

We light up the night.

Our Distribution and Transmission cables make the world brighter.



Prysmian
Group

Linking
the Future

CONNECTING THE WORLD. TODAY AND IN THE FUTURE.

**Prysmian Group is world leader
in the energy and telecom cables
and systems industry.**

**With 140 years' experience,
the Group is strongly positioned
in high-tech markets and offers
the widest possible range of
products, services, technologies
and know-how.**

140

YEARS OF
EXPERIENCE

25

R&D CENTRES
AROUND
THE WORLD



We specialise in underground and submarine cables and systems for power transmission and distribution, special cables for applications in many different industries, and medium and low voltage cables for the construction and infrastructure sectors.



For the telecommunications industry, the Group is the world's largest provider of cutting-edge cables and accessories for voice, video and data transmission, offering a comprehensive range of optical fibres, optical and copper cables and connectivity systems.



We are committed to environmental responsibility in our production processes, the protection of the global environment, and the responsible management of relations with the local communities in which we work.



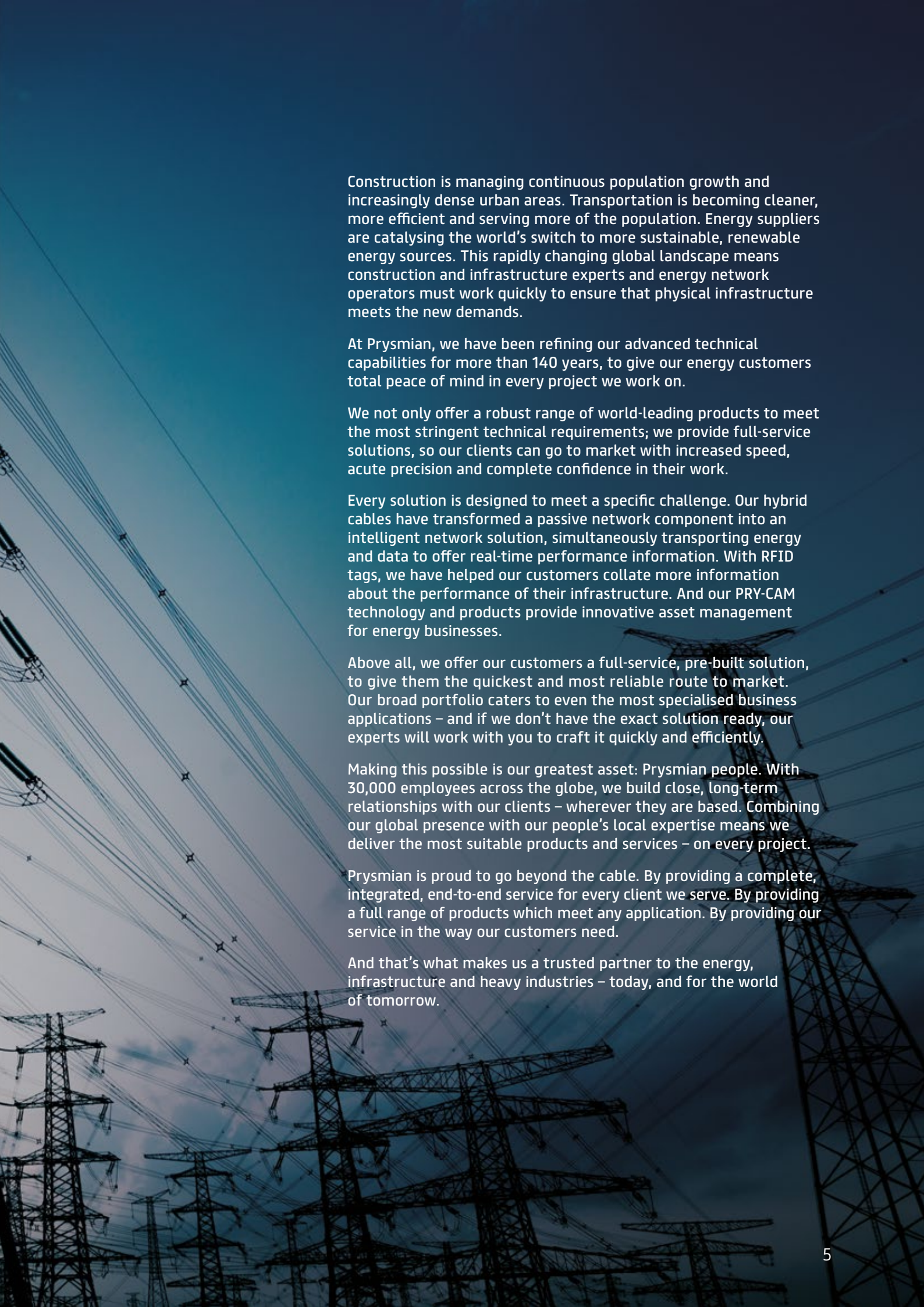
For us, innovation means meeting the needs of our customers and communities by understanding their business drivers as quickly as they do. To do that, our team of over 900 Research & Development professionals is constantly looking to the future, predicting and identifying emerging trends in each of our industries and sectors. Acting on this intelligence from 25 R&D centres around the world, we're constantly close to our customers in their own local markets.





