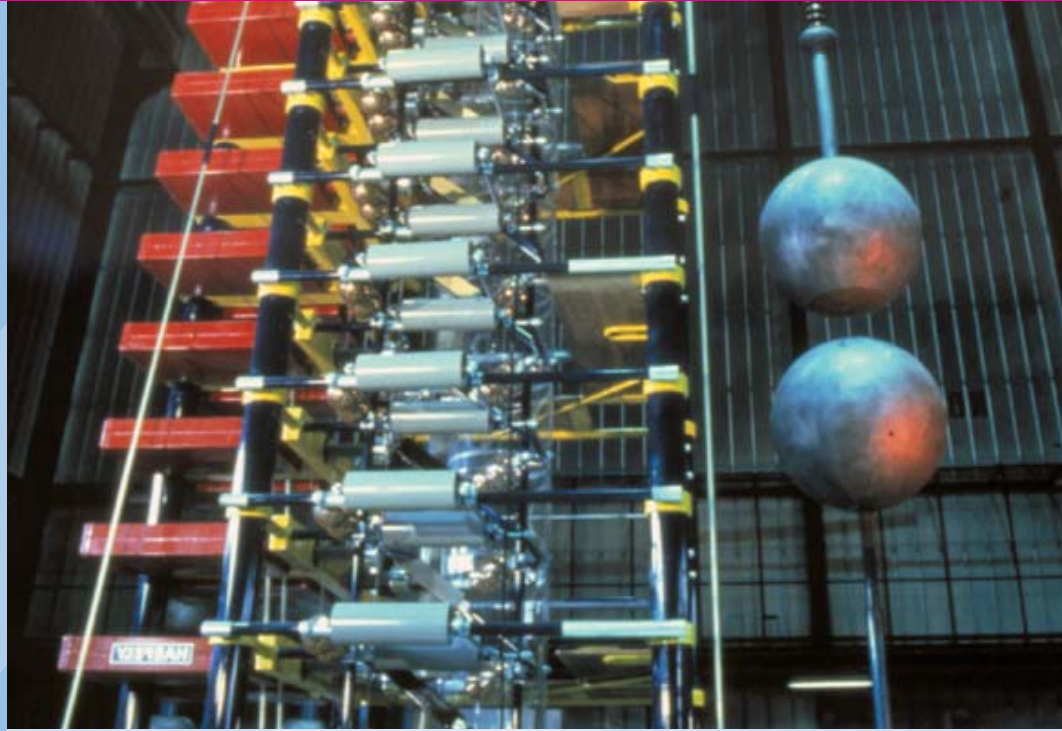




TRANSITION JOINTS



Transition Joints 132kV

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 & Systems' and 'Telecom Cables & Systems'. In 2005 it left the Pirelli group to become Prysmian Cables & Systems.

Prysmian Cables & Systems is the world's largest manufacturer of power and telecommunications cables, with 52 manufacturing facilities in 21 countries across 5 continents and a market share in excess of 10%.

The Company is a global provider, offering a wide range of integrated solutions to the energy market, such as:

- > Cable systems
- > System design and engineering
- > Project management
- > Installation
- > Post-sale services

Prysmian Cables & 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.



Single core XLPE to single core IP gas pressure cable transition joint

HV Systems

As a result of the increasing use and reliability of extruded (XLPE) technology for HV and EHV cables, transmission system owners are moving away from traditional fluid filled and gas pressure cables. Extensions to existing cable networks, or maintenance on old cable circuits, often require connecting the existing fluid filled or gas pressure cables with new sections of XLPE cables. Such situations require connections between very different cables, and tailor made joints are needed in order to guarantee the right performance level.

Prysmian has been manufacturing transition joints since the 1980's and this latest range of products, which incorporates Prysmian's Click-Fit[®] technology, simplifies jointing procedures, reduces installation times, whilst maintaining high levels of reliability and robustness in service.

The electrical stress in the fluid filled or gas pressure side of the joint is controlled using paper stress cones specifically designed for this purpose.

Complete separation between the extruded (XLPE) cable side of the joint and the fluid filled or gas pressure side of the joint is achieved using an epoxy resin bushing. This is specifically designed to withstand the possible high pressures involved and prevent leakage to the XLPE side.

The XLPE side of the joint uses range taking Click-Fit[®] technology, which locks the conductor into the joint moulding and is quick and easy to prepare.

Many years of operation in the HV business has made Prysmian the worldwide market leader in terms of innovation, design, quality and reliability of HV systems and accessories.



