

# PASSIVE FIRE PROTECTION (PFP) COATING INSPECTOR (EPOXY) TRAINING COURSES



# Introduction

Significant failures on several major new Passive Fire Protection (PFP) construction projects have demonstrated the need for improved standards of PFP installation.

Effective quality control during the whole application process plays a critical role in ensuring the fire performance and long-term durability of PFP installations. This has driven the need for highly qualified inspectors trained specifically in fire protection coatings as opposed to anticorrosion coatings.

The Institute of Corrosion (ICorr) and PFPNet have collaborated to develop the first comprehensive training courses to qualify inspectors of epoxy intumescent PFP coatings used to protect against hydrocarbon fires at Level 2 and Level 3 standard.

Written and produced by experts in this field who have extensive, practical 'real world' experience, candidates can expect to gain in-depth knowledge to become competent PFP inspectors.

“ ”

I was impressed with the level of technical detail in the course and found it very beneficial for my own personal development.

- Student attending a Level 3 PFP course in Perth, Australia



## THE INSTITUTE OF CORROSION (ICORR)

Established in 1959, The Institute of Corrosion (ICorr) is a leading institution in coatings and corrosion control and is the certifying body for the internationally recognised ICorr certification of Protective Coatings Inspectors. The aim of the Institute of Corrosion is to improve competence and skills in the field of Protect Coatings, Fire Protection and Insulation for both Applicator (through its ICATS programme) and Inspector.

### Contact

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## **PFPNET**

PFPNet is the industry organisation dedicated to the improvement of knowledge, standards and understanding of passive fire protection in the hydrocarbon processing industries. Comprising asset owners, engineers, fabricators, contractors, PFP manufacturers and other organisations, members provide key expertise in all aspects of fire protection.

A goal of PFPNet is to ensure that the individuals inspecting PFP applications have the knowledge and skills required to provide a high level of assurance that the PFP coating will provide the specified level of PFP and be fit for the service life of the installation.

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## **IMECHE ARGYLL RUANE**

IMechE Argyll Ruane is a world-renowned training and consultancy organisation.

Established in 1985, IMechE Argyll Ruane has worked alongside the Institute of Corrosion for over 20 years, delivering ICorr accredited courses to clients around the world at their state-of-the-art training facility in Sheffield, UK, online, and through their global network of approved training partners.

Blending the strong values of their parent organisation, the Institution of Mechanical Engineers (IMechE), with decades of industry knowledge and experience, IMechE Argyll Ruane delivers professional, high-quality services to promote and improve industry by developing well-trained, highly competent professionals and supporting them and their employers throughout their careers.

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# LEVEL 2 PASSIVE FIRE PROTECTION (PFP) COATING INSPECTOR (EPOXY)

A foundation course designed to assist candidates in gaining the skills and knowledge to transition from coatings inspection to PFP (Epoxy) Inspection.

This Level 2 course assumes all candidates hold ICorr Painting or Protective Coating Inspector certification (or equivalent) and therefore have a knowledge of inspection philosophy, surface preparation, anti-corrosion coatings and how to use common inspection instruments.

The course trains and assesses candidates on the inspection of modern types of Passive Fire Protection as found on hydrocarbon installations for both on and offshore facilities. This will include structural members, decks and bulkheads and storage or process tanks and associated pipework.

## Course content

The Level 2 course content covers:

- **Introduction:** Fire and Types of Fire, Explosion Hazards, Fire Mitigation, why use PFP
- **Introduction to PFP:** Types of PFP coatings, Epoxy, Cementitious, Dry Fit, Duplex
- **PFP of Steel Structures:** Open section, Closed Section, Coatback Areas, Divisions, Process Vessels, Storage Vessels, Decks and Bulkheads
- **Classification Society Type Approvals:** Main Society Approvals, Fire Test Curves, Other Types of Approval
- **PFP Materials and Systems:** Product Development, Testing, Approval
- **Overview of Epoxy Degradation Mechanisms:** Pre-fire Durability, Survivability in a Fire
- **Epoxy PFP Product Manufacturer Manual:** Contents, Application Characteristics, Updates
- **Examples of PFP Application Defects:** What to look for, Contamination Effects, Other Issues
- **Inspection Equipment:** Calibration, Adjustment and Verification
- **Reporting and Record Keeping:** Manual and digital reports
- **Health and Safety:** Work Practices and Procedures, CDM, Method Statements, COSHH, etc.
- **Role of the PFP Coating Inspector**
  - Pre-job Meeting: Specification, Inspection Plan, Responsible, Accountable, Consulted, and Informed (RACI) Chart, Load List, Level of Testing
  - Before Going on Site: Safety Data Sheets, Technical Data Sheets, Health & Safety Data Sheets, Risk Assessments, Manufacture's Cards, Site Specific H&S, Authorisations
  - Personal Protective Equipment
  - On-site Tasks: Relationships – supervision & work team, Test & Inspection Equipment Checks, PFP Material Storage Checks,
  - Monitoring Work: Surface Preparation, Primer Coat, PFP Coat – mixing process, Daily Report, PFP Post-cure Inspection, Final Inspection
- **Examination:** General, Specific and Practical exams (150 multiple-choice questions)

Mechanically fixed methods are not covered on this course.

