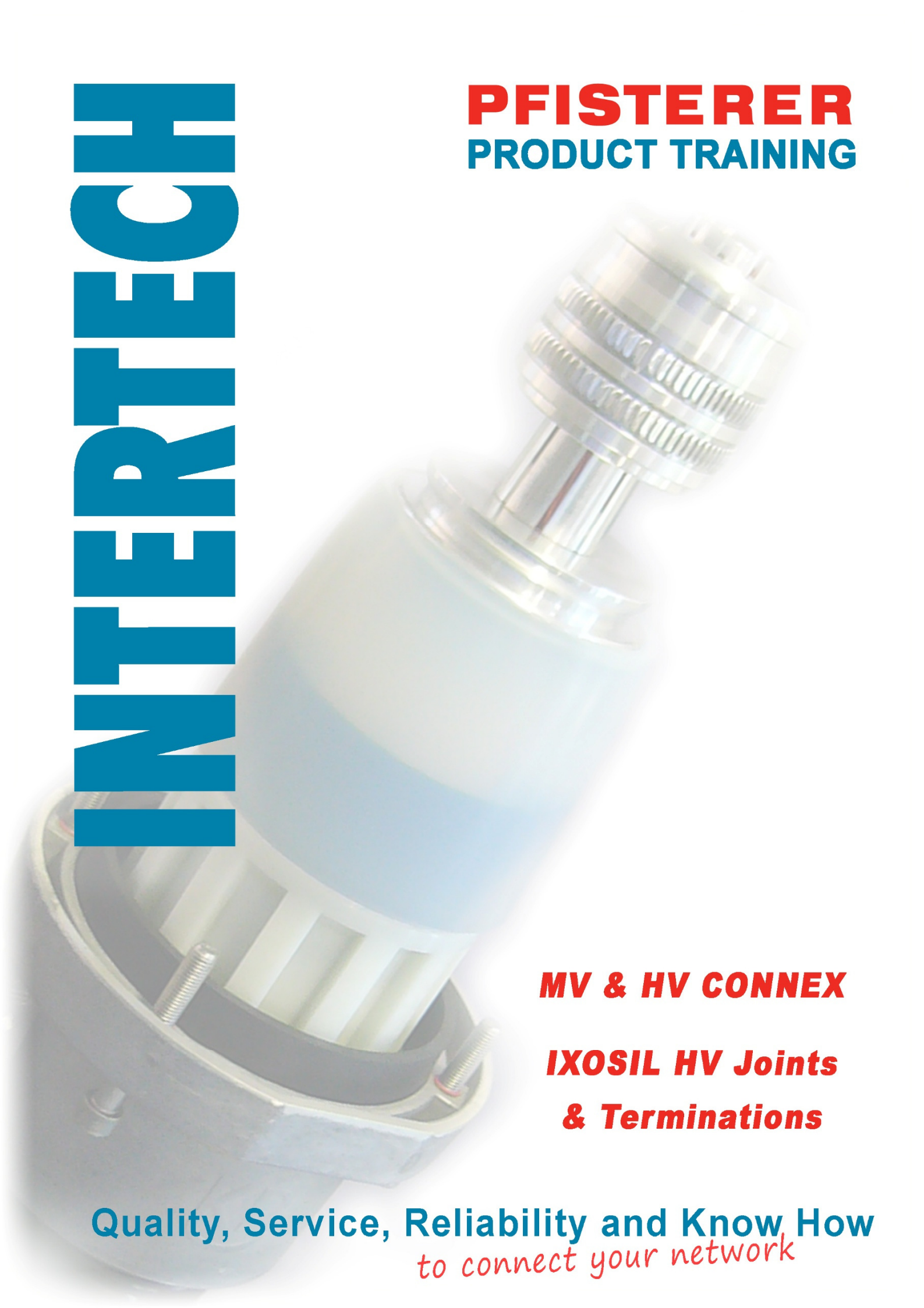


# INTERTECH



**PFISTERER**  
PRODUCT TRAINING

***MV & HV CONNEX***

***IXOSIL HV Joints  
& Terminations***

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

# Welcome to INTERTECH

Intertech Engineering designs, supplies and installs cable accessories for power transmission and distribution. Our wide range of products is suitable for applications from 6.6kV to 550kV.

