WILKINSON COUTTS

ENGINEERING TRAINING AUSTRALIA

TECHNICAL TRAINING

2025

COURSE BROCHURE

www.wilkinsoncoutts.com.au

OUR COMPANY

Wilkinson Coutts Engineering Training was founded to meet the needs of those involved in the plant inspection industry and for stakeholders responsible for static pressure equipment. Having delivered API, AICIP and ASME Plant Inspection training to individuals and companies across the globe, we know the importance of ensuring delegates receive personal attention and support during our courses.

WHY WE DIFFER

We understand that every client has their own unique training and learning objectives driven by their site equipment, damage mechanisms, integrity management activities and regulatory compliance requirements. We will always discuss the training requirements based on our client's needs and tailor the course content and learning outcomes to suit. Although we do have 'off-the-shelf courses' ready for delivery, we like to maximise the value of the training to our clients by offering this bespoke service.

"Training builds morale. Investing in people demonstrates they have a future with the organisation. To build a team of loyal, fully engaged, high achievers, hire the right people then invest in their development regularly."

PUBLIC COURSES

Our public courses are run throughout the year at various global locations. Our most popular public courses are the American Petroleum Institute (API) and Australian Institute for the Certification of Inspection Personnel (AICIP) exam preparation courses.

We are one of very few companies authorised by ASME to deliver the ASME Plant Inspector and Wind Turbine courses globally. In addition to this our Pressure Relief Device Inspection and Testing course is also ASME approved.

IN-COMPANY COURSES

We provide in-company training to a multitude of clients across the globe from small independent inspection companies to large oil and gas production companies.

All our courses can be delivered in-house at your company premises, or we can arrange the venue and include this is the training quotation. In-company training brings significant savings in comparison to sending several individual delegates on a public course.

We can deliver bespoke courses tailored to the clients individual learning requirements. If you don't see a suitable course, then it's always worthwhile contacting us, if we can't help we have an extensive network of experts to approach.

"World class training! Just passed my API 570 with thanks to the excellent training provided by Wilkinson Coutts. I would highly recommend anyone looking for training to use them." **Tom Alldridge, Phillips 66.**

ELEARNING AND VIRTUAL CLASSROOM

Through Covid we have met many of the challenges that our students face head-on. Some of our courses like ASME Plant Inspector Level 1 and 2 and API 579 were made into fully self-directed eLearning courses. For those that could not travel or could not afford the time off this method of delivery has been very successful.

eLearning will not suit all course types or student learning styles so we have continued to deliver classroom training virtually via Zoom or MS Teams.

This method of course delivery has also proven to be very successful and the feedback from students has been suprisingly positive. Our delivery style and changes that we have incorporated to course content mean that the quality of delivery and learning objectives met are no different. We now offer all of our courses normally delivered in the classroom as available via virtual classroom.

The advantages here are obvious - no need to travel or pay extra money on accommodation, parking or food. These days everyone has access to the internet and a computer and most folks can access their training without leaving the house!

No lost wages - No need to take time off

Less Impact On Environment

No expensive travel or accommodation

Study from the comfort of your home

Target your learning where it is needed

No drop in training quality

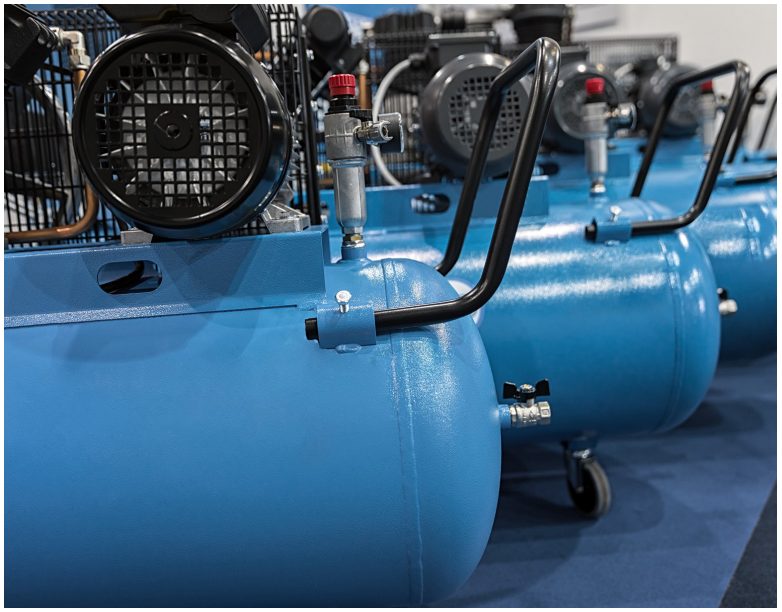
AUSTRALIAN CERTIFICATION AND COMPETENCY COURSES

Australian WHS and OHS legislation, as well as referencing Standards require that an inspector of pressure equipment be 'competent'. Exactly how competency is evaluated varies depending on the client company and/or the risk of the equipment.

Certification offered by the Australian Institute for the Certification of Inspection Personnel (AICIP) is often seen as evidence of competence in the Australian market and we offer courses that will prepare students for these ardous exams. Other clients may regard API certifications as evidence of competency or have their own matrices for justifying competence.

INSPECTION OF LOW RISK PRESSURE PLANT COURSE

Low risk pressure equipment such as air receivers, hydraulic accumulators and vacuum-jacketed vessels are unique in their treatment under Australian Legislation, their inspection requirements and specific hazards. This equipment would typically be classified as Hazard Level C, D or E according to AS 4343.



While Australian certification schemes like AICIP exist for the certification of inspection personnel, the requirements of such schemes are impractical for those who own or manage a small number of low risk plant.

This course is tailored for equipment such as air receivers and accumulators, giving solid background without unnecessary information or examinations. 4 weeks of online training will be followed by 4 days of classroom training with an examination on the last day.

The content of the course is such that with good in-house documentation you or your staff will prove their competency and be able to perform internal and external inspections to satisfy legislative requirements and/or good engineering practice.

The examination is to support evidence that the student is competent to perform the inspections and a certificate of attendance will be provided to demonstrate the training and level achieved.

AICIP IN-SERVICE INSPECTOR (ISI) EXAM PREPARATION COURSE

The Australian Institute of the Certification of Inspection Personnel (AICIP) certifications are well regarded in Australia and New Zealand. The examinations are renown for difficulty and thoroughness.

Knowledge of a wide range of pressure equipment is essential. Equipment such as fired heaters, process vessels, autoclaves, boilers and transportable vessels along with the associated damage mechanisms are tested during the 9 hours of examinations.

The AICIP ISI exam traditionally has a pass rate of less than 20%, however with our preparation course students go into the exam feeling knowledgeable and confident which is reflected in a pass rate well above the average.

KNOWLEDGE OF AS 3788 (2024) - THE AUSTRALIAN PRESSURE EQUIPMENT INSPECTION STANDARD

- Inspection planning, management, record keeping, documentation and reporting
- Inspection frequency determination using AS 4343 and Table 4.1 and half life principles
- Repair, rerating and alterations.
- Evaluation of damage mechanisms and failures. Use of API 571 for detailed damage mechanism analysis

OTHER STANDARDS

- Construction codes relating to boilers, pressure vessels and process pipework
- Conformity assessment and quality assurance requirements
- AS 4037 for examination and testing of pressure equipment to vessel class
- Various NDE standards to determine the acceptability of methods and conformity of reports

DURATION: 3 MONTHS ONLINE FOLLOWED BY 6 DAYS CLASSROOM AND ACCESSS TO ONLINE MOCKS

The course provides participants with the knowledge necessary to pass the exam and includes:

- Preparation for the difficult AICIP ISI certification exam
- Effectively use construction codes; AS 1210, AS 1228, AS 4041
- Perform all basic calculations needed for the AICIP exam
- Understanding of a wide range of pressure equipment and associated damage mechanisms
- Understanding of jurisdictional requirements and vessel registration

AICIP SENIOR IN-SERVICE INSPECTOR (SISI) EXAM PREPARATION COURSE

Senior In-Service Inspectors (SISI) certified by the Australian Institute of the Certification of Inspection Personnel (AICIP) are often called upon to perform Fitness For Service (FFS) calculations to Appendix B of AS 3788 (2024).

A Senior ISI will also be called upon for matters concerning inspection management, certification and competency of inspectors, conformity assessment and more.

The Senior ISI exam, while not being as taxing as the ISI exam still requires a great deal of technical knowledge and detailed inspection standard familiarity.

