

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 245kV.

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 is based in Victoria with a sales and training office in New South Wales as well as a sales office in Queensland.

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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: ESF Flexible Terminations, up to 72.5kV

Module 8: ESF/EST Flexible Terminations, up to 145kV

Module 9: MSA Underground Joints, up to 72.5kV

Module 10: 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 New South Wales office and training centre, located in Ingleburn, just 35mins south west of Sydney's CBD.

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.

Renewal of Pfisterer CONNEX certifications is often possible without further training, by showing proof of a minimum number of installations throughout the expiring certification period.

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.

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

Size 3S: Trainees should be experienced with installations at a minimum of 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:

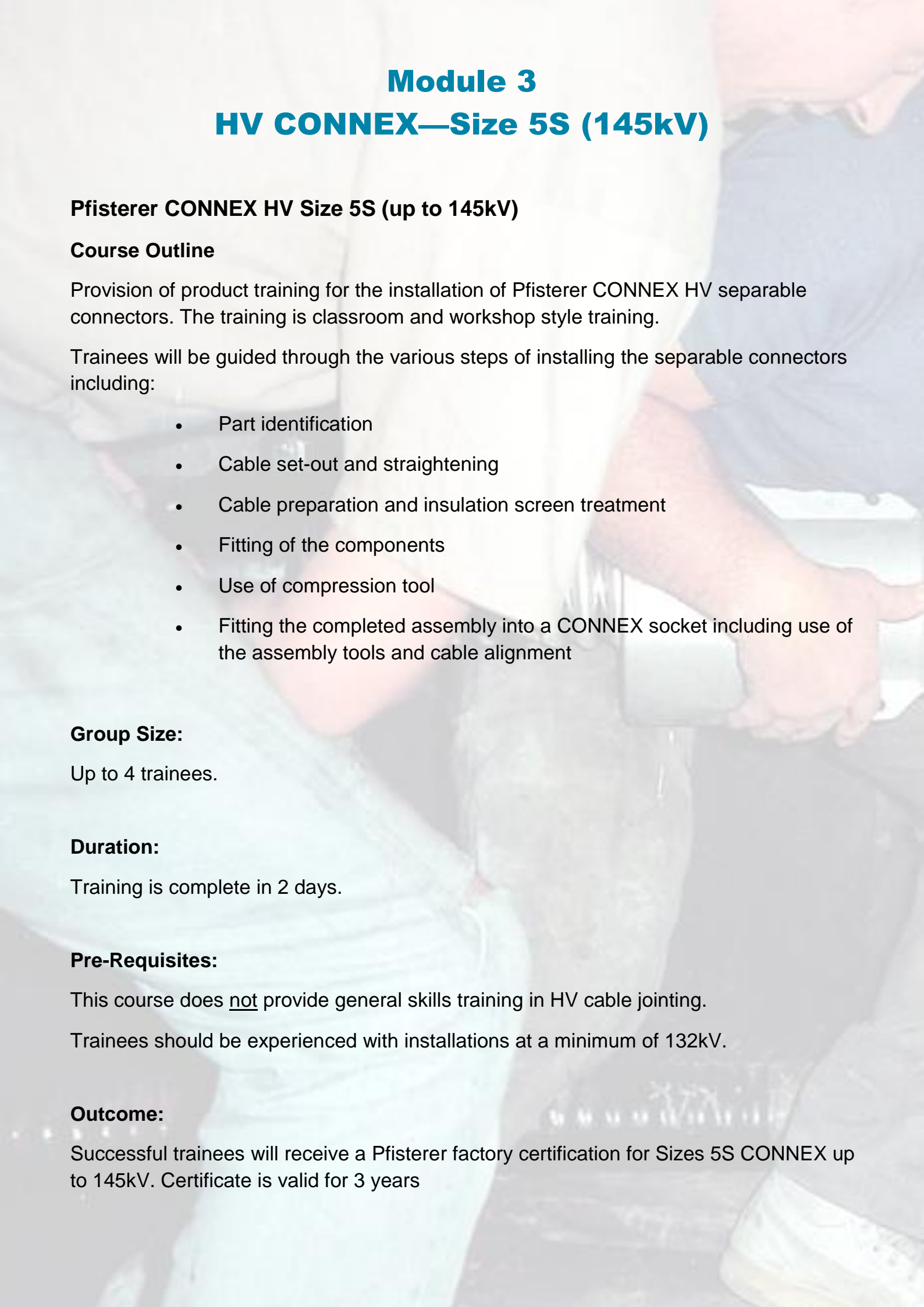
This course does not provide general skills training in MV or HV cable jointing.

Size 4 for MV applications: Trainees should be experienced with installations at a minimum of 33kV.

Size 4 for HV applications: Trainees should be experienced with installations at a minimum of 66kV.

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 installations at a minimum of 132kV.

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.

Size 5S/6 down-rated to 66kV or 132kV: Trainees should be experienced with installations at a minimum of 66kV/132kV respectively.

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. Training for Size 6 and Size 6S will be conducted on a minimum of Size 6 Connex kit.