Meeting standards, exceeding expectations



## Course pre-requisite

Candidates should hold an ICorr Protective Coatings Inspector (or equivalent) certificate and ideally hold a minimum of 12 months' coatings related experience.

Candidates with less than 12 months' coatings experience are still permitted to undertake the course and can become certified once relevant experience has been obtained.

Candidates are required to submit their CV to ensure they have the required pre-requisite qualifications and experience.

## Qualification

The course is accredited by the Institute of Corrosion. On successful completion of the course and relevant coatings related experience, candidates will become a certified Level 2 Passive Fire Protection (Epoxy) Inspector.

The certificate is valid for 5 years and can be renewed online prior to expiry.

## Duration

Online: 15 – 30 hours (dependent on knowledge and experience)

Classroom: 2 days - 1.5 days training and 0.5 day exam

## Learning format

- Online
- Classroom
- Blended



# LEVEL 3 PASSIVE FIRE PROTECTION (PFP) COATING INSPECTOR (EPOXY)

An advanced course designed to train and examine senior inspectors of Epoxy Intumescent Passive Fire Protection (PFP).

This Level 3 course is for Inspectors and Technicians who are looking to further their core competence to fully understand and inspect PFP installations in new construction or retrofit situations. This course trains and assesses candidates on all aspects of the inspection of common types of epoxy coatings used to protect against hydrocarbon fires on installations for both on and offshore facilities.

## Course content

The Level 3 course comprises a blend of online pre-learning, 3 days classroom training including an examination on what has been learned in day 3, and a peer review. Course content covers:

- Role and duties of the PFP Inspector (part one)
- Introduction to PFP (what is it for)
- PFP types (introduction)
- PFP types (detailed overview)
- PFP of structures, divisions, process and storage vessels
- Normative Documents
- Classification Society Type Approval & other types of approval (e.g. UL)
- Qualification of PFP systems (the importance of supporting documentation)
- How PFP materials and systems are developed, tested and approved
- Epoxy PFP degradation mechanisms (pre-fire durability, survivability in a fire)
- Examples of application defects
- Fire performance and defective application
- The specification; relevance, errors or omissions, epoxy PFP manufacturer manual, epoxy PFP extent and thickness/details
- Pre-job meeting, ITP, Quality Control at all stages of application
- The critical importance of good surface preparation
- Epoxy PFP Extent and Thickness Detail
- Epoxy PFP application equipment (types and checks)
- Final thickness determination, topcoat, role and duties of epoxy PFP inspector (part two)
- Reporting, what to look out for, test equipment
- Practice test
- Health & Safety requirements
- Examination: General, Specific and Practical examination (150 multiple-choice questions)
- Peer review: Following successful completion of the exam, candidates will be required to undertake a Peer Review performed by PFPNet to gain their Level 3 certification

The inspection of existing PFP to test for worthiness is a separate and specialist activity and is not covered in this course.

Meeting standards, exceeding expectations

## Course pre-requisite

Candidates should have an ICorr Passive Fire Protection (PFP) Coating Inspector (Epoxy) certificate at Level 2.

As correct surface preparation, priming and, where required, top coating are very important requirements in PFP installation, the candidate should also have as a minimum an ICorr Protective Coatings Inspector (or equivalent) certificate at Level 1 to demonstrate their fundamental understanding of corrosion and protective coatings.

Candidates are required to submit their CV to ensure they have the required pre-requisite qualifications and experience.

## Qualification

The course is accredited by the Institute of Corrosion. On successful completion of the course and Peer Review, candidates will become a certified Level 3 Passive Fire Protection (Epoxy) Inspector.

The certificate is valid for 5 years and can be renewed online prior to expiry.

## Duration

Total duration:

- Online pre-learning (20 - 40 hours and assessment prior to course start date, dependent upon knowledge and experience)
- 3 days classroom training and examination
- Peer review (1 hour)

## Learning format

- Blended (Online pre-learning, Classroom, Examination, Peer Review)



The trainer is highly professional and well respected in the industry. They went the extra mile to ensure that all levels were catered for adequately and ensured all technical questions were answered in line with the course content.

- Student attending a Level 3 PFP course in Perth, Australia

## **Institute of Corrosion**

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