Body of Knowledge

AS 3788

- Inspection planning, management, record keeping, documentation and reporting
- Knowledge of inspector competencies to manage and supervise inspection personnel
- FFS calculations involving Appendix B for wall thinning below minimum allowable thickness
- FFS calculations of critical crack length for planar defects involving Appendix B
- Remaining life determination considering uniform wall loss or creep damage
- Re-rating of pressure equipment utilising lower safety margins
- Re-rating pressure equipment in order to gain greater corrosion allowance

OTHER STANDARDS

- Assessment of WPS, PQR and WPQ to AS/NZS 3992 and ASME IX
- Conformity assessment to AS 3920
- Various NDE standards to determine the acceptability of methods and conformity of reports

DURATION: 6 WEEKS ONLINE FOLLOWED BY 5 DAYS CLASSROOM

The course provides participants with the knowledge necessary to pass the exam and includes:

- Confidence to pass the AICIP Senior ISI certification exam
- Effectively use construction codes; AS 1210, AS 1228, AS 4041
- Perform all FFS calculations to Appendix B
- Knowledge of FFS techniques in API 510 and API 579
- Thorough understanding of inspection management principles

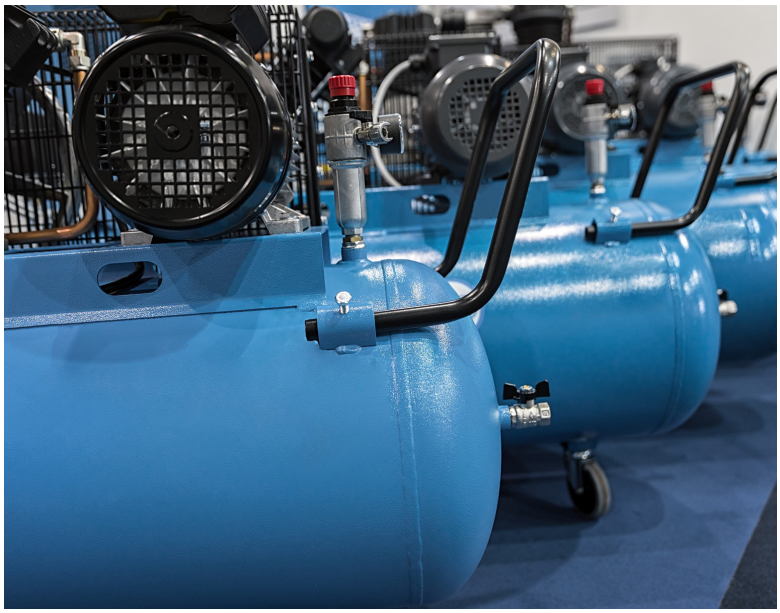
NEW ZEALAND CERTIFICATION AND COMPETENCY COURSES

New Zealand's statutory requirements are very specific and require thorough understanding of the various documents to ensure legal compliance. Central to this are the 'Health and Safety at Work Act 2015', 'Health and Safety in Employment Pressure Equipment Cranes and Passenger Ropeways Regulations 1999 (PECPR)' and the 'Approved Code of Practice (ACOP)' for both Pressure Equipment and Boilers.

In addition, competency requirements are strict in their reference to the various levels of Certification Board for Inspection Personnel (CBIP) certifications.

INSPECTION OF LOW RISK PRESSURE PLANT COURSE - NEW ZEALAND SPECIFIC

Under the ACOP (Pressure Equipment Excluding Boilers), Schedule B, certain low risk pressure equipment can be inspected without requiring a 'Certificate of inspection'.



This Schedule B plant can therefore be inspected by a 'competent person' not requiring the full CBIP certifications.

This course offers students an effective starting point, enabling them to inspect low risk plant and develop the experience that will take them further in their inspection career. In addition, candidates may be able to conduct other inspections under supervision of a suitably certified inspector.

Tailored for equipment such as air receivers and accumulators, our course will give a solid background without unnecessary information or examinations. 4 weeks of online training will be followed by 4 days of classroom training with an examination on the last day.

The content of the course is such that with good in-house documentation you or your staff will prove their competency and be able to perform internal and external inspections to satisfy legislative requirements and/or good engineering practice.

The examination is to support evidence that the student is competent to perform the inspections and a certificate of attendance will be provided to demonstrate the training and level achieved.

NEW ZEALAND
CBIP - PEI AND ENDORSEMENTS

Under the PECPR and ACOP, inspectors are required to be certified under the Certification Board for Inspection Personnel (CBIP). The default certification, known as the 'Pressure Equipment Inspector' (PEI) will allow inspection of a range of pressure equipment, pipework and boilers.

CBIP PEI EXAMINATION PREPARATION COURSE

Preparing to become a CBIP PEI is a significant undertaking requiring fulfillment of pre-requisites, experience and an arduous examination. The examination will encompass a wide range of topics and requires choosing a specific 'family' of codes/standards - Australian Standards, British Standards or ASME Codes. In addition, industry staples such as API 571 and ASME PCC-2 are specified as well as reference to various aspects of AS/NZS 3788 and AS 4343.

CBIP ENDORSEMENTS A and B PREPARATION COURSE

The two additional 'Endorsements' to the PEI, A and B, are regarded as significant milestones in the careers of inspection personnel. These certifications relate to very specific types of plant, generally regarded as 'high risk'. Therefore, the experience and preparation required for sitting these examinations is rigorous.

Similar to the PEI examination, a choice of code/standards 'family' is made, with very specific content and required knowledge. Our course will cater for one specific 'family' to ensure well rounded knowledge and detailed 'navigation' experience for the open book assessment.

FIND OUT MORE - PEI AND ENDORSEMENTS

To find out more about our CBIP courses, have a look at our website. Currently the majority of these courses on offer are conducted as in-house training for private companies. Please get in touch if you are interested in further information.

To find out more on the specifics of the PEI and Endorsement certifications, make sure you read carefully the various documents specified on the CBIP website at www.cbip.co.nz.

ASME PLANT INSPECTOR COURSES

Wilkinson Coutts is authorised by the American Society of Mechanical Engineers (ASME) to deliver the following training courses:

1. Plant Inspector Level 1
2. Senior Plant Inspector Level 2
3. Principal Plant Inspector Level 3

These courses provide delegates with the fundamental knowledge on the in-service inspection and integrity matters relating to static pressure equipment. On completion of the training, and after successfully passing the of course examination, delegates are issued with a certificate of completion from ASME directly; these certificates are currently non-renewable.

These courses should not be confused with the ASME/NB Authorised Inspector examination, completing this course does not grant Authorised Inspector status. The Plant Inspector certificate relates to in-service inspection as opposed to the verification of code compliance under the legal requirements within the United States.

All courses are intended to provide theoretical and practical instruction to those involved, or those looking to transition into the inspection and assessment of pressure equipment. The course content is not related solely on ASME codes and standards; rather it includes the various international design, in-service and repair standards.

Importantly, these courses are delivered by experienced in-service inspectors and integrity engineers who can share their knowledge and provide real-life examples during the course. We can guarantee that those attending will not be taught by lecturers from an academic background without the necessary operational experience to share with delegates.

Refer to the course page to review the course content.

PLANT INSPECTOR LEVEL 1

5 DAYS CLASSROOM OR ELEARNING

This course provides the fundamental principles of inspection, assessment and management of fixed pressure equipment, also commonly known as static mechanical plant. The content of the course is delivered in a systematic manner from the inspection planning process to the inspection practices and assessment of the associated equipment. It is aimed at the upstream and downstream Petrochemical industry but is equally relevant to stakeholders from other sectors that utilise pressure equipment.

This intensive course covers the in-service inspection methodologies and requirements for piping, pressure vessels and above ground storage tanks.

Module 1 – Introduction

- Course overview
- Reasons for inspection
- Mechanical Integrity failures case studies

Module 2 - Risk Based Inspection (RBI)

Introduction to RBI

- Relevant Codes and Standards
- RBI Methodology
- RBI Assessments
- IOWs and the MOC processes

Module 3 - Engineering Materials and Basic Design Principles

- Materials and their properties
- Types of stresses and loadings

Module 4 - In-service Piping Monitoring

- Design of piping for pressure containment.
- Piping Classes per API 570
- Common Damage Mechanisms
- Principles of corrosion loops/circuits
- Codes and Standards

Module 5 - In-service Pressure Vessel Monitoring

- Design of Pressure Vessels pressure containment
- Static Head principle
- Vessel Components – Shell/Nozzles/Supports/ Heads
- ASME VIII Div. 1 Joint Efficiency
- Common Damage Mechanisms relating to pressure vessels
- Assessing localised and general wall loss to API 510

Module 6 - Useful Remaining Life Assessments

- Corrosion rate calculations
- Remaining life calculation
- Safe MAWP calculation
- Inspection periods

Module 7 - In-service Storage Tank Inspection

- Design
- Static Head principle
- Tank Components – Shell/Floors/Roofs
- Common Damage Mechanisms
- Assessing wall loss to API 653
- Determine maximum fill height

Module 8 - Testing and Examination

- Pressure Testing
- Leak Testing
- NDE

Module 9 – Repair

- Welded Repairs
- Mechanical Repairs
- Composite Repairs

Module 10 – Inspection Plans

- Purposes of an inspection plan
- Content of plan
- Writing the plan

PLANT INSPECTOR LEVEL 2

2 MONTHS ONLINE FOLLOWED BY 4 DAYS CLASSROOM OR ELEARNING

For those wishing to progress from Level 1, or for experienced inspectors and engineers looking to expand their technical knowledge, the 'Senior Plant Inspector' course provides an intensive but practical challenge.

