



Click-Fit® Joints



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Accessories for high voltage
polymeric cables

About us

Prysmian Cables & Systems is a world-class multinational company. Founded in 1872 as "Ditta Pirelli & C.", it has achieved a leading position for more than a century of operations in its two key international markets - "Energy Cables and Systems" and "Telecom Cables & Systems".

Prysmian Cables and Systems is the world's largest manufacturer of power and telecommunications cables, with 52 manufacturing facilities in 21 countries in five continents and a market share in excess of 10%.

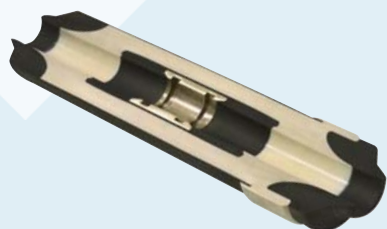
Prysmian Energy Cables and Systems is a global solutions provider, offering a wide range of integrated solutions, such as cable systems, system design and engineering, project management, installation and post-sale services.

Prysmian Energy Cables and Systems concentrates on continuous product innovation and on achieving a competitive edge by focusing on research and development. This is done through Prysmian's own R&D centres and by co-operating with universities, scientific institutions and above all, our customers. Prysmian's world-wide organisation makes and delivers advanced technological solutions to customers anywhere in the world.

Prysmian started manufacturing insulated cables for electric power distribution around 1880 and soon afterwards initiated the development of the first cable accessories.

Prysmian's very long and successful experience in HV and EHV cable systems have lead to the development of a comprehensive range of accessories for extruded dielectric cables.

A relentless R&D effort focused on rubber compounds as well as on electrical design has created accessories for all applications, based on pre-moulded and factory tested joint sleeves and termination stress cones that are recognised worldwide for their unsurpassed reliability.



CLICK-FIT®

> Concept

The CLICK-FIT® plug-in concept is a unique system designed to connect high and extra high voltage extruded power cables for 72kV up to 420kV. Following the principle of the CLICK-FIT® concept, the ends of the cables are pre-prepared and provided with plugs. The uniform plug design enables the installation of joints and terminations simply by plugging-in the prepared cable end. Important features of the CLICK-FIT® concept are: high reliability combined with fast, easy and man-independent installation techniques, that lead to a reduction in project realization time and cost.

> Joint

The CLICK-FIT® joint is a prefabricated and pre-tested joint, designed to connect two high voltage cables with extruded insulation. The cable ends, provided with CLICK-FIT® plugs, are pushed into the silicone rubber insulating body and connected in the middle by means of silver plated electrical contacts. In the middle of the joint an integrated metallic grooved ring locks the position of the plugs through a spring-loaded bayonet mechanism. The CLICK-FIT® plug is connected by means of compression, MIG-welding or shear-off bolts.

The pre-moulded insulating and stress control body is made of high quality pre-moulded silicone rubber material with excellent insulating properties and high mechanical reliability. The integrated semi-conductive silicone rubber stress control cones and shielding electrode ensure a smoothly distributed electrical field control. Every single joint body is electrically routine-tested and visually examined before leaving the factory.

Depending on the cable construction, different options are available to electrically re-connect the metallic cable sheaths or wire screens. A galvanized copper joint tube, polymeric shrinkage bodies or a combination of these provides protection of the joint against moisture ingress and external damages. The joint is fully submersible in water. Optionally, a polyester protective casing reinforced with glass fibre and filled with bitumen or polymeric compound is available. Straight joints as well as joints with integrated screen interruption for cross bonding purposes are available. In case of screen interruption, the metal joint casing is provided with an epoxy-insulating ring.

Factory prepared

> CLICK-FIT® cable ends

The so-called "Factory prepared CLICK-FIT® cable end" is a unique feature of the CLICK-FIT® concept. It allows cable preparation to be completed entirely in the cable factory. After assembly, the plug can be tested electrically together with factory testing of the cable reel. During transportation and pulling of the cable, the factory prepared plug has to be protected using the special CLICK-FIT® pulling eye.

The pulling eye includes a sturdy - yet flexible - hose that protects the cable and the plug from mechanical damages and water ingress. On site, the pulling eye is removed and the plug is inserted into the accessory. The plugs automatically lock into the joint body by using spring driven bayonets. The right connection is a fact!