Linking quality, service and expertise to a better future.

Over the coming decades, radical developments to global infrastructure will transform our world. From the way we live, to how we travel, to the energy that powers our everyday.



Construction is managing continuous population growth and increasingly dense urban areas. Transportation is becoming cleaner, more efficient and serving more of the population. Energy suppliers are catalysing the world's switch to more sustainable, renewable energy sources. This rapidly changing global landscape means construction and infrastructure experts and energy network operators must work quickly to ensure that physical infrastructure meets the new demands.

At Prysmian, we have been refining our advanced technical capabilities for more than 140 years, to give our energy customers total peace of mind in every project we work on.

We not only offer a robust range of world-leading products to meet the most stringent technical requirements; we provide full-service solutions, so our clients can go to market with increased speed, acute precision and complete confidence in their work.

Every solution is designed to meet a specific challenge. Our hybrid cables have transformed a passive network component into an intelligent network solution, simultaneously transporting energy and data to offer real-time performance information. With RFID tags, we have helped our customers collate more information about the performance of their infrastructure. And our PRY-CAM technology and products provide innovative asset management for energy businesses.

Above all, we offer our customers a full-service, pre-built solution, to give them the quickest and most reliable route to market. Our broad portfolio caters to even the most specialised business applications – and if we don't have the exact solution ready, our experts will work with you to craft it quickly and efficiently.

Making this possible is our greatest asset: Prysmian people. With 30,000 employees across the globe, we build close, long-term relationships with our clients – wherever they are based. Combining our global presence with our people's local expertise means we deliver the most suitable products and services – on every project.

Prysmian is proud to go beyond the cable. By providing a complete, integrated, end-to-end service for every client we serve. By providing a full range of products which meet any application. By providing our service in the way our customers need.

And that's what makes us a trusted partner to the energy, infrastructure and heavy industries – today, and for the world of tomorrow.

We light up the night.

Our Distribution and Transmission cables make the world brighter.

We are dedicated to help you distribute the energy that powers every aspect of the world. Our product portfolio includes the lot. From state-of-the-art LV, MV and HV cable systems connected to the distribution network, to all the connectivity products and services that you might need to keep your grids going, no matter what.

What we offer

For more than a century, Prysmian Group has been a pioneer in the design and manufacture of high-performance wire and cable products for power transmission and distribution through the air, underground and under the sea. The cables are designed, engineered, and manufactured to ensure maximum reliability and best in class performance.

Our Power Distribution and Transmission offer include HV, MV and LV cables and systems for transporting electricity and connecting industries, offices and domestic buildings to the primary distribution networks.

Our electrical equipment is developed and manufactured with top quality in mind, to make sure you are receiving reliable products living up to the highest standards and certifications. In addition, we provide engineering services capable of fulfilling any power system specification or requirement and of delivering customised solutions, including installation.

Prysmian Total Project Management

- ✔ Cables, accessories and system components
- ✔ Engineering studies and solution development
- ✔ Turnkey installation of cable systems
- ✔ Enhanced logistics and interface management
- ✔ System design and installation engineering
- ✔ Testing, system diagnostics and monitoring solutions
- ✔ Maintenance and repair services



We're always close.

The Prysmian Group cable solutions form an integral part of power grids worldwide. We are unmatched in our overall manufacturing and installation capabilities, and have an unwavering commitment to R&D.

