

# INTERTECH

**2012**  
CATALOGUE

- **SUPPLY**
- **INSTALL**
- **MODIFY**
- **REPAIR**

Quality, Service, Reliability and Know How  
*to connect your network*

# Welcome to INTERTECH

Intertech Engineering designs, supplies and installs cable jointing and termination equipment for electrical power transmission and distribution from LV to EHV.

Intertech is based in Melbourne with branch offices in NSW and Queensland. We offer Quality, Service, Reliability and Know How to the power transmission and distribution industry in Australia and New Zealand.



## CONTACT DETAILS

### VICTORIA (Head Office)

15 Sir Laurence Drive, Seaford 3198

P: (03) 8770 5500

F: (03) 9773 5666

### NEW SOUTH WALES

8/79 Williamson Rd. Ingleburn 2565

P: (02) 9605 7648

F: (02) 9605 7951

### QUEENSLAND

11/720 Macarthur Avenue Central.

Pinkenba 4008

P: (07) 3260 1369

F: (07) 3260 1394

# PRODUCT CATALOGUE 2011

## 1 MV to EHV Cable Accessories

3M Cable Joints and Terminations

CABUS Submarine Cable Joints, Terminations and Fittings

PFISTERER CONNEX Pluggable Jointing System

PFISTERER Connectors, Earthing and Safety

PFISTERER IXOSIL HV and EHV Joints and Terminations

Cable Clamps and Fixings

PRYSMIAN Separable Connectors

ECS Oil and Gas Transition Joints

Oil Degasification

## 2 Power Transmission

SFPOC Optical Groundwire

## 3 HV and EHV Test and Repair

Highvolt HV Test Equipment

PFT Leak Detection

CableCure Dielectric Cable Repair

## 4 LV Busway Systems

LV PowerPlus Busway to 5000A

## 5 Repair and Modification Services

## 6 Design and Installation Services

## 3M Cable Joints and Terminations

Intertech is the Australian Master Distributor for 3M Electrical products. We design, kit and sell cable joint and termination solutions for low to medium voltages.



Most of the 3M Cable Joint and Termination kits use 3M's Cold Shrink Technology. This technology is preferable to Heat Shrink as it is:

### Long Lasting.

The compact design insulators are made from long lasting UV resistant silicone rubber with excellent track resistant and hydrophobic characteristics.



### Fast.

3M Cold shrink Joints and Terminations, with integral Hi-K stress control, are supplied expanded on a removable core. To apply, simply position, then unwind the core to shrink down.

### Safe.

No heat sources are required. No chance of burns during application. Additionally, 3M Joints and Terminations can be used in locations where heat sources and open flames can not be used as well as on total fire ban days.

### Complete.

3M Joint and Termination kits supplied by Intertech are complete with instructions and all the materials required to finish the job. No hassles!

3M Joint and Termination kits are assembled at Intertech's Melbourne factory and next day delivery to most Australian cities is available.

3M Cold Shrink products are fully supported by Intertech.

Supported by 3M's extensive research facilities and our own local Engineers, custom design MV cable joints and terminations are regularly developed and tested to suit your specific needs.

## 3M Cable Joints and Terminations

For enquiries, call our **3M HOTLINE:**

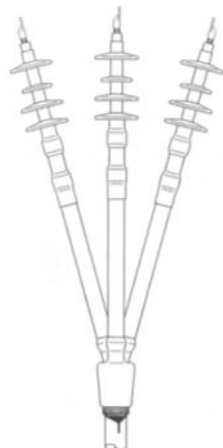
**1300 659 003**

**or Fax: 1300 659 004**

# 3M

- **3M** Cable Joints, Terminations and Accessories to 33kV
- **3M** Cold Shrink Terminations up to 72kV
- **3M** QTIII Cold Shrink. A complete termination in one component!
- **3M** Termination and Joint kits are custom designed and built to meet your specific requirements
- **3M** Cold Shrink Cable Joints to suit XLPE, EPR to 33kV
- **3M** Resin Pressure Joints to suit XLPE, Paper to 33kV
- **3M** QS2000E Joints
- **3M** Diagnostics and Detection

**Design Advice - On Site Training - 3M Training**



## **CABUS MV & HV Accessories**

The **CABUS** brand of cable accessories is manufactured in Australia by Intertech.