Test and qualification program

The CLICK-FIT® joint has been subjected to comprehensive tests, comprising:

- > Type tests according to IEC 60840, IEC 62067, NEN 3629 and IEEE 404
- > Prequalification tests according to IEC 62067
- > Short circuit tests
- > Dielectric withstand tests for AC and impulse voltages
- > Tests to ensure the compatibility between cable and accessories under different installation conditions

Prysmian HV Accessories quality system complies with both ISO 9001 and ISO 14001 standards. Prysmian HV accessories based on prefabricated mouldings represent a highly reliable solution that is considered a key component in the safe operation of a HV cable system.



Prefabricated CLICK-FIT® Joints

available from 72,5 kV up to 525 kV

> Additional features

Following the latest developments in cable design and in view of a full system approach, upon request the CLICK-FIT® joints can include:

- > Optical fibres management
- > Partial discharge sensor
- > Factory prepared CLICK-FIT® cable ends
- > Provisions to connect two extruded cables of different type and size

> Installation basics

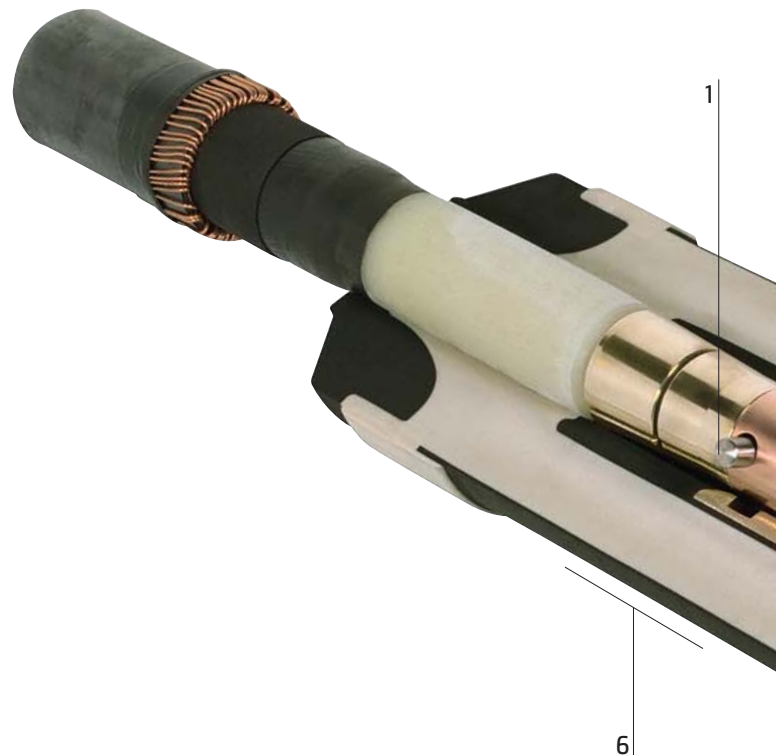
- > Assembly of the CLICK-FIT® plug
- > Cable ends plugged into the joint body with the special hydraulic driven CLICK-FIT® installation frame
- > Connection of the cable metal screen
- > Application of the outer protective covering

> CLICK FIT® joint characteristics

- > High quality and reliability
- > Prefabricated
- > Pre-tested joint body
- > CLICK-FIT® plug-in concept
- > Complying with IEC 60840, IEC 62067, NEN 3629 and IEEE 404
- > Copper casing ensures mechanical protection and absolute water tightness

> Installation characteristics

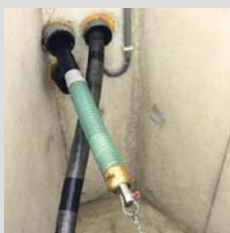
- > Quick, easy and man-independent
- > Modular design allows tailor-made solutions
- > Locking the conductor in the joint body
- > Compact design, allowing installation in small spaces
- > Easy to handle, light-weighted tools



Legend

- 1 Plugs
- 2 CLICK-FIT® locking mechanism
- 3 Joint body
- 4 Shielding electrode
- 5 Stress control cones
- 6 Different options for covering

YOUR ENERGY... OUR SYSTEMS... ANYWHERE



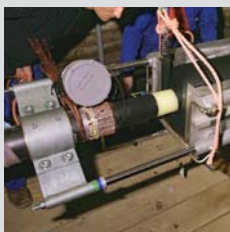
FACTORY PREPARED
CABLE END WITH
PULLING EYE



