

# Sectorflex<sup>®</sup> - type cables

Smaller, lighter and more sustainable,  
for FPSO and offshore applications.



# 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.

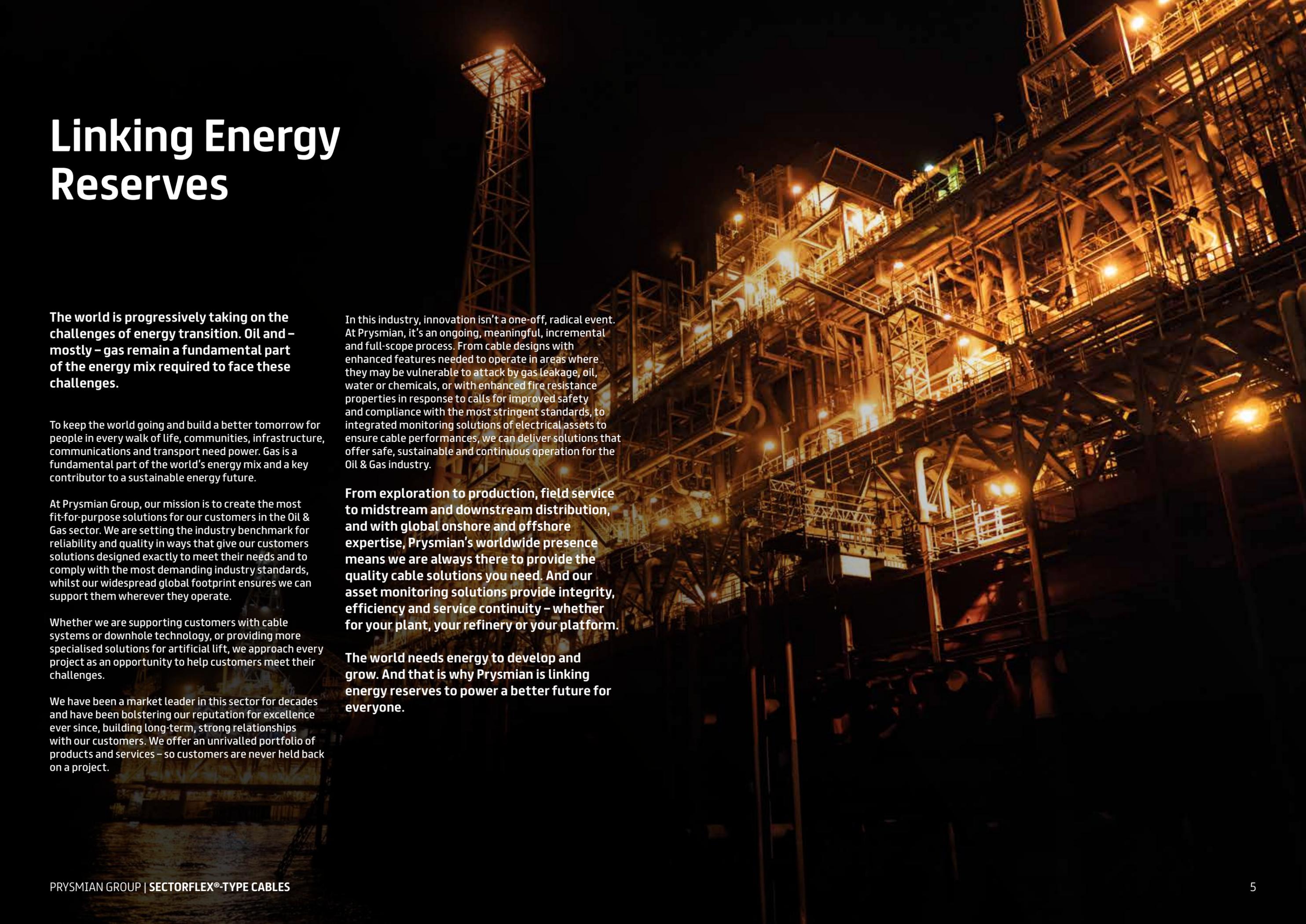


**We are committed to environmental responsibility** in our production processes, the protection of the global environment, and the responsible management of relations with the local communities in which we work.