This course progresses naturally from the level 1 content, albeit with greater technical complexity. The material is suitable for stakeholders who are responsible for the planning, assessment, and management of static pressure equipment integrity.

The course is designed to cover most of the stages of the pressure equipment life cycle.

Primarily, it is intended to provide the knowledge to compile an Inspection Plan/ Written Scheme of Examination by ensuring all relevant processes are explained.

The course introduces management and planning activities such as Risked Based Inspection and screening of pressure vessels for Non-Intrusive Inspection using the Recommended Practice DNV RP 103.

Delegates will be introduced to API 579/ASME FFS-1 and will learn how to conduct Level 1 assessments for localised and general metal loss while being provided with an insight into the applicability and limitations of such assessments.

Lastly, the course provides the necessary knowledge to make Run, Repair or Replace decisions. ASME PPC 2 is introduced to give the repair options, while API 510/570 is used for the re-rating procedures.

Module 1 - Pressure Equipment Design and Materials

- Using ASME VIII Div.1 and PD5500
- Min. Allowable Stresses versus actual allowable Stress
- Using material certificates
- Material properties (Fracture Toughness and Impact Testing requirements)
- Material compatibility and weldability

Module 2 - Damage Mechanisms and Inspection

- Wall loss mechanisms
- Mechanical damage mechanisms
- High temperature mechanisms
- Determining the correct NDT methods
- Applicability and Limitations of examination methods

Module 3 - Inspection planning and RBI

- DNV RP 103 NII Screening
- CUI inspection planning as per API 583
- Corrosion Risk Assessments
- RBI methodologies

Module 4 - Fitness for Service Assessments

- API 579 Part 4 General Metal Loss
- API 579 Part 5 Localised Metal Loss
- API 579 Part 6 Pitting
- Applicability and Limitations
- Damage modes and failure modes
- Determination to Run, Repair or Re-rate

Module 5 – Repair Selection

- Determine most suitable
- Mechanical Repairs
- Composite Repairs
- Testing and Examination requirements
- Temporary repair inspection and recording requirements

PLANT INSPECTOR LEVEL 3

1 MONTH ONLINE FOLLOWED BY 5 DAYS CLASSROOM

The plant inspector Level 3 (Principal Level) is an intensive course suitable for candidates who wish to demonstrate the highest technical level of management-related knowledge relating to plant inspection.

Direct entry to level 3 would be ideal for those individuals who are Chartered Engineers, or similar. Those who hold level 2 and have gained further experience at that level are also eligible.

All suitability for this level will be reviewed to ensure that the minimum requirements have been satisfied as this course relies heavily on experience and prior knowledge.

The residential part of the course consists of 5 intensive days covering the advanced technical aspects and assessment methodologies of in-service inspection activity in the industry with the fifth and final day set aside solely for the examination.

The residential course is focused around the following eight modules.

Module 1 - The Regulations

- International Regulations such as PSSR and HSE Regime
- WHS Legislation
- Offshore Safety Cases
- Role of the Technical Authority

Module 2 - Pressure Equipment Design

- Pipe Bends and Elbows
- Branch Connections
- Piping Supports and their Functionality
- Calculating the Bending Stress

Module 3 -Materials & Damage Mechanisms

- Fracture Toughness
- Plain-Strain & Plain-Stress
- Pitting & SCC of Stainless Steels
- Requirements to minimse Brittle Fracture

Module 4 – Integrity Management

- Inspection Objectives
- API 581 RBI Methodologies
- Inspection Reporting
- FFS Methods for Wall Loss on Bends
- L1 Crack Assessment using API 579

Module 5 – Welding

- Required WPS & PQR Documentation
- Welder Approval
- Welding Operator Approval

Module 6 –Root Cause Analysis (RCA)

- How to use the RCA Causation Chart
- Why Equipment Failures Keep Happening
- Most Failures Have Multiple Causes
- Does Someone Have to be at Fault

Module 7 – Management of Change (MOC)

- What is MOC?
- The Main Steps in the MOC
- How to Conduct an MOC
- Review of the MOC and its Management

Module 8 - Creeping Change & Asset Life Extension

- Creeping Change
- Aging and Life Extension (HSE KP4)
- Structural Integrity
- Mechanical Integrity
- Pipelines & Corrosion

API EXAM PREPARATION COURSES

WHAT IS API?

The American Petroleum Institute (API) offers a certification program for individual in-service inspectors handling the in-service inspection of pressure vessels, pipework and storage tanks. API also manages an expansive catalogue of API 'codes' which standardise practice.

These certifications are also regarded as evidence of competence in Australia and are sometimes preferred over schemes such as AICIP ISI. Many other countries regulatory authorities also use these codes to assess evidence of inspector competence. The API certification program is broken down into a series of API programs, known as Individual Certification Programs (ICPs).

American Petroleum Institute

WHY CHOOSE THE API ROUTE?

Worldwide, API certificates have become the most regarded, desired and demanded credentials in the in-service inspection industry, providing a method to improve technical and code knowledge and strengthening the holder's overall competence and career prospects.

ENTRY REQUIREMENTS?

Before applying for the API ICP exam candidates must ensure that they meet the minimum requirements defined by API. The table sets out the requirements for API 510/570/653.

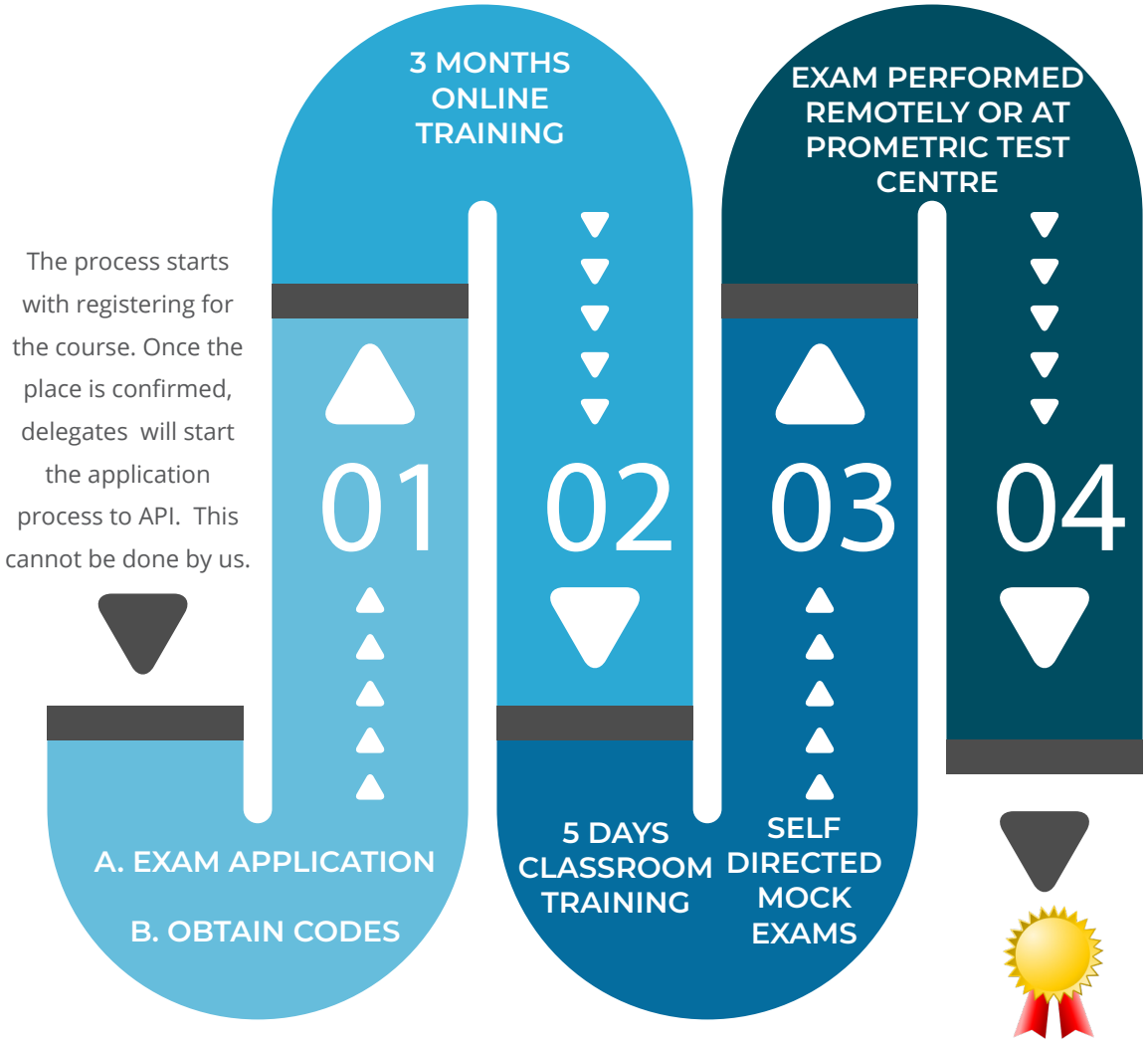
EDUCATION	YEARS EXPERIENCE	EXPERIENCE REQUIRED
BS or higher in engineering or technology	1 year	Supervision or performance of inspection activities as described in code for which the exam is being taken
2-year degree or certificate in engineering or technology	2 years	Design, construction, repair, operation, or inspection of the type of equipment (vessels/ pipework/tanks), of which one year must be in supervision or performance of inspection activities as described in the code for which the exam is being taken.
High school diploma or equivalent	3 years	
No formal education	5 or more years	