At Prysmian Group Romania we design, manufacture and install state-of-the-art medium, high and extra-high voltage cable systems reaching from the power generation sites to the primary distribution network. We also provide all the appropriate accessories, properly selected to match each specific project.

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Overhead wire systems

Overhead systems are the best solution when costs vs. distances are taken into consideration.

- Conductors used in overhead systems are lighter in weight which translates in greater economy.
- Stranded overhead conductors and cables are highly flexible, both during erection and while in service.
- Overhead conductors have a high corrosion resistance due to their homogeneous construction.
- Less complex fittings make them easier to handle during installation.
- An overhead distribution conductor has a considerably higher current carrying capacity than an underground cable conductor of the same material and cross-section.



Overhead conductors

Our overhead conductors help you ensure maximum line efficiency and long-lasting reliability for current and future power transmission systems.

ALL ALUMINIUM CONDUCTORS

Aluminium wire ropes used on columns and attached to insulators, especially in medium and low voltage distribution networks. The structure of the wire is single or multi-layered. In the case of several layers, the outer layer always has a right-hand thread, the other layers alternately have a right-hand or a left-hand thread.



ALUMINIUM CONDUCTORS, STEEL REINFORCED (ACSR)

Steel reinforced wire ropes are mainly used as high voltage transmission lines, mounted on poles and attached to insulators. The conductor consists of a galvanized steel central core with one or more layers of stranded aluminium wires twisted helically over the central core. Steel core wires are protected from corrosion by galvanization.



ACSR can be used in medium, high and extra-high voltage transmission lines; also used for primary and secondary distribution lines. The wire rope is manufactured in accordance with national and international standards. In addition, we can deliver according to standards of your choice. We also undertake all sizes and constructions in accordance with EN 50182.

HIGH TEMPERATURE OVERHEAD LINE CONDUCTORS

Especially suitable to replace ACSR conductors in short and middle spans lengths in orographic areas such as hills and mountains. The wires use a combination of aluminium clad invar (a special Fe-Ni alloy with very low thermal expansion coefficient) for the core, and super thermal resistant Al-Zr alloy for the conductive layer.

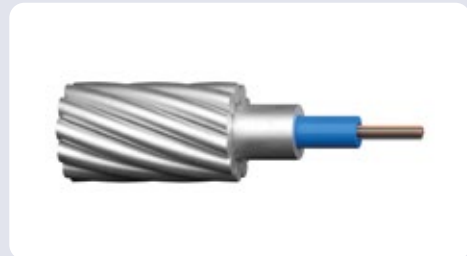


Optical ground wires (OPGW)

Integrated aerial fibre optic cables for data transmission through the power network infrastructure.

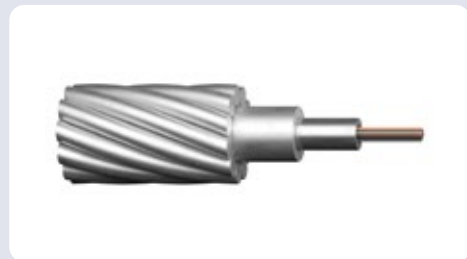
OPGW EXTRUDED ALUMINIUM CABLE

Cables providing increased conductivity without sacrificing tensile performance, lightning resistance or fibre counts. Meets IEE construction guidelines for use in high corrosion sites.



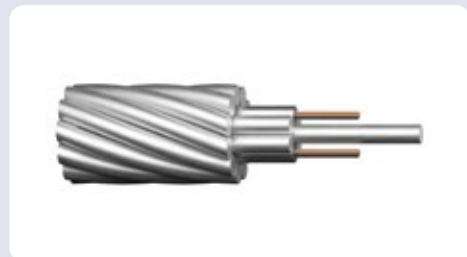
OPGW STAINLESS STEEL TUBE EMBEDDED IN EXTRUDED ALUMINIUM TECHNOLOGY

Using a highly crush resistant aluminium-clad stainless steel core tube. Provides a compact design without sacrificing corrosion resistance. It has a reduced weight for increased flexibility making it easier to handle and install. Best suited to applications with moderate to low span and electrical requirements.