**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 Energy Reserves



**The world is progressively taking on the challenges of energy transition. Oil and – mostly – gas remain a fundamental part of the energy mix required to face these challenges.**

To keep the world going and build a better tomorrow for people in every walk of life, communities, infrastructure, communications and transport need power. Gas is a fundamental part of the world's energy mix and a key contributor to a sustainable energy future.

At Prysmian Group, our mission is to create the most fit-for-purpose solutions for our customers in the Oil & Gas sector. We are setting the industry benchmark for reliability and quality in ways that give our customers solutions designed exactly to meet their needs and to comply with the most demanding industry standards, whilst our widespread global footprint ensures we can support them wherever they operate.

Whether we are supporting customers with cable systems or downhole technology, or providing more specialised solutions for artificial lift, we approach every project as an opportunity to help customers meet their challenges.

We have been a market leader in this sector for decades and have been bolstering our reputation for excellence ever since, building long-term, strong relationships with our customers. We offer an unrivalled portfolio of products and services – so customers are never held back on a project.

In this industry, innovation isn't a one-off, radical event. At Prysmian, it's an ongoing, meaningful, incremental and full-scope process. From cable designs with enhanced features needed to operate in areas where they may be vulnerable to attack by gas leakage, oil, water or chemicals, or with enhanced fire resistance properties in response to calls for improved safety and compliance with the most stringent standards, to integrated monitoring solutions of electrical assets to ensure cable performances, we can deliver solutions that offer safe, sustainable and continuous operation for the Oil & Gas industry.

**From exploration to production, field service to midstream and downstream distribution, and with global onshore and offshore expertise, Prysmian's worldwide presence means we are always there to provide the quality cable solutions you need. And our asset monitoring solutions provide integrity, efficiency and service continuity – whether for your plant, your refinery or your platform.**

**The world needs energy to develop and grow. And that is why Prysmian is linking energy reserves to power a better future for everyone.**

# Sectorflex®-type cables

Installation and cable handling on a platform (topside) or on a ship (FPSO) is always challenging due to issues with weight and constraints on space. This proves particularly true when it comes to cables with larger conductors.

In a constant effort to provide added value to end users and operators, Sectorflex® is an innovative solution and the result of the synergies and combined capabilities of the Prysmian Group and General Cable R&D teams developed to address these challenges.



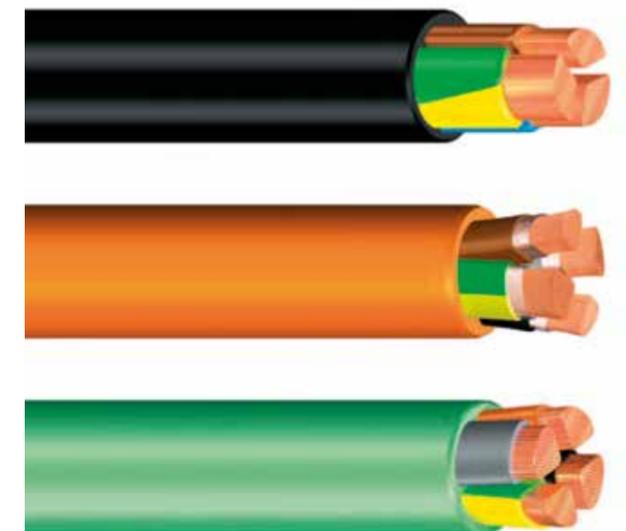
## WHAT IS SECTORFLEX®?

Sectorflex® is a patented conductor design. LV cables using Sectorflex® conductor design have flexible conductors in sections equal to and above 50 mm<sup>2</sup> that are sector-shaped but return to a circular shape when the insulation is stripped.

Sectorflex®-type cables feature improved bending radius and longer drum lengths.

Among the many advantages they offer, Sectorflex®-type cables are smaller in diameter, lighter, easier to handle and install, compatible with conventional terminations and accessories, and, most of all, with the same electrical performance.