API 510/570/653 COURSE DELIVERY

Our API Individual Certification Program (ICP) exam preparation training for API 510, 570 and 653 is delivered in two parts. Before the five days of classroom training, delegates will be expected to complete the three-month online training syllabus which forms a significant portion of the learning program.

Delegates will work through various modules which come with accompanying question sets aimed at increasing technical knowledge and code familiarity. The online training provides the core knowledge that we consider the minimum standard required before our five-day intensive classroom course. The online training ensures that the classroom course is not held up by delegates unfamiliar with the relevant codes.

After successful completion of the online training, the five-day full-time classroom training commences during a one week calendar window, usually a week before the API examination window opens. Our training provides the ultimate preparation to our candidates to take the formal API examination.



CLASSROOM TRAINING

Our intensive five-day classroom training is conducted over one week, with subsequent access to 6 or 7 mock exams to be completed online. The mock exams are representative of the open and closed book API exams and are able to be taken according to your schedule and are self-directed with all feedback given.

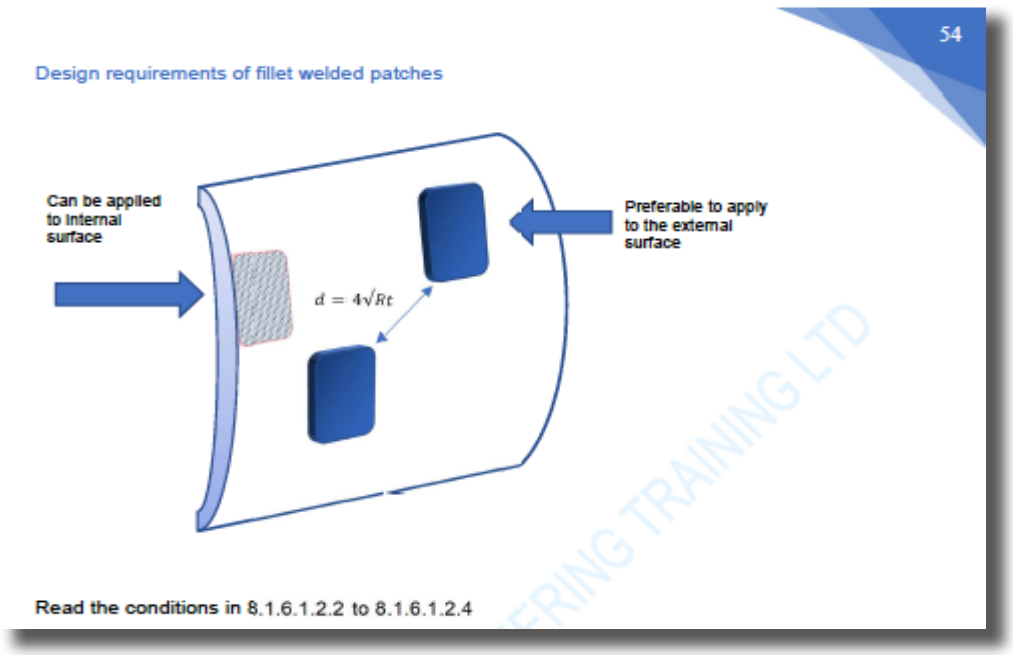
All training materials are provided, including an extensive training manual covering all the topics within the 'Body of Knowledge'. Unlike other training providers, we do not have delegates sitting in front of a PowerPoint presentation for 8 hours a day. The training involves plenty of class interaction and worked examples by the instructor.

The 5 day course comprises of revision from the online training, working through the classroom manual examples and demonstration of the calculations. It includes topics that are best presented in a classroom format that may not have been covered in the online training.

Following the 5 day course, the student will have access to around 7 days worth of mock examinations (6 or 7 in total) aligned with the official API exam, allowing delegates to anticipate how the closed book and open book exams are presented during the formal test. Each mock examination has feedback on each question to ensure the student is confident in the answers.

We remain flexible during the training to adapt to the pace of the class. As a guide, the API 510 course runs as like so;

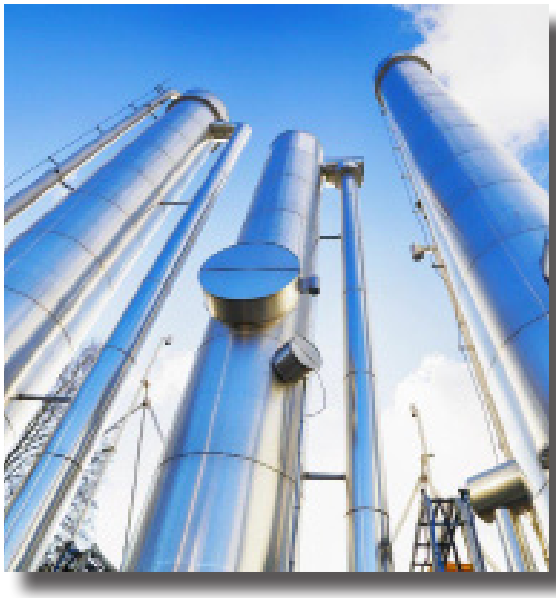
Day 1 - ASME VIII
Day 2 - API 510
Day 3 - API 572 / API 577 / ASME V
Day 4 - ASME IX / API 576
Day 5 - Revision



API 510 PRESSURE VESSEL INSPECTOR

3 MONTHS ONLINE FOLLOWED BY 5 DAYS CLASSROOM AND 7 DAYS WORTH OF MOCK EXAMS

Certified API 510 Pressure Vessel inspectors must have a broad knowledge base relating to the maintenance, inspection, repair, and alteration of pressure vessels. The API 510 examination is designed to determine if individuals have such knowledge.



This certification program benefits employers and the industry as a whole by helping to:

- Improve management control of process unit operation, repair, and maintenance.
- Reduce the potential for inspection delays.
- Provide a continued high level of safety through the use of highly specialised and experienced inspectors.

Body of Knowledge

- Corrosion rates and inspection intervals
- Joint efficiencies
- Static head calculations
- Calculation of minimum thickness for internal pressure
- Calculate the maximum allowable working pressure
- Pressure testing procedures and calculations
- In-service repairs to 510
- Impact testing requirements
- Establishing weld sizes for welds at openings
- Nozzle reinforcement theory and calculations
- Welding procedure qualification and procedure review
- General rules for welding and examination in API and ASME
- Damage Mechanisms as per API 571 (510 selection only)

The course provides participants with the knowledge necessary to pass the exam and includes:

- Effectively use major codes: ASME B&PV & Sections V, VIII, & IX and several API codes/ standards.
- Perform all basic vessel calculations needed for the API exam.
- Use API's codes during inspection, repairs, and alterations of pressure vessels.
- Review welding procedures (WPS/PQR) and welder performance qualifications (WPQ).

API 570 PIPING INSPECTOR

3 MONTHS ONLINE FOLLOWED BY 5 DAYS CLASSROOM AND 7 DAYS WORTH OF MOCK EXAMS

Certified API 570 Piping inspectors must have a broad knowledge base relating to the maintenance, inspection, alteration and repair of in-service metallic piping systems. The API 570 examination is designed to determine if applicants have such knowledge.

This certification program benefits employers and the industry as a whole by helping to:

- Provide a continued high level of safety through the use of inspectors specialized in process piping
- Improve management control of process unit inspection, repair, alteration and re-rating
- Reduce the potential for inspection delays resulting from regulatory requirements

Body of Knowledge

- Corrosion rates and inspection intervals
- Weld joint and casting quality factors
- Linear thermal expansion calculations
- Calculation of the minimum thickness required for internal pressure
- Calculate maximum allowable working pressure
- Pressure testing procedures and calculations
- In-service repairs relating to 570
- ASME V Non Destructive Testing procedures
- Impact testing requirements
- Preheat and post weld heat treatment
- Welding procedure qualification and procedure review
- General rules for welding and examination in API and ASME
- Damage Mechanisms as per API 571 (570 selection only)

The course provides participants with the knowledge necessary to pass the exam and includes:

- Effectively use major codes: ASME B16.5 & B31.3; ASME B&PV Sections V & IX and API codes/ standards
- Perform all basic piping calculations needed for the API exam.
- Use API's codes during inspection, repairs, and alterations of piping.
- Review welding procedures (WPS/PQR) and welder performance qualifications (WPQ).