We represent many major overseas suppliers within the region and have developed the skills and knowledge to provide local sales, technical support and training to our customers - both in Australia and New Zealand.

Intertech's Head Office and Training Centre is located in Seaford, VIC with sales & technical representatives located in New South Wales and Queensland.

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## CONTACT DETAILS

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# **PFISTERER TRAINING MODULES**

## **Introduction**

### **Pfisterer CONNEX Pluggable Termination System**

Module 1: MV CONNEX—Sizes 1-3 CONNEX, up to 52kV

Module 2: HV CONNEX—Size 4 CONNEX, up to 72.5kV

Module 3: HV CONNEX—Size 5S CONNEX, up to 145kV

Module 4: HV CONNEX—Sizes 5S, 6 & 6S CONNEX, up to 245kV

### **Pfisterer IXOSIL HV Cable Joints and Terminations**

Module 5: ESS/ESP Self Supporting Terminations, up to 72.5kV

Module 6: ESS/ESP Self Supporting Terminations, up to 145kV

Module 7: DOC Dry-Type Self Supporting Terminations, up to 145kV

Module 8: MSA Underground Joints, up to 72.5kV

Module 9: MSA Underground Joints, up to 145kV

# INTRODUCTION

Intertech Engineering offers Pfisterer factory approved product training on the entire range of Pfisterer CONNEX and IXOSIL products.

Intertech's product training is run from our Seaford Head Office, about 1 hour's drive from Melbourne Airport.

Product training is available to all cable jointers who are experienced with installations at the voltages specified for each training module.

## *Training Details:*

- Product training is skills tested and trainees will achieve certification if they pass a number of skills tests set forth by the trainer during the product training session(s).
- Upon successful completion of a training module, trainees will be issued with a Pfisterer Factory Certification for the specific product and application voltage which they have undertaken.
- Where required, trainees should organise their own accommodation, however, Intertech can assist in advising on local accommodation options as needed.
- All specialised tools will be provided for use by Intertech. However, trainees should bring their own cable preparation and stripping tools.
- Trainees should bring their own basic PPE items — safety shoes/boots and glasses.
- Lunches are provided with every course.
- Training courses are run in English, so all trainees should have good technical English vocabulary or arrange an interpreter who can assist them with translations for the duration of the training period.

Pfisterer certificates can often be extended for a further 3 years without additional training by showing proof of a minimum number of installations throughout the expiring certification period. After 6 years from the initial certification, additional update training is required.

The following pages detail our basic training modules - for special training needs, please contact Intertech Engineering.







# Module 1

## MV CONNEX—Size 1-3S (Up to 52kV)

### Pfisterer CONNEX MV Sizes 1 to 3S (up to 52kV)

#### Course Outline

Provision of product training for the installation of Pfisterer CONNEX MV separable connectors. The training is classroom and workshop style training.

Trainees will be guided through the various steps of installing the separable connectors including:

- Part identification
- Cable set-out and straightening
- Cable preparation
- Fitting of the components
- Use of compression tool
- Fitting the completed assembly into a CONNEX socket

#### Duration:

Training course is 1 day

#### Group Size:

Up to 4 trainees.

#### Pre-Requisites:

This course does not provide general skills training in MV cable jointing. The course only covers work with strippable semi-con layer cables.

**Size 1/2/3:** Trainees should be experienced with installations at a minimum of 11-33kV.

#### Outcomes:

Successful trainees will receive a Pfisterer factory certification for Sizes 1-3S CONNEX. Certificate is valid for 3 years

## Module 2

# HV CONNEX—Size 4 (Up to 72.5kV)

### Pfisterer CONNEX Size 4 (up to 72.5kV)

#### Course Outline

Provision of product training for the installation of Pfisterer CONNEX Size 4 separable connectors. The training is classroom and workshop style training.

Trainees will be guided through the various steps of installing the separable connectors including:

- Part identification
- Cable set-out and straightening
- Cable preparation and insulation screen treatment
- Fitting of the components
- Use of compression tool
- Fitting the completed assembly into a CONNEX socket including use of the assembly tools and cable alignment

#### Duration:

Training course is 1 day.