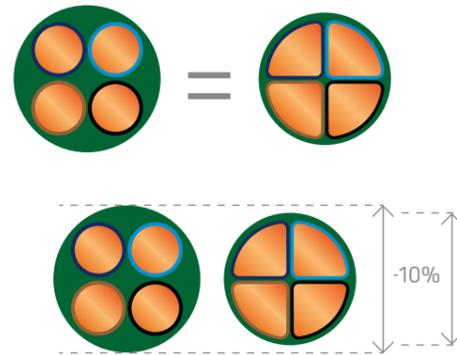
They are available both with Class 2 or Class 5 DC resistance as per customer needs.



# BENEFITS

## SMALLER DIAMETER

Regardless of the cable configuration and the conductors' cross-section, the resulting average diameter reduction for Sectorflex®-type cables vs round-shaped conductors is by 10%.



## LIGHTER WEIGHT

The Sectorflex®-type cables outer diameter reduction also implies an average reduction in weight. Regardless of the cable configuration and the conductors' cross-section, the resulting average weight reduction for Sectorflex®-type cables vs round-shaped conductor-type is by more than 10%.



## IMPROVED BENDING RADIUS, EASIER HANDLING AND INSTALLATION

The difficulties resulting from limited space available for cable installation in offshore environments are a matter of fact and a huge challenge in the industry.

Sectorflex®-type cables reduced diameter and weight prove key to improve installation efficiency and quality. Cables take up less space in the trays, they pass through tubes and pipes more easily, withstand a narrower bending radius (down to 4x diameter) and require lower pulling strength.

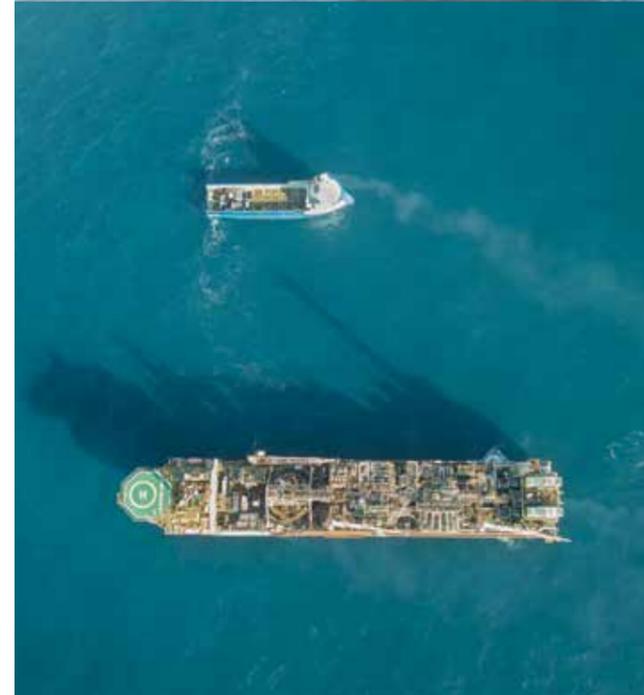
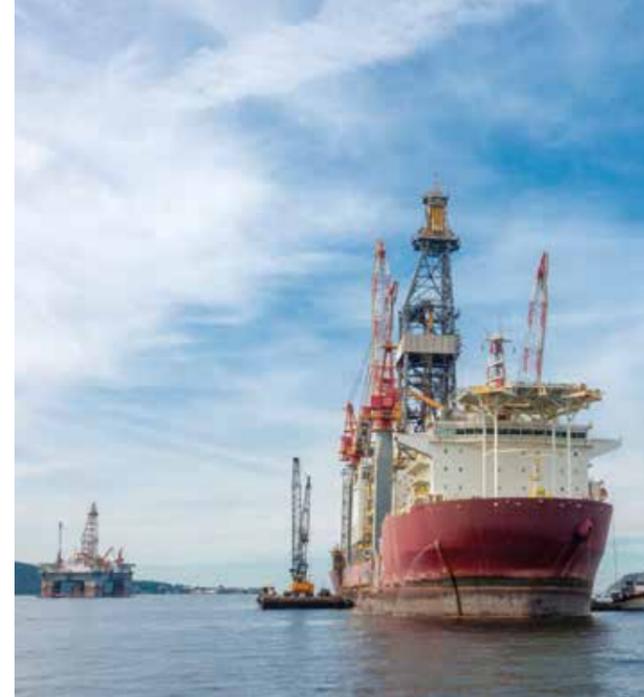
In addition, the larger surrounding space resulting from the installation of cables with a reduced outer diameter enables a more effective dissipation of the heat generated by the losses in the cable, thus improving its operating conditions, too.



