



P-Laser

The future of cabling for today's utilities.

Enhanced performance. Superior service. Environmental sustainability.





A commitment to working together.

P-Laser

Working in partnership with you. Understanding the challenges of the utilities sector. Helping you deliver the energy that supports lives around the planet.

Those are the commitments Prysmian makes to you, and which now see us introduce a distribution network cabling solution designed and developed to deliver the performance you need: P-Laser.

A sustainable solution that integrates seamlessly.

Put us to work for your organisation and you'll discover that, finally, there is a partner offering solutions that are better for the planet and perfectly suited to integrating into your existing networks. A partner that helps you deliver better customer service. A partner whose support means you're ready for the future and the opportunities it presents.

Leading the world with our utility partners.

Introducing a product such as P-Laser is the perfect demonstration of Prysmian's commitment to innovation and to working in partnership with you. And it is a story built on years of research and development.

P-Laser is the culmination of this in-depth R&D work, introducing a significant step forward in cabling technology. As well as providing enhanced performance and reliability, it optimises supply chain processes, reduces total cost of ownership and allows your organisation to operate more sustainably.

In fact, research and development sits at the heart of what we do.

Our R&D expertise

- 130 years' experience
- 6,000 patents granted or filed
- 22 excellent centres around the world
- 700 R&D professionals



P-Laser gives you more – in three ways.

P-Laser is the first eco-sustainable cable for electrical grids. It gives you the ideal solution with which to deliver enhanced network reliability, whilst enjoying operational and environmental benefits.



CO₂ equivalent emission reduced by 80% (range)*

With P-Laser, you are better placed to meet your environmental responsibilities and make less impact on the planet, providing energy in a way that safeguards the future for all of us. That's because it uses:

- 100% eco-friendly thermoplastic** and fully recyclable materials
- zero-gas technology, which means increased energy efficiency and reduced greenhouse gas emissions.



Operating temperature range increased by 20%

P-Laser isn't compromised by temperatures as high as 130°C. So in the case of emergencies or grid congestion, it delivers greater capability, meaning your network reliability isn't compromised and you mitigate the risk of financial penalties.



Superior service thanks to production time cut from days to hours

The process of producing P-Laser is more efficient and reliable than previously achievable. Without the degassing process and thanks to the possibility of uninterrupted, single-line production, you receive the cable you need, faster and in a form that's fully compatible with your existing networks.

* refers to the end-of-life phase of Life Cycle Assessment (LCA) evaluation

** HTPe: High-performance Thermoplastic Elastomer

Meeting the demands of your business and the planet.

Whether it's to satisfy your sustainability objectives or to reduce your impact on the planet, environmental concerns are never far from the agenda of a utility organisation like yours.

That's why P-Laser cabling is the ideal answer. Manufactured using thermoplastic and fully recyclable materials, the solution is 100% eco-friendly. What's more, its innovative production process and 'zero-gas technology' mean increased energy efficiency and reduced greenhouse gas emissions.

So, from your operations to the world in which we live, you know you're satisfying the demands placed upon your business.

Meeting regulatory requirements

Along with all other Prysmian products, P-Laser is manufactured to comply with major national and international standards across Europe. The Prysmian sites on which P-Laser is manufactured are certified according to ISO 18001 Quality Management Systems standards for their specific activities and products and ISO 14001 Environmental Quality standards.

"Prysmian's aim is to partner utilities engaged in upgrading and developing their electrical grids while seeking to reduce the environmental impact of such grids."

Fabio Romeo,
Chief Commercial Officer, Prysmian



Thanks to fully recyclable materials, 500kg of high-quality plastics are recovered from every 1km of 185mm² cable core section.



With P-Laser, rising network temperature doesn't mean falling reliability.

In the case of network emergencies or grid congestion, power surges and increased traffic can cause cable temperatures to rise – which can reduce the life expectancy of other cabling solutions.

P-Laser is different. A medium-voltage solution manufactured using thermoplastic, it's capable of performing at higher temperatures than other cabling technology.

So you know that when the pressure is on, your network will still perform.