*Just a few of the products available as part of the CABUS range are;*

### **Submarine Cable Joints to 33kV**

- Joints have high mechanical strength to prevent failures
- Tested through years of service in Australian waters

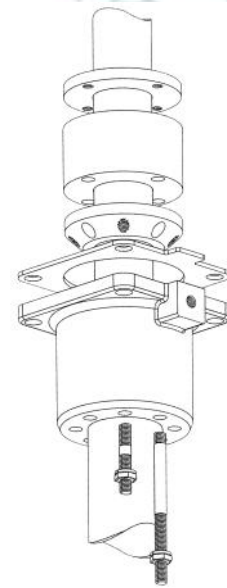
### **FGA Cable Glands**

- Available for most sizes of MV cables
- Suitable for either XLPE or EPR cables
- Ideal for cable End Boxes
- Standard sealing gland for MV terminations

### **Cable Clamps**

- A large range of fault rated clamps available
- See page 9 for more details

Used extensively in Australia, **CABUS** cable accessories are proven through many years in service. Products are designed to meet your specific cable size, type and voltage.



## CABUS MV & HV Accessories

**CABUS** Porcelain Cable Terminations are used by many Australian companies and Utilities. These Terminations are used in switchyard applications where the mechanical strength of the termination is important.



### CABUS Porcelain Terminations;

11kV

22kV

33kV

Connectors to suit your requirements

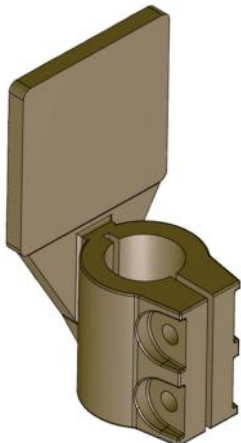
Fixing options

Paper-Lead Cables

XLPE Cables

EPR Cables

### CABUS Medium Voltage Accessories include;



Palms

FGA Glands

Wiping Glands

Clamps

Special Fitting Designs

## PFISTERER Cable Systems

Pluggable contact systems to 245kV for use in Transformers and Switchgear.

### CONNEX

Dry Plug and Bushing System for MV and HV 11kV to 245kV and up to 2500A.

CONNEX is a two part connection system consisting of socket and pluggable separable connector.

Touch safe.  
Space saving.  
Disconnect for test.  
Used in Transformers & Switchgear.

Components Include:

- Test equipment
- Cable Joints



**PFISTERER**  
THE POWER CONNECTION



**CONNEX connectors are used in Europe and Australia.**  
Features include:

- High Fault Ratings
- Easy to Install
- Suitable for all Polymeric and EPR Cables
- Ideal for Transformer applications including rebuilds
- Suitable for outdoor use

# PFISTERER Connectors and Earthing

**PFISTERER SICON connectors use shear-head technology for simple installation without the need for special tools.**

**PFISTERER**  
THE POWER CONNECTION

**SICON Connectors have numerous advantages over their competitors:**

- Special tools not required
- Each connector will accommodate a range of conductor sizes.
- Shearing occurs at the surface of the connector body, not at a fixed shear point.



**PFISTERER SICON Connectors are available as a jointing component in most 3M Joint Kits or are available separately.**



**PFISTERER Earthing and Safety components include;**

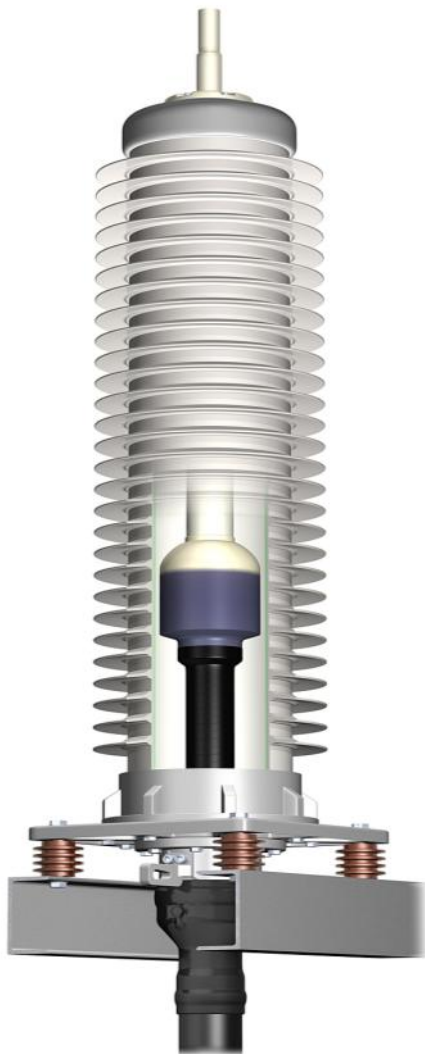
- 3 Pole earthing devices, available with various connection and clamp types
- Earthing Clamps
- Operating and Earthing Poles
- Tap Connectors
- Voltage Detection systems
- Phase Comparators
- Special Traction Motor connectors