CABLE WITH ROUND-SHAPE CONDUCTORS

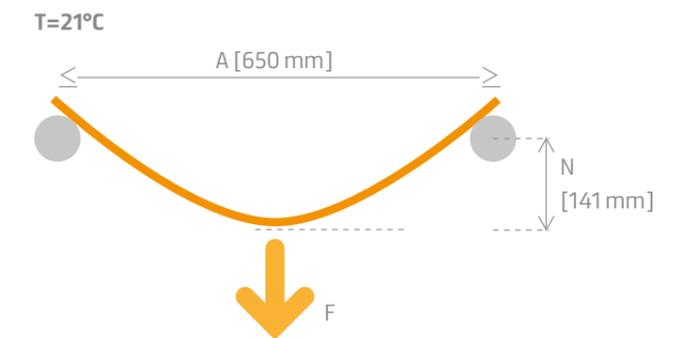


SECTORFLEX®-TYPE CABLE



Sectorflex®-type cables also provide easier handling during installation compared with the conventional circular conductor flexible cables.

Comparison tests were carried out between Sectorflex®-type cables and cables with round-shaped conductors having identical cross-sections (4x120 mm<sup>2</sup>) and using identical materials with identical insulation and outer sheath, measured the force required to bend the cables and assessed the cables' spring-back effect when the force was released.



Data obtained, show a substantial improvement in the Sectorflex®-type cable handling, especially in terms of force needed to bend it, reduced by 39%. Similarly, the spring-back effect shows a reduction by more than 8%. Both factors contribute to a highly considerable improvement in the conditions under which the cable is used, as far as installation, laying and working life are concerned.

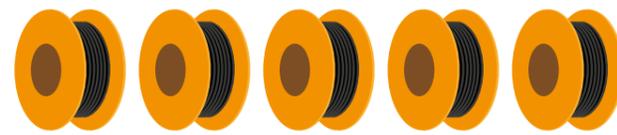
CABLE TYPE	Force (kg)	Spring-back effect (%)
Sectorflex®-type 4x120 mm <sup>2</sup>	22,8	83%
Round-shaped conductor 4x120 mm <sup>2</sup>	37,6	76%

## LONGER DRUM LENGTHS

The reduced outer diameter and weight of Sectorflex®-type cables results into manufacturing longer drum lay lengths and, in turn, reduces the number of joints and terminations versus cables with conventional round-shaped conductors.

It also decreases the number of shipping drums to be used.

The smaller and lighter the cable, the longer the length that can be coiled on a drum. All of these features lead to a significant reduction in shipping and installation costs.



CABLE WITH ROUND-SHAPE CONDUCTORS



SECTORFLEX®-TYPE CABLE



*Photo sequence shows the termination process of a Sectorflex®-type cable with the same tools used to terminate a round-shaped conductor cable.*

## USE OF CONVENTIONAL TERMINATIONS AND ACCESSORIES

Sectorflex®-type cables are compatible with conventional terminations and accessories and do not require non-standardised tools.

When stripped, the insulated sector-shaped cores naturally return to a round shaped configuration and allow the use of exactly the same lugs as round-shaped conductors.



## SAME CROSS-SECTION, SAME ELECTRICAL PERFORMANCE

The electrical performances of Sectorflex®-type cables are identical to those using round-shaped conductors.

## MORE SUSTAINABLE

Reduced cable outer diameter and weight in association with longer manufacturing lengths and a reduced number of shipping drums make Sectorflex®-type cables more sustainable as they use fewer resources, both in terms of raw materials and production process, thus contributing towards a lower CO<sub>2</sub> footprint both for the manufacturer and for the user, and improving the environment and society in general.

**Prysmian**  
Group

Linking  
the Future

**Prysmian**  
**Draka**  
**General Cable**

**PRYSMIAN GROUP**

Via Chiese, 6 – 20126  
Milano / Italy

T +39 02 64491

[marketing.energy@prysmiangroup.com](mailto:marketing.energy@prysmiangroup.com)



[prysmiangroup.com](http://prysmiangroup.com)

Follow us