API 653 STORAGE TANK INSPECTOR

3 MONTHS ONLINE FOLLOWED BY 5 DAYS CLASSROOM AND 7 DAYS WORTH OF MOCK EXAMS

The API 653 Aboveground Storage Tank Inspector must have a broad knowledge base relating to tank inspection and repair of aboveground storage tanks and will satisfy the minimum qualifications specified in API Standard 653, Tank Inspection, Repair, Alteration, and Reconstruction.

This certification program benefits employers and the industry as a whole by helping to:

- Improve management control of repair, reconstruction and maintenance
- Reduce the potential for inspection delays
- Provide a continued high level of safety through the use of highly specialized and experienced

Body of Knowledge

- Corrosion rates and inspection intervals
- Joint efficiencies
- Static head calculations
- Calculation of minimum thickness for internal pressure including bottom plates
- Calculate the maximum allowable working pressure
- Pressure testing procedures and calculations
- In-service repairs relating to 653
- ASME V Non Destructive Testing procedures
- Impact testing requirements
- Establishing weld sizes for shell and roof openings
- Settlement evaluation
- Welding procedure qualification and procedure review
- General rules for welding and examination in API and ASME
- Damage Mechanisms as per API 571 (653 selection only)

The course provides participants with the knowledge necessary to pass the exam and includes:

- Effectively use major codes: API 650 and ASME B&PV Sections V & IX.
- Perform all tank calculations needed for API exam.
- Use API's codes during inspection, repairs, and alterations of tanks.
- Review welding procedures (WPS/PQR) and welder performance qualifications (WPQ).

SHORT COURSES AND ONLINE-ONLY COURSES

We offer a number of courses that are online-only, short course only or a combination of the two. These courses can also be tailored to suit your company's requirements.

ONLINE ONLY COURSES

- API 580 - Risk Based Inspection Examination Preparation Course
- API 571 - Damage Mechanisms Examination Preparation Course
- API 577 - Welding Inspection and Metallurgy Examination Preparation Course
- API 936 - Refractory Personnel Certification
- API 982 - Refractory Inspector Certification
- API SIFE - Source Inspector Fixed Equipment Examination Preparation Course
- API SIRE - Source Inspector Rotating Equipment Examination Preparation Course
- API 579 - Fitness For Service eLearning
- ASME Approved Wind Turbine Inspector eLearning
- API 1169 - Pipline Construction Examination Preparation Course
- Bolted Flange Joint Integrity eLearning Course

SHORT COURSES - CLASSROOM

- API 579 - Fitness For Service
- ASME PCC-2 - Pressure Equipment Repair
- Pressure Testing Best Practices
- Pressure Relief Devices - Inspection and Testing

API 580 RISK BASED INSPECTION

3 MONTHS ONLINE

API welcomes highly specialised inspectors, engineers, other professionals across the entire petrochemical industry to obtain the API 580 Risk Based Inspection certification as a validation of their profound knowledge of Risked Based Inspection (RBI).

RBI has quickly become one of the industry's premiere instruments and preferred methods of inspection planning. The API 580 certification will add significant value to your professional credentials, demonstrating to your employers and clients that you have obtained a high level of proficiency and understanding in this very important field.

The API 580 training is an on-line only training course lasting 3 months. This interactive on-line training provides the study required to take the 580 examination. The examination is based only on the API 580 document, there are no supporting codes for the ICP examination.

We also offer a practical Risked Based Inspection course for in-company training. Unlike the exam preparation courses, our practical course also includes the methodology covered by API 581. This 3 day course will introduce API 580, 581 and 571 and how they compliment each other.

Delegates will have the opportunity to conduct RBI assessments using real world inspection reports and data to produce a technically concise inspection plan containing the correct inspection techniques and locations.

The course provides participants with the knowledge necessary to pass the exam and includes:

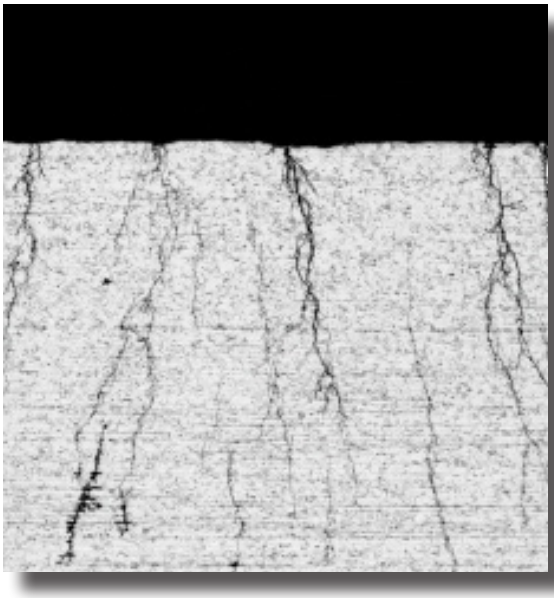
- The Basic Concepts of RBI.
- Risk Management and Risk Reduction.
- Inspection Optimization.
- Introduction to Risk-based Inspection.
- Risk Assessment and Management
- Types of Assessment and planning.
- Data and Information Collection.
- Identifying Deterioration Mechanisms and Failure Modes.
- Probability and Consequence of Failure.

API 571 CORROSION AND MATERIALS

3 MONTHS ONLINE

Similar to the API 580 certification, highly specialized inspectors, engineers, other professionals across the entire petrochemical industry can obtain the API 571 Corrosion and Materials certification as a validation of their knowledge on damage mechanisms.

API RP 571-2020 is the latest edition that describes damage mechanisms affecting equipment in the refining and petrochemical industries. A key first step in managing equipment safety and reliability is the identification and understanding of the various damage mechanisms.



Proper identification of damage mechanisms is also required when implementing the API Inspection Codes (API 510, API 570, API 653) and in carrying out risk based inspection (RBI) per API 580 and API 581. When performing a fitness-for-service (FFS) assessment using API 579, the damage mechanisms need to be understood and need to be considered when evaluating the remaining life.

The online course aims to provide the participants with a thorough understanding of the various damage mechanisms contained in the latest edition of API RP 571-2020 that can affect process equipment, the type and extent of damage that can be expected, and how this knowledge can be applied to the selection of effective inspection methods to detect size and characterize damage. The 66 damage mechanisms to be discussed in this course are common to a variety of industries including refining and petrochemical, pulp and paper, and fossil utility.

The course provides participants with the knowledge necessary to pass the exam and includes:

- Wet H2S cracking.
- Reheat cracking.
- Sulfuric acid corrosion.
- Polythionic acid stress corrosion cracking
- CO2 corrosion.
- Corrosion Under Insulation (CUI).
- Caustic corrosion.
- Soil corrosion.
- Sulfide stress corrosion cracking.
- Graphitic corrosion.
- Brittle fracture.
- Mechanical fatigue
- Chloride stress corrosion cracking.
- PLUS MANY MORE!.

API 577 WELDING INSPECTION AND METALLURGY

3 MONTHS ONLINE

The objective of this certification program is to provide documented evidence of advanced knowledge and expertise in the area of Welding Inspection and Metallurgy based on the information contained in API RP 577.

API 577 is an excellent reference code covering several welding techniques, basic metallurgy and inspection methods.

This valuable qualification demonstrates that inspectors, welders, engineers or QA/QC personnel have obtained excellent knowledge in welding processes.

The course provides the understanding of the welding requirements for fabrication, inspection and testing requirements of ASME Codes for new construction and how they work with API Codes for post-construction inspection, repairs and alterations.

It provides the process, oil, gas, petrochemical and other process industries with the assurance that personnel trained and certified under this internationally recognised program have the required knowledge and experience for the job in the field.

The training is conducted online with lecturer support when required.

The course provides participants with the knowledge necessary to pass the exam and includes:

- Welding inspection.
- Welding processes.
- Welding procedures.
- Welding materials.
- Welder qualification.
- Welding procedure review.
- Non-Destructive Examination.
- Metallurgy.
- Refinery and Petrochemical plant welding issues.
- Terminology and symbols.
- Actions to address improperly made production welds.

API 579 FITNESS FOR SERVICE

3 DAYS CLASSROOM OR 3 MONTHS ONLINE ELARNING

Fitness-For-Service (FFS) is an essential methodology to assess damaged pressure equipment components for their suitability of continued operation.