In a world where energy could now be derived from wind, solar or hydro-electric sources, your network requires cabling that can deal with sudden fluctuations in network supply and demand. So P-Laser technology, with its ability to perform at higher temperatures, could not be a more relevant solution for you.

	XLPE	P-Laser
Operating temperature	Up to 90°C	Up to 110°C
Emergency temperature	105°C	130°C
Dielectric strength	Excellent	
Electrical breakdown strength (AC, lightning impulse, after ageing)	Very good	Excellent
Thermo-pressure resistance	105°C	130°C
Handling characteristics	Good	

A production process that means better service for you.

The production of P-Laser is more efficient and reliable than previously achievable with existing cabling solutions.

P-Laser is manufactured using a high-performance thermoplastic elastomer (HPTE) developed by Prysmian's R&D laboratories and covered by patents and patent applications.

The use of thermoplastic means degassing is no longer required and it is possible to manufacture P-Laser on a single and uninterrupted production line.

This means, product and production process are completely integrated, which significantly streamlines the supply chain and considerably reduces factory lead times. So not only does the product deliver performance benefits, it also means you enjoy advantages in terms of service and supply.

Finally, P-Laser is a product developed to satisfy the bespoke requirements of networks in various countries, and is 100% compliant with current network components.

"P-Laser's production processes mean significant reductions in lead time and real advances in product availability"

Agusti Valls i Prats,
Corporate R&D Director, Prysmian

	Standard Process		P-Laser Process	
	Elapsed Time	°C	Elapsed Time	°C
Insulation	11 hours	130÷300	5 hours	200
Degassing	48+24 hours	80		
Jacketing	8 hours	200		
Total	91 hours (almost 4 days)		5 hours (-94%)	

About Prysmian.

Prysmian is a world leader in the energy and telecommunication cables industry, with a strong market position in higher added-value market segments.

Our business is organised in two sectors: Energy Cables and Systems (submarine and underground cable systems for power transmission and distribution, cabling solutions for residential and infrastructure buildings and cable systems for signalling, control and power feeding for a wide range of industrial applications); and Telecom Cables and Systems (optical fibres, optical cables and copper cables for voice, video and data transmission).

The Prysmian Group has a global presence in 50 countries with 98 plants, 22 international R&D Centres, more than 22,000 employees and more than 6,000 patents granted.

Specialising in the development of bespoke products and services, Prysmian's main competitive strengths include: focus on research and development, ability to innovate in terms of both products and processes, and the use of advanced proprietary technologies.

Prysmian 'P' products for a healthier planet.

Prysmian is committed to creating a portfolio of 'P' products and solutions that promote both our world-renowned quality standards and the generation and distribution of power from renewable sources. P-Laser is one such solution and we have many other initiatives in development.

We have also elected to make environmental protection part of our business objectives. Products are designed and created in compliance with international industry standards with the goal of satisfying current requirements, aimed at improving environmental performance, cutting the use of harmful substances and reducing pollution.

As well as providing technologies to renewable energy infrastructures such as wind and solar plants, we always apply the best available technology for reducing the environmental impact of our products.

Learn more about the capabilities of P-Laser

Utility providers across Europe are already putting the groundbreaking capabilities of P-Laser to the test, discovering how it can deliver major benefits in terms of performance, production efficiency and environmental impact.

So if you'd like to talk to us about its many advantages, we'd be delighted to help.

Speak to a Prysmian P-Laser expert

Call +39 02 6449 9311

Email p-laser@prysmian.com

Visit www.prysmian.com/p-laser

Total Compatibility

P-Laser technology has been designed to meet your precise requirements. Every stage of its production – and its performance – is optimised to deliver maximum benefit to you. P-Laser represents a major step forward in distribution network cabling, but its implementation in the field is entirely consistent with existing processes.

- The same tools
- The same joints
- The same preparation methods
- The same technicians

"From the outset of the P-Laser project, compatibility has been at the forefront of our thinking. We were determined to develop a product that integrated seamlessly with all existing technology, be that Prysmian's or indeed competitor products, and required no re-training."

Alberto Bareggi,
R&D Cables Technology, Prysmian



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