# PFISTERER IXOSIL Terminations

The IXOSIL range of HV and EHV Terminations

**PFISTERER**  
THE POWER CONNECTION

- Silicon Shed Self-Supporting Terminations to 300kV
- Porcelain Shed Self-Supporting Terminations to 300kV
- Silicon Flexible Outdoor Terminations to 145kV
- Transformer and GIS Terminations to 170kV



Silicone Self Supporting Termination



Transformer Termination  
with optional corona shield.

# PFISTERER IXOSIL Joints

**IXOSIL HV to EHV Slip on Joints using pre-molded stress cone technology**

**PFISTERER**  
THE POWER CONNECTION

One-piece Slip-on Joints from 66kV (72.5) to 300kV

Three-piece size transition slip-on joints from 66kV (72.5) to 170kV

Various screen treatments available:

- Screen Break with single or concentric bonding
- Screen Transition

The following options are also available:

- Aluminum or Copper moisture barriers
- PE or Heat shrink outer protective shell
- Optical Fibre Breakouts



MSA One-Piece Slip-On Joints

## Cable Clamps and Cleats

Intertech is a major manufacturer and supplier of cable clamps and cleats for all sizes of sub-transmission and distribution power cables.



### CABUS Cable Clamps

*Best suited for indoor or outdoor applications within the specified size range.*

- Marine Grade Alloy Construction
- Fault Rated
- Sizes range from OD 10mm to 200mm+
- Available in various configurations including single and trefoil.
- Option of Stainless Steel fittings
- Epoxy coated if specified

### ASEplas Clamps

*Best suited for EHV applications. Also common in Trench and Tunnel Installations.*

- Resin, Glass Fibre and Mineral Composite Construction
- Low Smoke and Flame
- Custom design to suit your application



### KOZ Clamps

*High Strength glass-reinforced polyamide clamps. Suitable for wide cable diameter ranges.*

- Halogen free material
- High Tensile Strength
- UV resistant
- Chemical Resistant

Complete pole kits and special clamps also available!

# Prysmian Separable Connectors



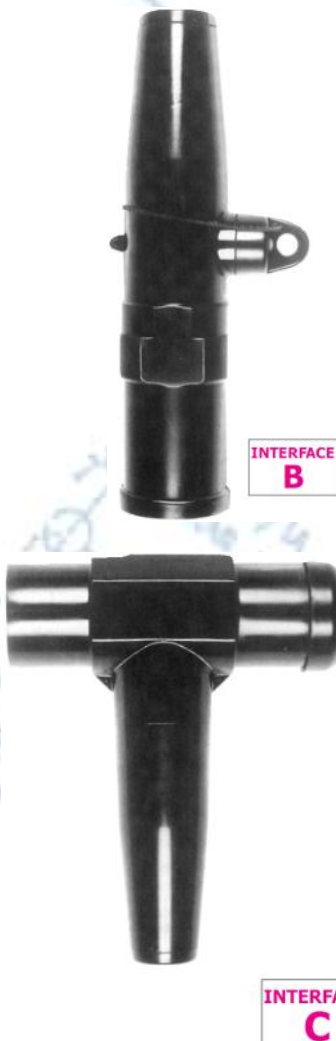
**PRYSMIAN** Formfit Separable Connectors (Elbows) are made in Europe from high grade EPDM.

The latest range include shearhead lugs to cater for a wider range of conductor sizes. Connectors are available to suit EN 50180/50181 Interfaces.