#### Group Size:

Up to 4 trainees.

#### Pre-Requisites:

This course does not provide general skills training in MV or HV cable jointing.

**Size 4 for MV applications:** Trainees should be experienced with installations at a minimum of 33kV. The course only covers work with strippable semi-con layer cables.

**Size 4 for HV applications:** Trainees should be experienced with cable preparation and installations at a minimum of 66kV, including working with bonded semi-con layer cables.

#### Outcomes:

Successful trainees will receive a Pfisterer factory certification for Size 4 CONNEX to either 52kV or 72.5kV. Certificate is valid for 3 years

## **Module 3**

# **HV CONNEX—Size 5S (145kV)**

### **Pfisterer CONNEX HV Size 5S (up to 145kV)**

#### **Course Outline**

Provision of product training for the installation of Pfisterer CONNEX HV separable connectors. The training is classroom and workshop style training.

Trainees will be guided through the various steps of installing the separable connectors including:

- Part identification
- Cable set-out and straightening
- Cable preparation and insulation screen treatment
- Fitting of the components
- Use of compression tool
- Fitting the completed assembly into a CONNEX socket including use of the assembly tools and cable alignment

#### **Group Size:**

Up to 4 trainees.

#### **Duration:**

Training is complete in 2 days.

#### **Pre-Requisites:**

This course does not provide general skills training in HV cable jointing.

Trainees should be experienced with cable preparation and installations at a minimum of 132kV, including working with bonded semi-con layer cables.

#### **Outcome:**

Successful trainees will receive a Pfisterer factory certification for Sizes 5S CONNEX up to 145kV. Certificate is valid for 3 years



## Module 4

### HV CONNEX—Size 5S/6/6S (245kV)

**Pfisterer CONNEX HV Size 5S (145kV) / Size 6 (170kV) / Size 6S (245kV)**

#### Course Outline

Provision of product training for the installation of Pfisterer CONNEX HV separable connectors. The training is classroom and workshop style training.

Trainees will be guided through the various steps of installing the separable connectors, which are the same as for module 3, shown on the opposite page.

#### Group Size:

Up to 4 trainees.

#### Duration:

Training is complete in 2 days.

#### Pre-Requisites:

This course does not provide general skills training in HV cable jointing. Trainees should be experienced with HV cable preparation and installations, including working with bonded semi-con layer cables.

**Size 5S/6 at rated voltage:** Trainees should be experienced with installations at a minimum of 170kV.

**Size 5S/6 & 6S at rated voltage:** Trainees should be experienced with installations at a minimum of 220kV.

#### Outcome:

Successful trainees will receive a Pfisterer factory certification applicable to the training voltage as shown below. Certificate is valid for 3 years.

Size 5S & 6 up to 170kV **or**;

Size 5S, 6 & 6S up to 245kV.

Certificate is valid for 3 years.

# Module 5

## ESS/ESP TERMINATIONS(72.5kV)

### Pfisterer IXOSIL ESS/ESP 72

### Self Supporting, Compound Filled Terminations up to 72.5kV

#### Course Outline

Provision of product training for the installation of Pfisterer IXOSIL 72.5kV terminations.

The training is classroom and workshop style training.

Trainees will be guided through the various steps of installing the terminations including:

- Part identification
- Cable set-out and straightening
- Cable preparation and insulation screen treatment
- Fitting of the components
- Compound preparation and filling (in theory only)
- Use of specialist installation tools

#### Group Size:

Up to 2 trainees.

#### Duration:

Training is complete in 2 days.

#### Pre-Requisites:

Trainees are to be experienced Cable Jointers at 66kV, including working with bonded semi-con layer cables. The course does not provide skills training in HV Cable Jointing.

#### Outcome:

Successful trainees will receive a Pfisterer factory certification for ESS/ESP terminations up to 72.5kV. Certificate is valid for 3 years.