The methods covered by FFS are suitable, compatible and in some cases, required with major inspection codes and standards (i.e. API 510, 570 and 653). The assessment methods used are applicable to most types of pressurized equipment, piping and storage tanks where flaws and damage/degradation has been detected or identified.

This training course covers API 579-1/ASME FFS-1 with a focus on the Level 1 & 2 assessment procedures and their practical implementation .

Discussion of damage mechanisms and the importance of identification, inspection techniques for flaw sizing, remaining life considerations, remediation methods and methods for life extension of damaged equipment is also included. Attendees will complete numerous worked examples.

We make this course as realistic as possible by presenting NDT examination reports for delegates to extract the data. In the 'real world', this is how these assessments will be conducted. We don't just provide the numerical data to feed into the calculations, we want to ensure our delegates know how to extract this information, sometimes from reports that may not contain all the data required. This allows them to identify what further inspection would be necessary to accurately assess the item.

The course provides participants with following knowledge:

- Damage Mechanisms and their associated damage modes and failure modes.
- Conduct level 1 assessments for the following damage modes;
    - Part 4 General Metal Loss
    - Part 5 Local Metal loss
    - Part 6 Pitting
    - Part 9 Cracking
    - Part 12 Dents and Gouges
    - Part 14 Fatigue Screening
- For in-company training, further parts can be covered by increasing course duration.

API 1169 PIPELINE CONSTRUCTION

3 MONTHS ONLINE ELEARNING

This course is designed to assist individuals who are scheduled to take the API 1169 Pipeline Inspector Certification Examination. The course consists of 3 months of online, eLearning training, completed at your own pace leading into the API examination.

Whether you're an experienced inspector or just beginning on this exciting career path, becoming an API certified Pipeline Construction Inspector is your first step in career advancement. Demonstrate you have the knowledge, skills and professionalism required to get the job done right.

The API 1169 Pipeline Inspector Certification is relatively new to the industry. Developed by oil and gas experts, this certification became public knowledge in late 2014. While responses from the oil & gas sector were initially gradual, the API 1169 program grew substantially in 2016, with training for the API 1169 exam in high-demand.

INGAA & CEPA both mandate all Pipeline Inspectors have the API 1169 Certification by 2018. The API 1169 Certification is meant to ensure the industry is full of exceptional knowledge and skill.

API has implemented strict minimum qualification requirements for undertaking the ICP exam. The qualification requirements for API 1169 are based on a combination of the number of years of experience acquired within the last 20 years, plus education, and in some cases, other certifications.

Refer to the API.org website for further information on the requirements.

The course provides participants with the knowledge necessary to pass the exam and includes:

- American Petroleum Institute and ASME Boiler and Pressure Vessel Code ASME IX & V.
- Use API's codes during construction, inspection, repairs, and alterations of pipelines.
- Review of Welding Procedures (WPS / PQR) and Welder Performance Qualifications (WPQ).
- Study confines of ASME B31.8 and B31.4.
- Study requirements of Code of Federal Regulations (USA) 29 CFR 1910, 1926, 40 CFR112, 122, 49,192/5.
- Environmental Protection Agency (EPA) Requirements.

API SOURCE INSPECTOR FIXED EQUIPMENT

3 MONTHS ONLINE ELEARNING

SIFE - Source Inspector Fixed Equipment focuses primarily on pressure containing equipment and structural equipment, including vessels, columns/ towers, heat exchangers, piping, valves, pressure relief devices, tubulars, and associated structural fabrications.

Company supplier quality programs have long needed for a minimum standard of competency regarding inspectors working on fixed equipment and rotating equipment assignments around the world within the oil and gas industry. Industry expectations are that individual inspector certifications will be mandatory, by many clients and projects, sometime soon.

The API Source Inspector certification program was developed in cooperation with industry experts. It qualifies individuals (employees of end-users and individual contractors) who perform the important task of supplier quality surveillance. The Source Inspector has been defined as the individual responsible for:

- Examining fabricated and manufactured equipment and materials at a supplier's facility
- Confirming that the supplier's quality management system is being utilized effectively

The technical competence of individuals is one of the main criteria of effective source inspection. Inspectors need the ability to interpret and implement specification and code requirements across a range of fixed (static) and pressure equipment. Ongoing improvement and certification of source inspectors is a way to achieve this. This training program provides specific instruction for inspectors preparing for the API SIFE examination. This API SIFE program is finding increasing acceptance in the inspection industry as a way of demonstrating inspector competence in commonly used codes and standards.

The course provides participants with the knowledge necessary to pass the exam and includes:

- Project specific Source Inspection planning activities.
- Source Inspection performance.
- Examination methods, tools and equipment.
- Final acceptance.
- Manufacturing and Fabrication (M&F) processes.
- Pressure Vessels - materials, construction, dimensional checks.
- Piping - valves, flanges and fittings.

API SOURCE INSPECTOR ROTATING EQUIPMENT

3 MONTHS ONLINE ELEARNING

Source Inspector Rotating Equipment is the second certification in the Source Inspector Suite. This certification, developed in cooperation with industry experts, focuses primarily on Rotating Equipment, including but not limited to: pumps, gears, compressors, turbines and associated appurtenances.

The certification content is used as the basis for providing a systematic approach to risk-based source inspection in order to provide confidence that mechanical rotating equipment being purchased meet the minimum requirements as specified in the project documents and contractual agreements.

The Source Inspector Examination contains 100 multiple-choice questions targeting core knowledge necessary to perform source inspection of mechanical rotating equipment. The focus of the exam is on source inspection issues and activities rather than design or engineering knowledge contained in the reference standards.

The bulk of the questions address mechanical rotating equipment inspection/surveillance which is typically known by persons who have experience working as source inspectors or persons intending to work as source inspectors who have studied the material during their exam preparation.

The scope of the syllabus is expansive, covering topics such as inspection planning, source inspection performance, materials, non-destructive testing and manufacturing.

The course provides participants with the knowledge necessary to pass the exam and

- Project specific Source Inspection planning activities.
- Source Inspection performance.
- Examination Methods, Tools and Equipment.
- Final Acceptance.
- Manufacturing and Fabrication (M&F) Processes.
- General Purpose Turbines.
- Lube Oil Systems.
- Reciprocating Compressors.
- Rotary-Type Compressors.
- Axial/Centrifugal Compressors.
- Gears: Reducers and Increasers.

API 936 REFRACTORY PERSONNEL CERTIFICATION

3 MONTHS ONLINE ELARNING

This course is designed to prepare professionals for the API 936 certification exam.

The course covers critical knowledge required for the installation, inspection, testing, and repair of refractory linings in various industrial applications, such as pressure vessels and piping systems.

Our course provides the necessary tools to understand and apply the API STD 936 Refractory Installation Quality Control Guidelines.

The API 936 Refractory Personnel certification is designed to identify candidates possessing the knowledge of API STD 936 Refractory Installation Quality Control Guidelines. These are guidelines for the installation quality control of monolithic refractory linings and may be used to supplement owner specifications.

API 936 certification raises the bar of competence for qualified personnel, who must have knowledge of installation, inspection, testing and repair of refractory linings. It provides the industry with a prequalified set of individuals prepared for the job and readily identifies those who are qualified to do the job.

The course provides participants with the knowledge necessary to pass the exam with the following modules:

- Module 1: Introduction
- Module 2: Codes and References
- Module 3: Materials and Support Codes
- Module 4: Quality Assurance and Quality Control (QA/QC)
- Module 5: Responsibilities
- Module 6: Inspector Qualifications
- Module 7: Materials – Physical Property Requirements
- Module 8A, 8B: Qualification Tests for Applicators
- Module 8C, 8D, 8E: Production Testing Qualifications
- Module 9: Installation
- Module 10: Dryout
- Module 11: Exam Preparation
- Module 12 – Mock Exams

API 982 REFRACTORY INSPECTOR CERTIFICATION

3 MONTHS ONLINE ELARNING

This course is designed to prepare professionals for the API 982 certification exam. The course covers critical knowledge required for the inspection of refractory linings in various industrial applications that have been placed in-service.

API Refractory Inspectors must have a broad knowledge relating to inspection, quality control, and repair of in-service refractory. Our course provides the necessary tools to understand and apply the API RP 982 Inspection and Assessment of Refractory Linings.

The API 982 certification raises the bar of competence for qualified inspectors, who must have knowledge of inspection and assessment of refractory linings. It provides the industry with a prequalified set of individuals prepared for the job and readily identifies those who are qualified to for that role.