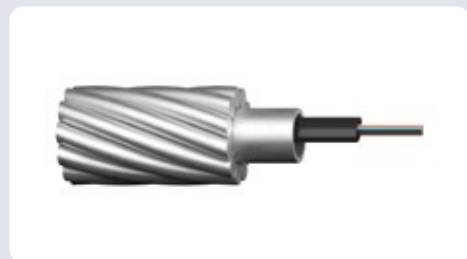
OPGW STRANDED STAINLESS STEEL TUBE

A flexible and easy-to-install cable. With the stainless steel tube in a lateral position this cable allows elongation and sag to be increased without an enlarged fibre strain. It is best suited to applications where the ground wire will be replaced by an identical cable due to tower limitations. Because of this the cable contains exposed elements made of both stainless steel and aluminium.



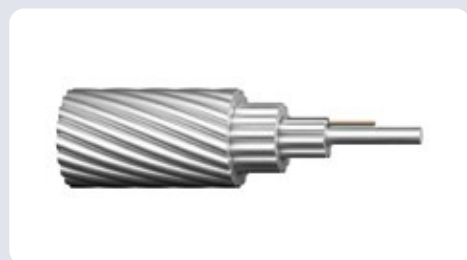
OPGW SPIRAL SPACE® TECHNOLOGY

Consist of a unique Spiral Space unit for optical fibres. The fibres are loosely buffered in a tube containing an oval spiralling and hollow channel filled with jelly, preventing fibre strain at any stage of installation or operation. The construction allows the use of a high fibre count in a single small-diameter tube. Meets IEEE construction guidelines for use in high corrosion sites.



OPPC – OPTICAL PHASE CONDUCTOR

Combining a phase conductor commonly used for energy transport with an optical core for data transmission, OPPC (Optical Phase Conductor) is typically used in overhead power lines without ground wires, where OPGW (Optical Ground Wire) cannot be installed.



Underground systems

In many cases underground systems are preferable compared to overhead systems. For example, when attempting to preserve natural beauty and ecological value, or in built up areas with restricted space. And as they lay buried in the ground, they're safer with a greater longevity.

- The underground system is safer than overhead system because all distribution wiring is buried with little chances of any hazard.
- The chances of faults in underground system are very rare as the cables are laid underground and are generally provided with better insulation.
- The visual appearance of an underground system is often preferable as all distribution lines are hidden.
- Lifespan of the underground system is much higher than that of an overhead system. An overhead system may have a useful life of 25 years, whereas an underground system may have a useful life of more than 50 years.
- Less interference with communication circuits.



HV cables – Land HVAC and HVDC

AC transmission is used on short distances. It is more cost effective as it does not require converter stations. In the recent past, more and more connections appeared to be in AC for circuit lengths up to the range 80–120 km, however this implies a significant decrease in performance due to the increase of absorbed reactive power.

DC transmission is used for long lengths. Use of DC is rapidly increasing following the evolution of power electronics and typologies of AC-DC converters. Different cable system solutions are available for DC applications.

Prysmian focusses on two main classes of extruded insulations: P-Laser and XLPE. Extruded insulation offers several remarkable advantages, such as lighter, easier-to-handle cables, which can operate at high temperatures and at high electrical stresses. Thanks to recent technology improvement, extruded cables are presently adopted for voltages up to 525 kV DC.

P-LASER

P-Laser is developed by Prysmian and is a totally eco-friendly cable manufactured using recyclable thermoplastic materials. The technology is based on High Performance Thermoplastic Elastomer (HPTE) insulation which, compared to Cross-Linked Polyethylene (XLPE)-based, does not require the cross linking process and, not having cross-linking by products, does not require the time-consuming degassing process.

P-Laser is capable of performing at higher temperatures than traditional cables, increasing the power transmission range by over 20%, and thus solving the problem with power surges and increased traffic. P-laser is also fully compatible with existing distribution networks, tools, joints and preparation methods.

XLPE

High voltage cables using cross-linked polyethylene, designed to withstand high AC or DC voltages. It is the most common solution for power transmission and replacement of existing overhead lines. The newly developed XLPE material present higher cleanliness and lower electrical conductivity, allowing for an increase of the maximum allowable electrical stresses in the insulation (if compared to the previous XLPE materials). As a result, it is now possible to reach cable voltage levels up to 525 kV, while reducing thicknesses at standard voltages with lighter and less expensive cables.