# Module 6

## ESS/ESP TERMINATIONS(145kV)

### Pfisterer IXOSIL ESS/ESP 145

### Self Supporting, Compound Filled Terminations up to 145kV

#### Course Outline

Provision of product training for the installation of Pfisterer IXOSIL 145kV terminations. The training is classroom and workshop style training.

Trainees will be guided through the various steps of installing the terminations including:

- Part identification
- Cable set-out and straightening
- Cable preparation and insulation screen treatment
- Fitting of the components
- Compound preparation and filling (in theory only)
- Use of specialist installation tools

#### Group Size:

Up to 2 trainees.

#### Duration:

Training is complete in 2 days.

#### Pre-Requisites:

Trainees are to be experienced Cable Jointers at 132kV, including working with bonded semi-con layer cables. The course does not provide skills training in HV Cable Jointing.

#### Outcome:

Successful trainees will receive a Pfisterer factory certification for ESS/ESP terminations up to 145kV. Certificate is valid for 3 years.





# **Module 7**

## **DOC Outdoor Dry-Type Self-Supporting (145kV)**

### **Pfisterer IXOSIL DOC145**

### **Dry Type, Self-Supporting Terminations up to 145kV**

#### **Course Outline**

Provision of product training for the installation of Pfisterer IXOSIL 145kV dry-type outdoor terminations. The training is classroom and workshop style training.

Trainees will be guided through the various steps of installing the terminations including:

- Part identification
- Cable set-out and straightening
- Cable preparation and insulation screen treatment
- Fitting of the components
- Compound preparation and filling (in theory only)
- Use of specialist installation tools

#### **Group Size:**

Up to 2 trainees.

#### **Duration:**

Training is complete in 2 days.

#### **Pre-Requisites:**

Trainees are to be experienced Cable Jointers at 132kV, including working with bonded semi-con layer cables. The course does not provide skills training in HV Cable Jointing.

#### **Outcome:**

Successful trainees will receive a Pfisterer factory certification for DOC type terminations up to 145kV. Certificate is valid for 3 years.

# **Module 8**

## **MSA JOINTS (72.5kV)**

### **Pfisterer IXOSIL MSA 72**

### **Underground Cable Joints up to 72.5kV**

#### **Course Outline**

Provision of product training for the installation of Pfisterer IXOSIL 72.5kV cable joints. The training is classroom and workshop style training.

Training is conducted on the MSA72.5 XL.G one-piece cross bonding joint with PP housing.

Trainees will be guided through the various steps of installing the joints including:

- Part identification
- Cable set-out and straightening
- Cable preparation and insulation screen treatment
- Fitting of the components
- Filling of the PP housing with compound (in theory only)
- Use of specialist installation tools

#### **Group Size:**

Up to 2 trainees.

#### **Duration:**

Training is complete in 2 days.

#### **Pre-Requisites:**

Trainees are to be experienced Cable Jointers at the appropriate voltage, typically 66kV, including working with bonded semi-con layer cables. The course does not provide skill training in HV Cable Jointing.

#### **Outcome:**

Successful trainees will receive a Pfisterer factory certification for MSA joints up to 72.5kV. Certificate is valid for 3 years.



# Module 9

## MSA JOINTS (145kV)

### Pfisterer IXOSIL MSA 145

### Underground Cable Joints up to 145kV

#### Course Outline

Provision of product training for the installation of Pfisterer IXOSIL 145kV cable joints. The training is classroom and workshop style training.

Training is conducted on the MSA145 XL.G one-piece cross bonding joint with PP housing.

Trainees will be guided through the various steps of installing the joints including:

- Part Identification
- Cable Set-out and straightening
- Cable Preparation and insulation screen treatment
- Fitting of the components
- Filling of the PP housing with compound (in theory only)
- Use of specialist installation tools

#### Group Size:

Up to 2 trainees.

#### Duration:

Training is complete in 2 days.

#### Pre-Requisites

Trainees are to be experienced Cable Jointers at 132kV or above, including working with bonded semi-con layer cables. The course does not provide skills training in HV Cable Jointing.

#### Outcome:

Successful trainees will receive a Pfisterer factory certification for MSA joints up to 145kV. Certificate is valid for 3 years.



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## **Intertech Engineering Pty. Ltd.**

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