Transition Joint Product Range

Includes:

- > Single core XLPE to single core Fluid Filled cable
- > Trifurcating three core Fluid Filled to three single core XLPE cable
- > Single core XLPE to single core IP Gas Pressure cable
- > Single core XLPE to single core or three core Gas Compression cable

Prysmian transition joints come with a range of outer protection, which include full glass fibre boxes or heat shrink tubes, depending on the level of protection required.

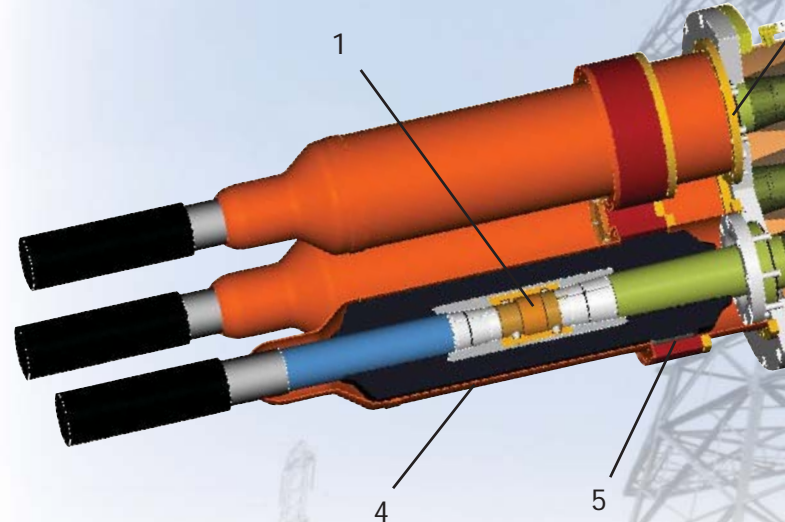
> Three Core Transition Joints

The Click-Fit[®] rubber moulding is incorporated into the joint in the factory, only the XLPE cable itself requires preparation onsite. This reduces the installation time and reduces the risks during joint preparation. In addition, Prysmian can supply the XLPE cable pre-terminated which further reduces installation times.

The three core transition joint has been specially designed to incorporate the epoxy resin insulators into a separation plate, this ensures that there is no leakage from the fluid filled to the XLPE side of the joint.

The fluid filled cable is restrained within the joint to ensure that mechanical forces during operation are properly controlled to prevent premature failure of the joint.

XLPE Side

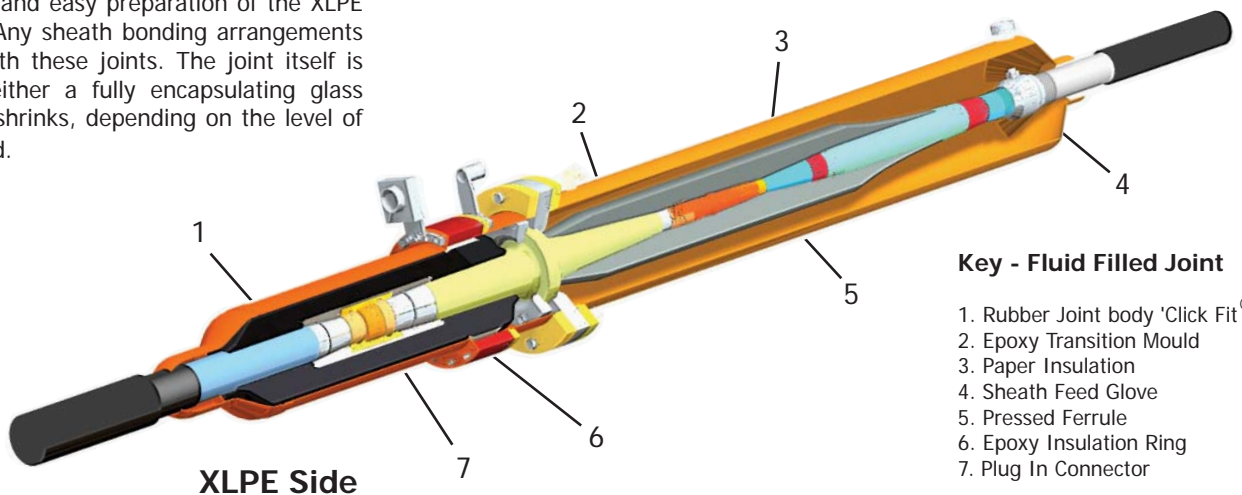


Fluid Filled Joint

> Single Core Transition Joints

The single core joints incorporate Click-Fit[®] technology to allow for quick and easy preparation of the XLPE side of the joint. Any sheath bonding arrangements can be utilised with these joints. The joint itself is protected using either a fully encapsulating glass fibre box or heat shrinks, depending on the level of protection required.