P-Laser

Insulation: HPTE
Voltage: Up to 525 kV
Power*: 3,400 MW
Converter: Both LCC and VSC



XLPE

Insulation: XLPE
Voltage: Up to 525 kV
Power*: 3,000 MW
Converter: VSC: any voltage
LCC: up to 250 kV

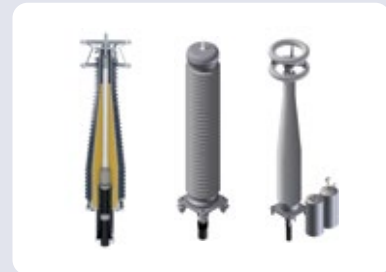
* NOTE: Rating per cable bipole – power rating depends on ambient and installation parameters.

HV cables – accessories

As we are committed to provide complete systems, we also offer a wide range of cable accessories. These products are designed to ensure great performance and long-term service reliability, guaranteeing safe and dependable operations across the entire transmission chain.

OUTDOOR TERMINATIONS

Outdoor terminations are slip-on and designed for severe outdoor environments. They are based on pre-moulded stress-control blocks (silicone or EPDM rubber) and insulators made in composite or porcelain. Their overall length and the shed profile are determined by the required creepage distance. The range of maximum rated voltage (U_m) is 72.5 to 550 kV.



CABLE JOINTS

Our cable joints provide excellent flexibility and enable the connection of cables in a variety of configurations, such as reduced spaces, cables of different sizes, cables of different designs, and cables of different insulation types. The range of maximum rated voltage (U_m) is 170 to 550 kV.



SEALING END TERMINATIONS

Both Gas Insulated Switchgear Sealing End (GISE) and Oil-Immersed Sealing Ends (OISE) are slip-on type terminations. They are based on PRYMOULD stress-control blocks (silicone or EPDM rubber) and resin moulded insulators. Resin insulators enable the electrical separation of the cable's metallic screen from the metal enclosure. These products are designed to be used under various service conditions and several connection options are available to customer request regarding the cable conductor and the metal screen. Range of maximum rated voltage (U_m) is 170 to 420 kV.



LINK BOXES

Link boxes are suitable for underground installation (IP68 rated) and can be installed both in a horizontal and vertical position. They are vital for the reliability of the cable system. The boxes offer access to the metallic sheath in order to test the outer protection of the system and limit transient over-voltage by the insertion of surge voltage limiters inside the boxes. They also transpose metal screens at the joints to enable limitation of circulating currents, and protection against over-voltage by the insertion of Surge Voltage Limiters.



MV cables

Prysmian Group is recognized as a world-class leader in the development and design of medium voltage (MV) cables. With our extensive technical and engineering expertise we are committed to using materials with the best overall properties. As a result, we are able to offers a wide range of MV cables for the commercial, industrial and urban residential networks.

Constructions like substations, rail networks and industrial parks require an efficient, reliable source of power. The insulation in our MV cables comes in different shapes to give optimal support depending on construction, location and other circumstances. It varies from paper to EPR, PVC and XLPE. The core can be used with solid or stranded copper or aluminium in both singles and triplex, and cables can be armoured or unarmoured.

SINGLE CORE MV CABLES

Ideally suited for use in a broad range of commercial, industrial and utility applications where reliability is the major concern, maximum performance is demanded, space is limited, ease of installation is critical.



3-CORE MV CABLES

The 3-cores medium voltage cables are used in industrial installations, in agricultural irrigation systems and energy distribution systems (especially 3.6/6 kV or 6/10 kV). The cables can be installed either in underground, indoor, outdoor and also in cable channel applications.



TRIPLEX MV CABLES

Our medium voltage cables in triplex formation are widely used in underground and overhead electrical distribution systems, making the connection between transformer stations and transformer posts in residential / industrial areas. They can also be used to evacuate renewable energy from solar / wind farms.



SPECIAL DESIGNED MV CABLES

In addition to standard cables, we design customised medium voltage cables according to customer needs. Our special cable solutions provide for variants developed and manufactured around a number of parameters, including specific cross-sections, type of conductors, insulation and bedding layers, screens and armouring or outer sheath materials.



COMMITTED TO SUSTAINABILITY

Made in Romania.

We are extremely proud to be part of the technological revolution, which will help making our society much more sustainable.