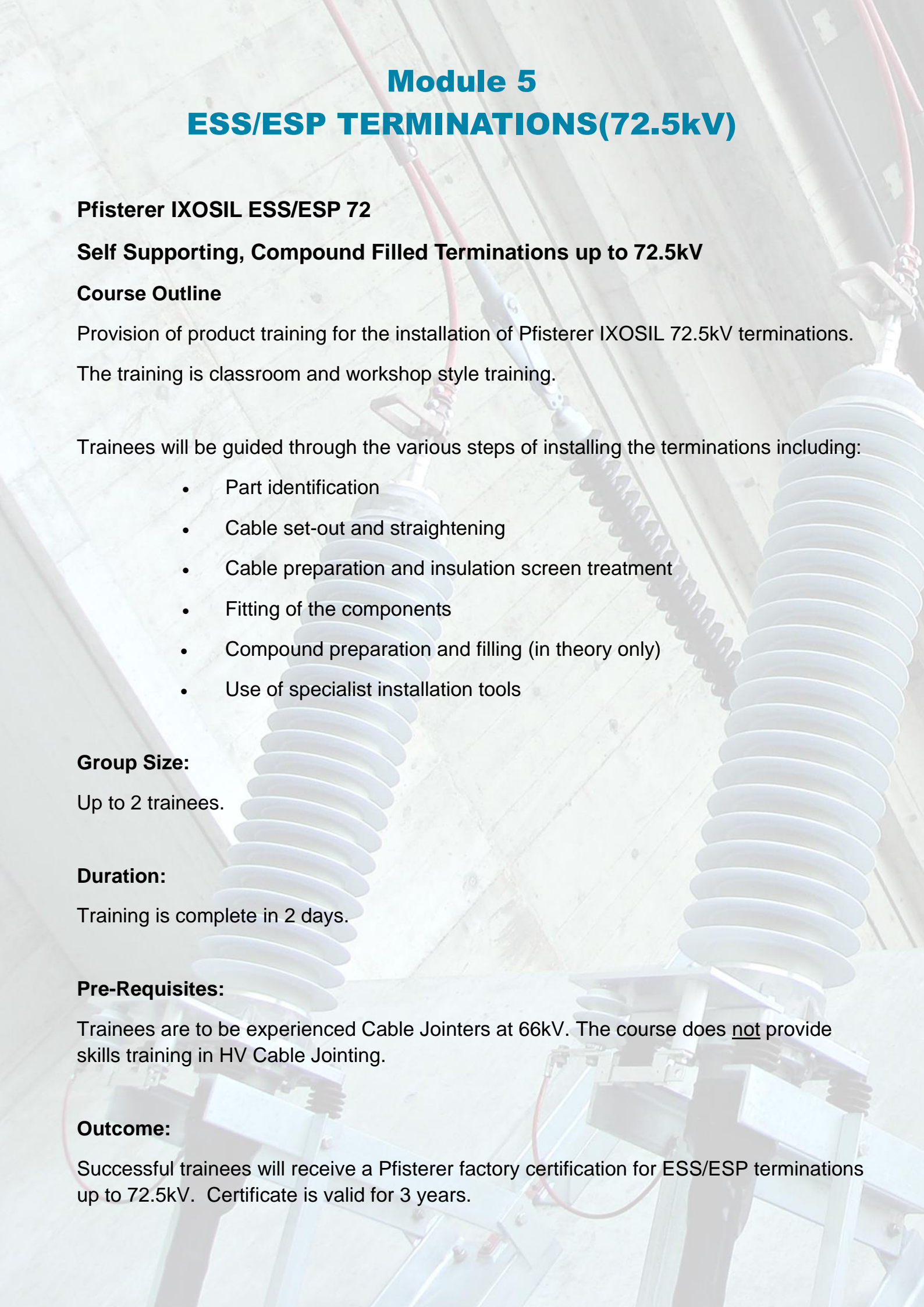
Outcome:

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 72.5kV / 145kV **or**;

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

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



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. 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 or above. 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

ESF TERMINATIONS(72.5kV)

Pfisterer IXOSIL ESF 72

Dry Type, Flexible 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
- Use of specialist installation tools

Group Size:

Up to 4 trainees.

Duration:

Training is complete in 2 days.

Pre-Requisites:

Trainees are to be experienced Cable Jointers at 66kV. The course does not provide skills training in HV Cable Jointing.

Outcome:

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

Module 8

ESF/EST TERMINATIONS(145kV)

Pfisterer IXOSIL ESF/EST 145

Dry Type Terminations (ESF) and Support Insulators (EST) 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 and support insulator including:

- Part identification
- Cable set-out and straightening
- Cable preparation and insulation screen treatment
- Fitting of the components
- Mounting of the termination into the support insulator
- Use of specialist installation tools

Group Size:

Up to 2 trainees.

Duration:

Training is complete in 3 days.

Pre-Requisites:

Trainees are to be experienced Cable Jointers at 132kV or above. The course does not provide skills training in HV Cable Jointing.

Outcome:

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

Module 9

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. 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 10

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. 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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