## 250 Amp - Interface A

- 12 & 24kV
- up to 95mm<sup>2</sup> standard
- straight and elbow configurations



## 400 Amp - Interface B

- 12, 24 & 36kV
- up to 240mm<sup>2</sup> standard
- straight and elbow configurations



## 630 Amp - Interface C

- 12, 24 & 36kV
- up to 630mm<sup>2</sup> standard
- tee configurations

## ECS Oil and Gas Transition Joints

**Transition Joints are the perfect solution for a network consisting of both fluid filled and XLPE Cables.**



Transition joints allow the connection of fluid filled cables to XLPE cables. This enables extensions, modifications and repairs to fluid filled circuits without the added cost or hassle of removing or replacing existing fluid filled circuits.

**ECS Transition joints are available from 33kV to 132kV in the following configurations;**

- Oil to XLPE
- Gas to XLPE
- Oil to Oil
- 3 Core to Single Core
- Single Core Straight



# ECS Oil and Gas Transition Joints

## Oil De-Gasification



Oil degasification is an important component of fluid filled cable maintenance. We offer a full range of oil degasification units from small static units to large portable solutions. Each unit is designed to suit your specific requirements.



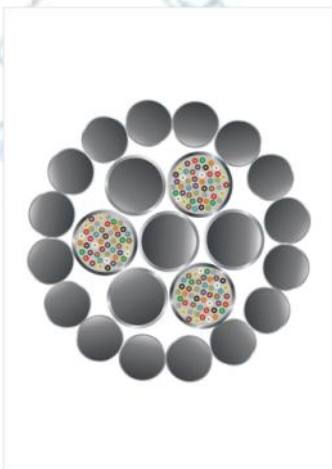
## SFPOC Optical Groundwire

SFPOC is a leading supplier of OPGW worldwide. (Products formerly manufactured by Phillips-Fitel). Intertech are the distributor of SFPOC OPGW Australia wide.



### CENTRUM OPGW

- Small overall diameter
- Up to 60 fibres
- Fault level to 27 kA<sup>2</sup>s



### LUX OPGW

- Composite Design for high fibre count.
- Multiple hermetically sealed loose tube design.
- High fault rating



### DUAL OPGW

- Inner stainless steel tube encased in an outer aluminum tube
- Up to 60 fibres
- Ideal for highly corrosive environments without the use of anti-corrosive grease.

# Highvoltage HV to EHV Test Equipment

Medium Voltage to Supertension Power Supplies for Testing both on-site and in laboratories.

**HIGH  
VOLT**



High Voltage Test and Measurement Systems

AC Resonant Test Systems

Impulse Voltage and Current Test Systems

Voltage and Current Measurement

PD Measurement

On Site Test Systems and Diagnostics

HV Test Fields

Technical Service

Calibration

High Volt was founded in 1904 and has a strong worldwide supply record.

High Volt products are designed and constructed in Germany with local expertise and sales provided by Intertech.



## PFT Leak Detection



### Leak Detection system for Fluid Filled Cables

PFT (Perfluorodimethylcyclobutane) is used to detect leaks in fluid filled cables as low as a litre per day.

- PFT is dosed into the cable fluid
- Sensors are deployed along the cable route
- Air borne PFT particles are detected
- Leak locations can be pin-pointed within a few metres
- Significant savings are made by minimising costly excavations

1. Dose



2. Detect



3. Excavate and Repair

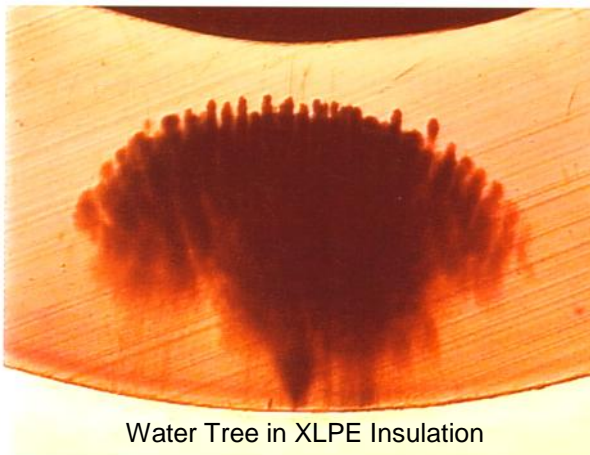


# CableCURE Polymeric Cable Repair

XLPE and EPR cables suffer from insulation failure due to the formation of water trees. This most commonly leads to multiple failures in a length of cable.



While water trees are almost inevitable in Polymeric cables, they can be repaired in situ using the proven CableCURE process.