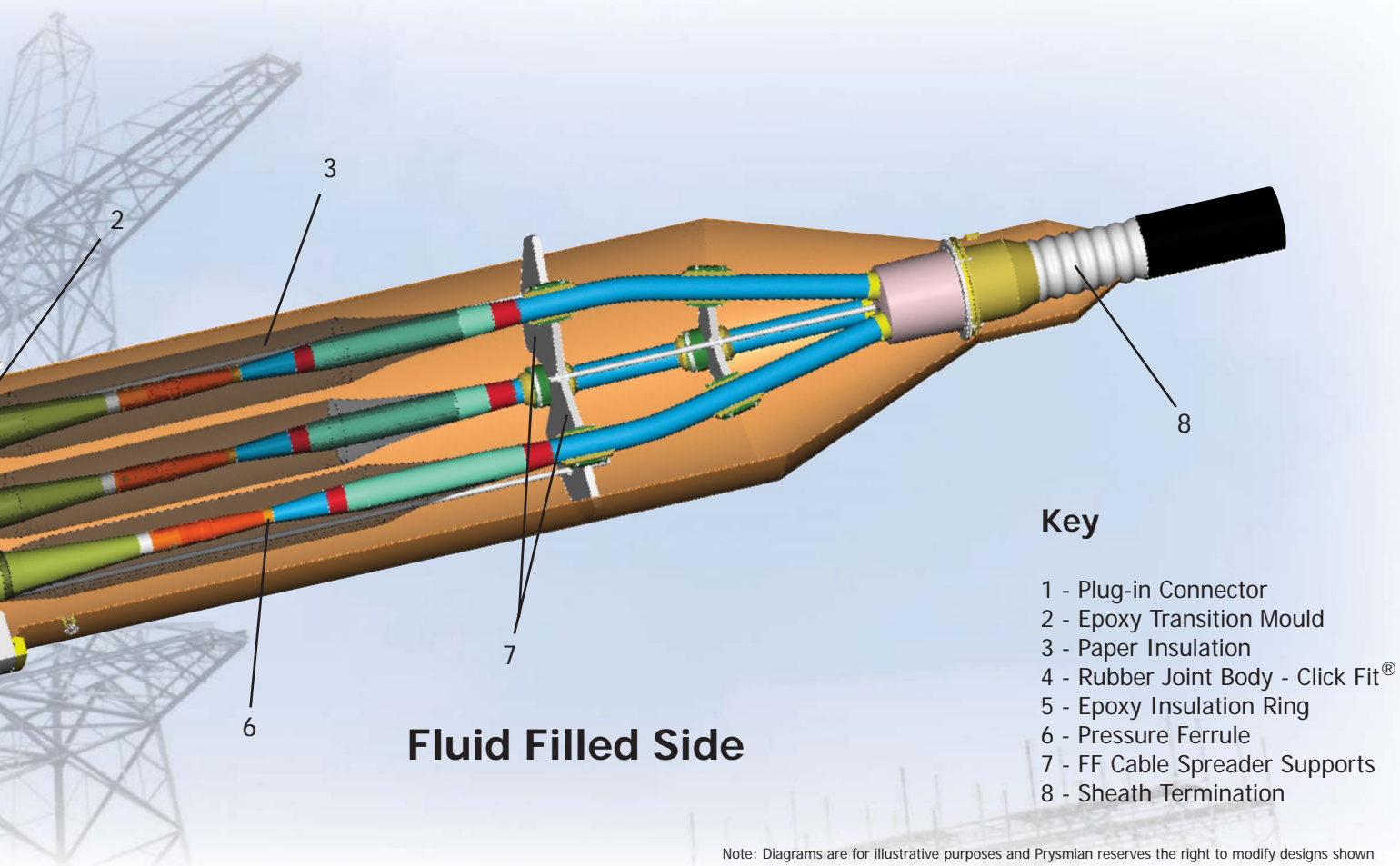
Fluid Filled Side



Key - Fluid Filled Joint

1. Rubber Joint body 'Click Fit'[®]
2. Epoxy Transition Mould
3. Paper Insulation
4. Sheath Feed Glove
5. Pressed Ferrule
6. Epoxy Insulation Ring
7. Plug In Connector

