus saving fuel and reducing the environmental impact.
Eco-friendly materials and compounds	To aim at eliminating any toxic or hazardous substances from our products.	Our MV reeling cables PROTOLON are insulated with a lead-free, eco-friendly compound.
Efficient production process	To continuously reduce the overall environmental impact of our operations.	<ul style="list-style-type: none"> • CO² emissions -4.9% • Water consumption -8% • Waste disposal -6%*
Product lifetime	To maximise the longevity of our products, thus reducing their carbon footprint.	Our LV and MV reeling cables, such as CORDAFLEX and PROTOLON, last longer in operation. As a consequence their environmental impact and total cost of ownership is lower.

* The numbers are reductions made in our overall production between 2015 and 2016.
Source: Prysmian Group Sustainability Report 2016.

Saving the day

PROTOLON(IQ) reeling cable detects mechanical impact and reduces downtime hours. The sensing technology inside helps you to be prepared and avoid unexpected failures. With PROTOLON(IQ) you can increase the level of automatized activities at your modern terminals.

MAIN BENEFITS

How does the IQ System support the needs of modern port infrastructure?

- ✔ Monitors several cables in real-time and provides meaningful information on system conditions
- ✔ Enables condition-based and predictive maintenance
- ✔ Helps minimize downtime and thus increases throughput
- ✔ Increases the level of automatized activities



What we offer

Prysmian Group's flexible electric cables for cranes and material handling equipment offer significant benefits to a broad variety of specialized industry professionals such as OEMs, specifiers, contractors, installers, terminal operators and more. These benefits include:

- **Unique mechanical performance**

Prysmian Group's crane cables have been designed to withstand extreme conditions in terms of:

- Tensile loads
- Torsional stresses occurring during misalignment of cable guidance systems and oblique pay out
- Minimum bending radius at any ambient temperature range and stress conditions
- High travel speeds and acceleration

- **Chemical and climate resistance**

Prysmian Group's crane cables have been designed to withstand the most severe conditions. For these applications Prysmian has developed the high performance compounds that are used in flexible electric cables for cranes and material handling equipment to guarantee resistance to extreme conditions and harsh environments (such as high-speed, abrasion, oil, moisture, extreme low/hot temperature, UV irradiation and ozone).

- **Miniaturised**

Prysmian Group's crane cables have the smallest possible dimensions. For instance, in MV cables:

- Dimension - up to 30% less and yet in strict compliance with the existing standards
- Weight - higher cable performance allow up to a 40% reduction in the cable weight
- Robustness - higher physical/mechanical resistance, exceeding standard requirements in terms of abrasion, cut-through and repeated bending

- **Customised and multifunctional engineering**

Prysmian designs and manufactures cables according to specific customer needs. This allows us to have an exhaustive product range covering all functionalities (MV/LV, Instrumentation and Control, Optical fibres). Prysmian designs multifunctional cables from the simplest to the most sophisticated.

- **Longer lifetime**

Prysmian Group's crane cables guarantee an extended working lifetime (lower failure rate) in comparison with standard and traditional flexible electric cables for cranes and material handling equipment. As a consequence the total cost of ownership is lower.



Our products and brands

Flexible cables

CORDAFLEX®

Tough rubber-sheathed reeling cable.

EASYFLEX®

EVA sheathed cable for spring-reeling.

TROMMELFLEX®

Rubber-, Polyurethane-sheathed reeling cable.

SPREADERFLEX®

Special cable for gravity-fed collector basket operation.

RONDOFLEX®

Round rubber-sheathed festoon cable also suitable for simple reeling.

FESTOONFLEX®

Round polyurethane-sheathed festoon cable.

PLANOFLEX®

Flat rubber-sheathed festoon cable.

OPTOFLEX®

Rubber-sheathed flexible fibre-optic cable.

PROTOLON®

Medium-voltage reeling cable.

TENAX®

Medium-voltage reeling cable.

Special compounds

PROTOFIRM®

Sheathing compound PCP used in CORDAFLEX®, PROTOLON®, compound with special resistance to abrasion and tearing, 5GM5 quality.

PROTOLON®

Insulating compound EPR used in CORDAFLEX®, PROTOLON®. Rubber compound with excellent electrical properties, resistant to heat and weather.



Product overview

Low voltage reeling cables

CORDAFLEX (SMK)
TROMMELFLEX PUR HF
TROMMELFLEX (K)
EASYFLEX

Low voltage reeling cables for E-RTGs

CORDAFLEX (SMK)
TROMMELFLEX KSM-S

Low voltage cables for vertical reeling

CORDAFLEX (SMK)-V
SPREADER REEL PUR HF

Low voltage cables for basket operation

SPREADERFLEX

Round low voltage cables for festoon operation

RONDOFLEX
RONDOFLEX (C)-FC
FESTOONFLEX PUR HF
FESTOONFLEX C PUR HF

Flat low voltage cables for festoon operation

PLANOFLEX
M(StD)HOEU Screened elements

Low voltage cables for chain operation

RONDOFLEX (CHAIN)
FESTOONFLEX PUR HF
FESTOONFLEX C PUR HF

Cables for data transmission

OPTOFLEX

Round medium voltage reeling cables

PROTOLON (SMK)
PROTOLON (SMK) LWL
PROTOLON (SMK+HS)
PROTOLON (iQ)
TENAX-TTS
TENAX TTS LWL

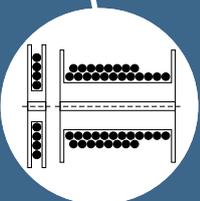
Flat medium voltage reeling cables

PROTOLON (FL)
PROTOLON (FL) LWL

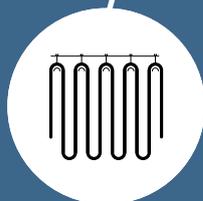
Cables for Shore-Connection systems

PROTOLON (SC)

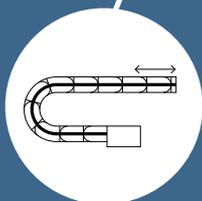




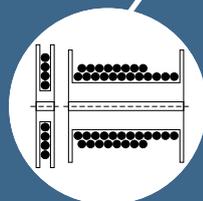
Reeling



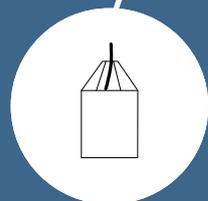
Festoon



Chain



Reeling



Basket

Linking the future

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