Producing avant-garde cables is nothing new to our esteemed colleagues at the Prysmian Energy plant in Slatina, but being able to contribute to a more sustainable world through new technologies is special, even for them. As an example, our medium voltage ARE4H5EX 3X (1x185) mm² 12/20 kV CPR F_{ca} cable is eco-friendly and certified as a Product Carbon Footprint (PCF) complying with requirements of ISO 14067:2018 standard. For this cable we also obtained the Environmental Product Declaration (EPD) in accordance with standard ISO 14025.

As a partner to us, you'll be able to cut down your environmental footprints and secure higher power transmissions while significantly reducing your total cost of ownership. And without having to invest in any new tools, joints, methods or educations. Yes, we thought of that too. Research, development and user-friendliness sits at the heart of everything we do.

Do you want to know more?

Visit our website: www.prysmiangroup.ro

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PRY-CAM

A Brand of Prysmian Group

Time for a check-up?

Let our PRY-CAM™ technology do the work.

THE PRY-CAM™ FAMILY

The PRY-CAM family is a range of monitoring and assessment products that allows you to identify accurate partial discharge in your network.

Suitable for any electrical equipment from 3 kV to 600 kV.

Do you want to know more?

Visit our website: www.pry-cam.com

USE ON HV AND MV EQUIPMENT



CABLES



TERMINATIONS



TRANSFORMERS



JOINTS



SWITCHGEAR



ELECTRICAL MACHINES



TO DETECT



TO PREVENT



TO MONITOR



TO LOCALISE



Top-notch customer service

Most High Voltage cable systems are custom designed to suit the specific environmental parameters and operating requirements of a particular route and loading conditions. From understanding our customers' needs and expectations to providing the support and installation they need, we got you covered.



Customised system concept – up to the mark right from the start.

Already at the planning stage, we are there to help you. We gladly advise you on selections and dimensions, on assembly configurations and termination methods. If you wish, we can supply you with all the necessary components and handle subprojects in conjunction with our products.

We offer support in:

- Analysis of applications / specifications for HV systems of 110 to 500 kV
- System design & installation design
- Production and supply of high voltage cables and system accessories
- Assistance throughout the handling of cables during installation
- Installation services of HV accessories with specialized teams
- HV system testing services before commissioning with mobile laboratories

Assembly and termination for HV and MV cables – we make sure that everything fits.

At our Centre of Excellence, or on spot, we help major Transmission System Operators (TSOs) and utilities develop power transmission and distribution grids. To achieve the best result, we always work together with our clients, making sure the solutions are perfectly designed to any specific need:

- Sealing ends of cast-resin
- Special sealing ends
- Medium and high voltage plug-on sealing ends

Repair and connection – always the right formula.

In the event of major or minor damage to HV or MV cables, we provide quick assistance – at a favourable price. We will repair cables either on site or at our facilities using original materials and proven technologies. Our qualified experts ensure that the serviceability of our cables is not adversely affected.

You can of course do the repair/connection yourself too – we provide all necessary original materials in the form of installation sets. We make sure that the connection is right between a number of insulated cables, or between special cables and fixed-mounted cables.

We always adhere to specified criteria to suit the application concerned, using shrink-on, cast-resin or vulcanization methods.

SUCCESS STORY #1: BRAȘOV (2018-2019)

Location: Brașov city

Distance: 90 km

Project description: Installing of HV underground cables inside the city, to connect the existing Substation of Electrica, and to extend the power grid in the new residential area (Tractorul).

Delivery of 90 km of 110 kV cables and high voltage accessories (terminations, joints and link boxes) for:

- Relocation and replacement of existing overhead lines (OHL) with underground lines (UGL)
- Upgrading UGL 110 kV by replacing cables with paper insulation with cables with XLPE insulation
- Increasing network safety degree by creating new 110 kV underground power lines





SUCCESS STORY #2: TÂRGOVIȘTE (2019)

Location: Târgoviște

Distance: 9.6 km

Project description: Delivery of 9.6 km of 110 kV cables and high voltage accessories (terminations, joints and link boxes) for:

- Replacement of 110 kV OHL with 110 kV double circuit UGL in order to free the site for urban development and shopping center construction
- Increasing safety by improving transport capacity

PRYSMIAN GROUP

Offices Romania
Strada Dragănești, nr. 28,
Slatina, 230119

Phone: +40 249 406 633

infocables-ro@prysmiangroup.com



prysmiangroup.ro

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