The course provides participants with the knowledge necessary to pass the exam with the following modules:

- Module 1: Introduction
- Module 2: Inspection and Assessment
- Module 3: Inspection Assessment and Marking of Refractory Materials
- Module 4: Refractory Installation
- Module 5: Refractory Linings Damage Mechanisms (DMs)
- Module 6: API 560 Chapter 11 Refractory Linings in Fired Heaters
- Module 7: Monolithic Refractories: Manufacture, Properties and Selection
- Module 8: API 979 Application of Refractory Lining Materials
- Module 9: Mock Exams
- Module 10: Mock Exams

ASME PCC 2 PRESSURE EQUIPMENT REPAIR

3 DAYS CLASSROOM

This course is a must for everyone who handles inspection and repair of pressure equipment. The ASME PCC-2 standard provides methods for repair of vessels and piping after it has been placed in service.

These repair methods include the relevant design, fabrication, examination, and testing practices and may be temporary or permanent.

The course first deals with the appropriate inspection and flaw assessment methods and then describes suitable choice and methodology for the repair of components when it is deemed necessary.

Guidance for the applicability of repair methods based on the type of damage and how to plan and carry out various types of repairs such as, welding, mechanical and non-welding repair. The testing and inspection of repairs is also included.

This training course is designed to give logical step-by-step procedures for selecting and implementing the correct remedial action. The participants will learn in detail the process of adopting and applying the rules of ASME PCC-2 for use in their professional work by discussing several case studies.

Not only will the various repair methods be covered, but an overview of the most common welding processes such as GTAW, SMAW and GMAW., Including advantages and disadvantages of each.

The course provides the knowledge to decide on various types of repairs and includes:

- How to choose between '3 R' options i.e. "Run, Repair and Replace".
- Address the repair of components when repair is deemed necessary.
- Deciding on temporary or permanent repairs.
- Examination and testing of repaired equipment.
- Repair Documentation.

PRESSURE TESTING PROCEDURES - BEST PRACTICE

1 DAY CLASSROOM

Pressure testing of newly manufactured and installed pipework and pressure vessels is an essential part of ensuring that assets meet their operational requirements.

However, the number of reported failures indicate that current processes and available guidance relating to pressure testing are not adequate, both in the factory and on site.

This course is designed for the specific needs of industrial clients that perform and/or witness pressure testing on vessels, pipework, valves and similar pressure system components. It will provide delegates with the essential knowledge of the methods, procedures and legal requirements applying to pressure testing, including hazard assessment and risk reduction relevant to Australian and International Codes and Standards, as well as industry codes of practice.

It outlines the responsibilities in relevant Codes and Standards, as well as using the British Health and Safety Executive's Guidance note GS4 'Safety Requirements for Pressure Testing' and how to meet those requirements. A review of case studies is conducted to demonstrate where 'things go wrong' and how to prevent such incidents in the future.

A significant emphasis will be placed on the 'Test Supervisors' roles and responsibility and the safe systems of work that must be in place.

The course provides the knowledge necessary to ensure pressure test are conducted safely:

- Understand code/standard requirements towards pressure tests.
- Review testing requirements of construction standards such as AS 1210, 1228 and 4041
- Understand overarching testing requirements of AS 4037
- Review testing requirements of construction codes such as ASME VIII Div. 1 and B31.3
- Review of various testing methods outlined in ASME V
- Review the British Health and Safety Executive's Guidance note GS4 'Safety Requirements for Pressure Testing' as a document of good practice
- Develop pressure test procedures.
- The supervisor roles and responsibilities.
- Describe risk assessment and method statements for pressure testing.

ASME APPROVED PRESSURE RELIEF DEVICES INSPECTION & MAINTENANCE

2 DAYS CLASSROOM AND 1 DAY WORKSHOP

The 'Inspection and Maintenance of Pressure Relief Devices' (PRDs) course is a practical training course tailored to the specific needs of companies working with PRDs. It combines classroom instruction and practical workshop training on various types of PRDs. It is an independent course that covers multiple types of PRD designs and is not specific to any equipment manufacturer. The course duration is 3 days consisting of a combination of classroom and workshop instruction involving practical exercises.

The course is suited to those involved in the inspection, recertification, management of PRV change out, RBI team members and staff who may be unfamiliar with PRVs such as graduates or trainees. The training provides the necessary technical learning in relation to the in-service cycle of a PRV.
All successful participants will be awarded the ASME certificate which is non-renewable.

PRE-INSTALLATION

The course introduces the checks and inspection required on receipt of a PRV and before it's installation into service. The physical examination is shown along with the correct QA/QC validation on PRV certification.

INSTALLATION

Correct installation of a PRV is crucial to it's intended operation. The course will explain the installation process and what to look for, such as misalignment, flange sealing face damage, correct use of gaskets and torquing of the joint.

IN-SERVICE INSPECTION

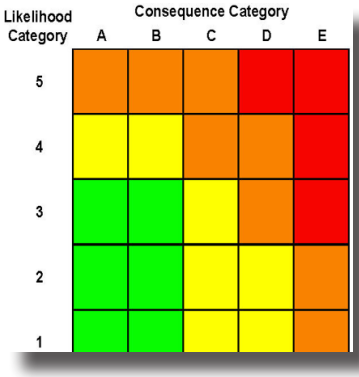
Although visual inspection is often limited while in-service, there are certain aspects covered in the course, such as an introduction to in-service test such as the 'Trevitest', and visual inspection ensuring there is no significant damage.

STRIPDOWN AND INSPECTION

Participants will be involved in the 'as received' lift test, strip down, inspection, assessment and reporting on the condition of the valve. We can supply sample used valves for use during the course if required.

REASSEMBLY AND TESTING

During this phase of the course, the delegates will have the opportunity to conduct seat lapping and surface finish assessment. Instruction will be given on the reassembly of the valve and the testing.



RBI & DAMAGE MECHANISMS

An introduction to Risk-Based Inspection for PRVs is provided based on current industry practice. Several common damage mechanisms will also be introduced, along with their damage and failure modes.

OFFSHORE STRUCTURES INSPECTION AND RISK MANAGEMENT

3 DAYS CLASSROOM

Our Offshore Structural Inspection and Risk Management course is designed for professionals responsible for maintaining the integrity of offshore structures in the Australasia Region.

Whether you are a planner, inspector, corrosion engineer, or risk manager, this course equips you with the knowledge and skills to ensure your offshore assets meet regulatory standards and operate safely and efficiently.

You'll gain expertise in degradation mechanisms, advanced inspection techniques, structural design principles, and risk-based inspection (RBI) strategies through a comprehensive blend of theoretical frameworks and practical applications.

The course also covers the latest industry standards and regulations, ensuring you fully comply with relevant legislative requirements. With training in cutting-edge inspection technologies like drones, ROVs, and ultrasonic testing, you can proactively identify early signs of degradation and mitigate risks.

This course provides a deep dive into the technical and practical aspects of offshore structural integrity management, focusing on key areas such as:

- Regulatory Compliance & Integrity Management: Understand Australian regulations and how to implement a comprehensive asset integrity program.
- Structural Design & Load Analysis: Learn how to calculate load types and apply industry-standard design codes to ensure structural reliability.
- Degradation Mechanisms & Failure Modes: Identify and assess critical degradation processes and failure modes that impact offshore structures.
- Risk-Based Inspection (RBI): Master RBI methodologies to optimise inspection schedules and minimise operational risk.
- Advanced Inspection Techniques: Gain hands-on experience with the latest inspection technologies, including drones, ROVs, and ultrasonic testing.
- Anomaly & Remedial Management: Learn to prioritise structural anomalies and develop remedial strategies that enhance asset longevity.
- Engineering Assessments & Documentation: Understand engineering assessment stages and maintain essential documentation for integrity assurance.
- Quality Assurance & Continuous Improvement: Ensure your integrity management program drives continuous improvement and meets key performance indicators (KPIs).

BOLTED FLANGE JOINT INTEGRITY COURSE

2 MONTHS ONLINE ELARNING

Ensuring leak-free performance requires more than tightening bolts, it involves understanding how flanges, gaskets, and bolts interact. The individual assembling them must consider how they work together under pressure, temperature, and time.

This course covers flange and gasket selection, sealing face finishes, fastener types, bolt tightening techniques, pressure testing, and troubleshooting flange leaks, equipping you with the knowledge to make confident, informed decisions in the field.

This course suits anyone involved in assembling, inspecting, or maintaining pressure systems.