Three Core Transition Joint

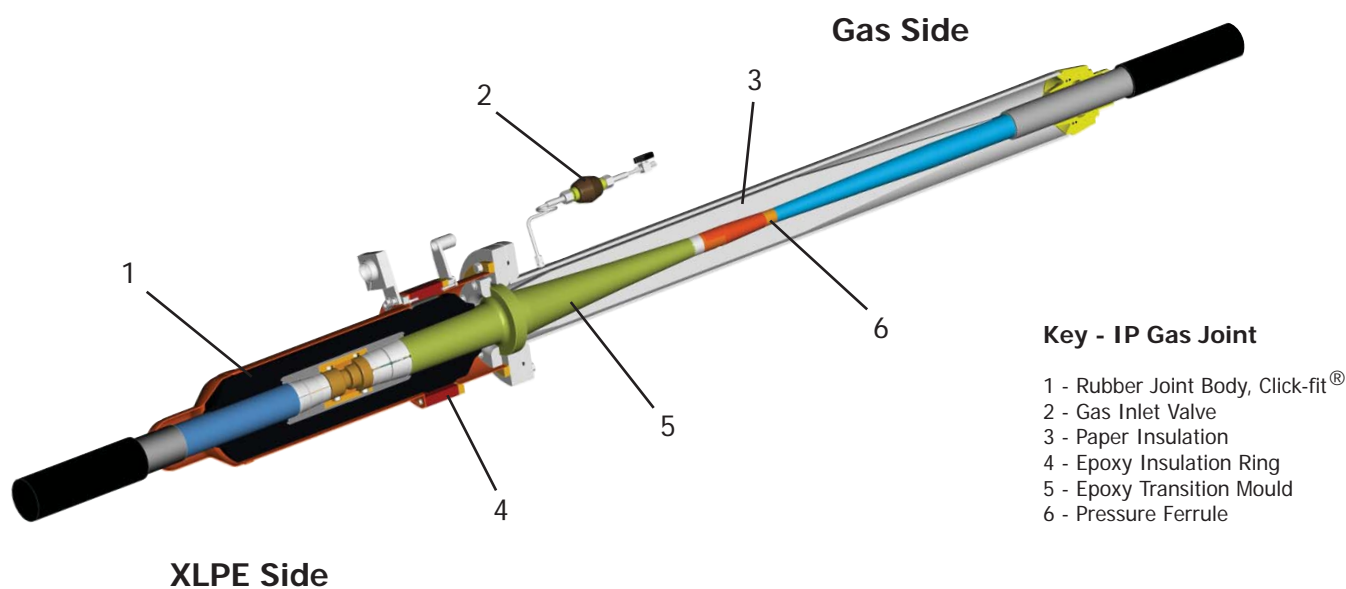


Key

- 1 - Plug-in Connector
- 2 - Epoxy Transition Mould
- 3 - Paper Insulation
- 4 - Rubber Joint Body - Click Fit®
- 5 - Epoxy Insulation Ring
- 6 - Pressure Ferrule
- 7 - FF Cable Spreader Supports
- 8 - Sheath Termination

Note: Diagrams are for illustrative purposes and Prysmian reserves the right to modify designs shown

IP Gas Joint



Key - IP Gas Joint

- 1 - Rubber Joint Body, Click-fit®
- 2 - Gas Inlet Valve
- 3 - Paper Insulation
- 4 - Epoxy Insulation Ring
- 5 - Epoxy Transition Mould
- 6 - Pressure Ferrule

Transition Joint Range Key Features and Benefits

Features	Benefits
Transition joints are available as both single core connections and trifurcating designs for both Gas to XLPE and Fluid Filled to XLPE	Solutions for all cable and jointing configurations are available
The transition joints are designed to take a wide range of cables	XLPE range – 185 sqmm to 1600 sqmm Fluid Filled range – 185 sqmm to 1000 sqmm Gas Pressure range – 185 sqmm to 630 sqmm
Incorporates Prysmian's patented Click-Fit [®] technology	Typical installation times are reduced by up to 20% Reduces the risks of errors during preparation and installation
Components are pre-fabricated and factory tested	Ensures a high degree of reliability
The transition joint is compact	Joint bag sizes are around 20% smaller
Click-Fit [®] is a dry design concept for XLPE jointing	No silicone oils required
Click-Fit [®] technology locks the conductor into the joint body	No pull out risk during thermo-mechanical expansion and contraction of the cable
Suitable for special sheath bonding arrangements	Any sheath bonding arrangements can be accommodated in all of the joints
The Click-Fit [®] transition joint incorporates an epoxy barrier between the Fluid Filled side of the joint and the XLPE side	Prevents leakage from Fluid Filled side to XLPE side
Fully type tested based on IEC 60840 and IEC 141-1 standards	To guarantee longevity in service
Applicable for voltages up to $U_m = 145kV$	Suitable for a range in system voltages



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