Water Tree in XLPE Insulation

Water Trees can form within a few years of operation

Free water need not be present for water trees to form

Repair In Situ with CableCURE

AC Breakdown voltage returns to new levels within weeks of injection



Repair is accomplished by injecting XL Fluid into the stranded conductor. This Process:

- Is completed without removing the cable
- Displaces any free water in the cable
- Fills water trees with insulating compound, rejuvenating insulation until it is like new
- Proven in Australia, US and Canada.



XL Fluid injection also has applications with Submarine Cables.

Rejuvenation of Telephone cables is also possible using a similar method. This time CB Fluid is injected into the dry core telephone cable, displacing all water and forming a continuous water blocking, re-enterable, gel.

# LV Busway Systems

## Low Voltage Busway Systems from 100A to 5000A

### PowerPLUS Busway

- Feeder and Distribution Busway
- Single bar design to 5000A
- Plug in system available
- Sandwich Construction
- Designed and Tested to AS3439 Parts 1&2
- Each installation is CAD designed for a precise fit.

Ratings: 800A to 5000A, 3ph + Full Neutral + Earth, 65kA, IP65.



*PowerPLUS powers many major  
Australian buildings.*

## Repair and Modification Service

Contact Intertech for repair and or modification of your HV porcelain terminations, HV Busduct and LV Busway systems as well as Transformer and Switchyard connections.

The following examples demonstrate just some of our capabilities in HV repair and modifications;

### Transformer End Box Refurbishment



- Existing End Box designed to suit Paper Lead cables.
- Required connection of new XLPE cable

#### Outcome:

End Box fitted with Pfisterer CONNEX pluggable system. Additional benefit of easy disconnect for testing.

### HV Busduct Repair



- HV Busduct damaged by water intrusion

#### Outcome:

Some bars replaced, and repair undertaken using 3M products.

Repairs were fully tested prior to re-commissioning.

### 22kV Cable Termination Modification



- Existing Terminations designed for Paper Lead cables.
- Required terminations to suit XLPE cables after addition of new equipment.

#### Outcome:

A combination of CABUS FGA glands and 3M stress control was used before testing and re-commissioning.

## Design and Installation Services

### Intertech delivers a complete service:

- Design, specification and supply of cable joints and terminations for all insulated cables, 11kV to 400kV.
- Expert HV installation and project management for installations 66kV and above.
- Highest skill levels on site ensure the best possible productivity and guaranteed technical performance.
- All types of joints and terminations installed
- Specialists in EHV oil and gas insulated cables
- Leading equipment supplier for joints, terminations and cable accessories.
- Training: We can provide custom designed skills improvement courses for your jointers.



Intertech are accredited Pfisterer factory warranty installers.

**Contact Intertech and experience all the benefits of our professional service!**

## Design and Installation Services

### Site Services – HV Cable Jointing – Project Management - Equipment

As a leader in **professional installation** practice, Intertech Engineering Pty Ltd provides a complete service to supply, manage and install all cable joints and terminations in the range 11kV to 400kV including OIL and GAS insulated cables as well as XLPE and EPR.

The Intertech jointing and project team specialises in delivering the best possible installation in the shortest possible time. This **saves your project time and money** whilst providing the reassurance of guaranteed technical performance.

Intertech cable jointers are some of the most skilled and highly trained in the world and any 3 man team will hold combined on site experience, including Australia and NZ, of more than 55 man years. Our jointers are **factory trained** and typically have completed 5-7 year trade courses before certification. This ensures that our jointers have a breadth and depth of knowledge that ensures the best possible installation practice is achieved every time. Site installations are fully supported by our team of **Qualified Engineers**.



We are experienced in all of the most commonly installed cable joints and terminations in Australia and NZ including Prysmian, BICC, ABB, Pfisterer (CONNEX, IXOSIL, SEFAG), ECS, G&W and LG.

**INTERTECH**

v1.30

**Intertech Engineering Pty. Ltd.**

Head Office

15 Sir Laurence Drive  
Seaford, VIC 3198  
AUSTRALIA

(P.O. Box 2117 Seaford DC VIC 3198)

Phone: +61 3 8770 5500

Fax: +61 3 9773 5666

E-mail: [sales@intertecheng.com.au](mailto:sales@intertecheng.com.au)

[www.intertecheng.com.au](http://www.intertecheng.com.au)