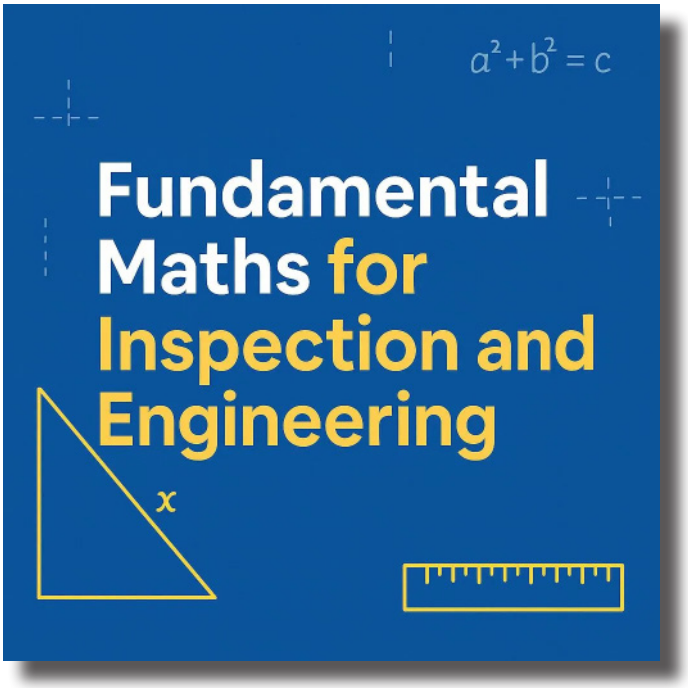
Provided as online, eLearning you are able to work through the content in your own time, at your own pace. There are no lectures to attend and you can log-on whenever you like. Upon completion of the course you will receive a certificate of completion, outlining 12 hours of Continuing Professional Development (CPD) hours.

The course provides participants with the following modules:

- Module 1: Flanges
- Module 2: Gaskets
- Module 3: Bolting
- Module 4:Principles of Flange Assembly
- Module 5:Inspection
- Module 6:Flange Leakage & Troubleshooting

FUNDAMENTAL MATHS FOR INSPECTION AND ENGINEERING

2 MONTHS ONLINE ELARNING



This course has been carefully designed to strengthen the mathematical foundation required for professionals working in inspection and NDT roles. It serves multiple purposes:

To facilitate effective learning, this course is structured into a series of concise yet comprehensive modules. Each module is designed to present mathematical principles in a clear and practical manner, with direct relevance to inspection and testing disciplines.

Video Tutorials – Step-by-step instructional videos that illustrate key concepts, real-world applications, and problem-solving techniques to reinforce learning.

By the end of this course, participants will have developed a stronger mathematical foundation, enabling them to perform technical calculations with greater accuracy and confidence in their professional roles.

Where appropriate, WHY? sections explore the origins of mathematical concepts, fostering greater understanding and enhancing problem-solving skills. This deeper insight is invaluable for both academic success and real-world applications.

The course provides participants with the following modules:

- Module 1 – Integers
- Module 2 – Fractions
- Module 3 – Decimals
- Module 4 – Rounding
- Module 5 – Percentages
- Module 6 – Orders of Operation, Squares and Square Roots
- Module 7 – Ratios and Rates
- Module 8 – Angles
- Module 9 – Indices
- Module 10 – Scientific Notations
- Module 11 – Algebra
- Module 12 – Solving and Rearranging Equation
- Module 13 – Pythagoras Theorem
- Module 14 – Trigonometry
- Module 15 – Logarithms

API BOLTED FLANGE JOINT INSPECTOR (BFJI)

3 MONTHS ONLINE ELARNING

The API Bolted Flange Joint Inspector (BFJI) certification is designed to ensure inspectors and engineers have the knowledge and skills required to maintain the safety, reliability, and leak-tightness of bolted flange joints.

This course provides a comprehensive preparation pathway for candidates planning to sit the API BFJI exam. It combines technical understanding of flanged joint integrity with targeted exam practice to build confidence and competence.

Provided as online, eLearning with 3 additional closed book mock exams, you are able to work through the content in your own time, at your own pace. There are no lectures to attend and you can log-on whenever you like. Upon completion of the course you will receive a certificate of completion, outlining 24 hours of Continuing Professional Development (CPD) hours

Upon successful completion of this course, delegates shall be able to;

- Explain the working principles of bolted flange assemblies and their role in maintaining joint integrity.
- Identify and describe the various types of flanges, including sealing faces and surface finishes, and determine their suitability for specific service conditions in accordance with relevant ASME standards.
- Understand flange ratings, specifications, and component sizing requirements.
- Describe the types, materials, and properties of gaskets (non-metallic, semi-metallic, metallic) and their application in different operating environments.
- Describe bolt types, materials, and specifications (including ASTM A193), as well as thread design and terminology per ASME B16.5 and related standards.
- Explain the principles of flange assembly, including the effects of friction, lubrication, alignment, and the role of washers.
- Compare bolt tightening methods and sequencing, and explain the correct application of hot bolting and half-bolting procedures.
- Understand the pressure testing requirements for flanged joints and the differences between hydrostatic, pneumatic, and other test types.
- Apply inspection acceptance criteria for flange faces, bolts, and gaskets, including damage assessment and in-service evaluation per ASME PCC-1, ASME PCC-2 and other references.
- Identify common causes of flange leakage and apply troubleshooting techniques to prevent recurrence, considering gasket behaviour under load and thermal cycling
- Demonstrate understanding of key requirements from the API BFJI reference publications to support closed-book exam performance.
- Build exam readiness through practice mock exams, applying knowledge to US-style multiple-choice questions.

ASME APPROVED WIND TURBINE INSPECTOR

5 DAYS CLASSROOM OR ELEARNING

This novel ASME approved course provides the knowledge and understanding on how to conduct the in-service inspection and assessment of offshore wind turbine generators. We liaised with the largest global offshore wind turbine developer in the world to ensure the scope was aligned with todays inspection practices.

The content of the course examines how we can adopt current good practices contained in several codes and standards from around the world, and how to execute an effective inspection campaign.

You will explore what types of damage to structures, pressure vessels, piping and lifting equipment exist. This will in turn provide sufficient knowledge to write focused inspection plans.

Module 1 - Introduction

- Course overview
- Relevance of Regulations
- Common inspection requirements

Module 2 - Inspection Scope & WSE

- Regulatory requirements
- Equipment to be inspected
- Critical inspection areas
- Nacelle machinery

Module 3 - Lifting Equipment Inspection

- Using LOLER
- Supporting Regulations
- Scope of inspection
- Reporting requirements
- Areas to inspect

Module 4 - Structural Inspection

- Defining structural categories
- Material properties
- Fatigue issues
- Externally applied stresses
- Inspection scope

Module 5 - NDE Techniques and Damage Mechanisms

- Applicable NDE techniques
- Advantages and disadvantages of NDE techniques
- DM's affecting structures

Module 6 Pressure Systems & Inspection

- Regulatory reporting requirements
- DM's affecting pressurised equipment
- Damage assessment
- Remaining life
- Inspection periods

OUR FEEDBACK

"I would like to say what an excellent course it was. Very informative, very well presented and containing information relevant to what I do and can use in my job".

"Would recommend this training provider for anyone wishing to embark on the ISI route as the support by Emil Mandyczewsky is constant and his ability to provide the basic structure and avoid the many alternative avenues possible with this course and exam, Emil really helps target the candidates weaknesses and strengths in this field."

"World class training! Just received a preliminary pass on my API 570 with thanks to the excellent training provided by Wilkinson Coutts. I would highly recommend anyone looking to gain an API to book on with them."

"Absolute first class training and delivery, I just did my 510 with these guys and would highly recommend them to anyone, from start to finish. Craig even put in a personal appearance before the exam, I can't fault these guys at all"

"I recently completed the API 570 training course with Wilkinson Coutts Engineering Training Australia, which allowed me to successfully pass the API 570 Exam. I found the course to be well structured, comprehensive and professionally delivered. The course required 3 months of online training prior to the classroom component. I felt the nature of this structure served myself and other course participants well as it allowed for easier identification of holes in our knowledge base during the classroom component and more constructive discussion to be undertaken. The tutor was extremely knowledgeable of the applicable codes, while at the same time having a comprehensive field background. I would highly recommend Wilkinson Coutts Engineering Training Australia and will be engaging their services in future for further career development.."

"I have just completed the API 510 residential training with Wilkinson Coutts, and I must say that it was excellent. I self-funded my training and therefore had high expectations. Starting with online training it was well tailored for learning by giving reading instructions, a good summary and then a question set on each section. There is a lot of content to cover, and the online training really sets you up well for the residential, it brings all concepts into one place. It provides a great focal point for study. Overall I was delighted with the experience. I hope to take the API 570 exam in the coming year and will certainly be choosing Wilkinson Coutts as a training provider."

"Excellent course content both online and in class. Gave me the confidence I needed to go on to sit the very difficult AICIP examination process. Thanks Emil.."

"I recently did my first API 570 exam and got Preliminary Pass. I was so worried about the exam (especially because English is not our native language and amount of study material we had to go through) until I met Paul Wilkinson. Such a great person, knowledgeable, friendly and helpful instructor. He kept things straightforward to understand and prepared me very well and confident for the exam. Both online and residential training was set perfectly, and I would recommend everyone who wants to take future exams and pass to join Wilkinsoncoutts Training Company. Paul and Craig - thanks a lot for your support. I m so looking forward to taking my journey for API 510 with you."

CONTACT US

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