FACTORY PREPARED
CABLE END READY
FOR INSTALLATION



ON-SITE CABLE END
PREPARATION



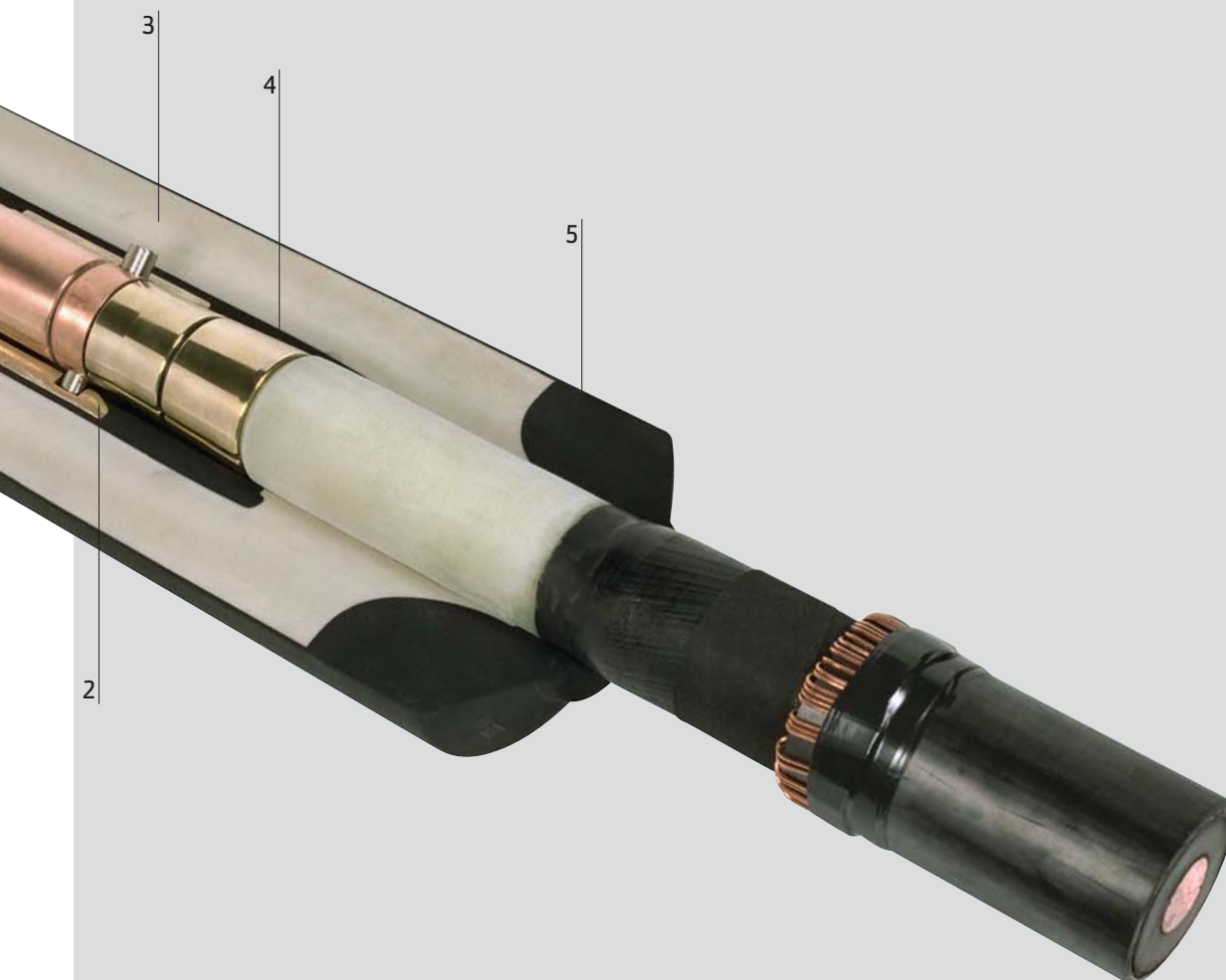
CABLE END PLUG-IN
USING INSTALLATION
FRAME



JOINT CORE FINISHING



COMPLETE JOINTS
IN FINAL POSITION



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