

API 510

Pressure Vessel Inspector Course

**Be the qualified
API 510 Inspector
in 2020!**

Sculpt Your Skills for the Inspection, Repair, Alteration, and Rerating of Pressure Vessel Systems!

17th - 21st February 2020 | Kuala Lumpur, Malaysia
 28th September - 02nd October 2020 | Bandung, Indonesia
 23rd - 27th November 2020 | Kuala Lumpur, Malaysia



INSTRUCTOR

Uday B. Kale (M. Eng. Mechanical)

Technical Director
KUB Quality Services

SUMMARY OF PROFESSIONAL ACHIEVEMENT

- API 510 - Authorized Pressure Vessel Inspector - Certificate #26785
- API 570 - Authorized Piping Inspector - Certificate #38157
- API 653 - Authorized Above storage Tank Inspector-Certificate #27926
- API SIFE - Source Inspector Fixed Equipment - Certificate #52837
- API SIRE - Source Inspector Rotating Equipment - Certificate #63573
- API 580 - Risk Based Inspection - Certificate #50553
- API 1169 - Pipeline Construction Inspector - Certificate #73409
- Certified Welding Inspector (AWS) Certificate #00071941
- CSWIP 3.1 Certificate #58489
- ACCP Professional Level III (RT, UT, MT, VT) ASNT ID - 83835
- RT 2 - Certified Site Incharge (BARC, India)
- ASNT NDT Level III (RT, UT, MT, VT, PT, ET, LT), ASNT ID - 83835
- EN 473 (ISO 9721) Level 3 (RT, UT, MT, PT, VT)

PARTIAL CLIENT LIST

- The Middle East:
Qatar Petroleum, QAFAC, ADCO, ADGAS, ADMA, GASCO, Banagas, Technip (Bahrain), Equate Petrochemicals Company, Al Jubail Fertilizer Company, TUV Akadamie Middle East (UAE, Saudi Arabia and Qatar)
- Africa: BP - GUPCO (Egypt), Inspection and Test Nigeria Ltd
- India & Asia: Oil India Limited, Tata, Dacon Inspection Ltd
- Europe: Rosen Europe (The Netherlands)

SUPPORTED BY



ATTEND THIS INTENSIVE COURSE TO MASTER:

- Detailed explanations of all the information covered in the API 510 'Body of Knowledge' including ASME welding requirements for pressure vessels section IX and VIII
- ASME non-destructive testing principles and application of Section V Pressure vessel design review ASME Section VIII, weld sizes, vessel nozzle reinforcement, brittle fracture, weld efficiency factors, post weld heat treatment
- Pressure relieving devices, valves, bursting discs, setting, testing and inspection; API 510 inspection, repair and rerating of vessels, inspection intervals, inspection requirements, relationships to ASME codes. Corrosion, minimum thickness determination and remaining life calculations
- Inspection and degradation mechanisms of pressure vessels, corrosion and cracking mechanisms
- Erosion, common corrodents, hydrogen and H₂S damage, alloy degradation.

Limited Attendees

The course has limited seats to ensure maximum learning and experience for all delegates.

Certificate of Attendance

You will receive a Certificate of Attendance bearing the signatures of the Trainer upon successful completion of the course. This certificate is proof of your continuing professional development.

Interactive Training

You will be attending training designed to share both the latest knowledge and practical experience through interactive sessions. This will provide you with a deeper and more long-term understanding of your current issues.

High Quality Course Materials

Printed course manual will provide you with working materials throughout the course and will be an invaluable source of reference for you and your colleagues afterward. You can follow course progress on your laptop with soft copies provided.

RESERVE NOW

→ PROGRAM OVERVIEW

“To improve management control of process unit inspection, repair, alteration and rerating; and to reduce the potential for inspection delays resulting from regulatory requirements.”

-- API.org on API 570 Certification

American Petroleum Institute (API)

Code 510 Inspection, Repair, Alteration, and Rerating of Pressure Vessel Systems is recognized and used with confidence worldwide. The Piping Inspector Certification Program (PICP) is developed for the continual high level of efficiency and safety through emphasizing professional credibility and process integrity.

Pressure Vessel system is one of the critical production assets in process industry. Organizations recognize the need to maintain authorized inspection agency and technically assess qualified pressure vessel engineers and inspectors to ensure facilities are at top performance. Therefore, API 510 certification is one of the most sought after professional competency that enables inspectors to be actively involved in the improvement of industry & environmental health and safety performance, reinforcement management control, compliance of inspection capabilities.

With Mr. Uday Kale's extensive involvements in the facilities inspection, as well as his practical coaching and mentoring approaches, this course not only prepare the candidates to pass API 510 examination with confident, it will also advance the appreciation of pressure vessel facilities and thus to broaden the technical knowledge base in order to avoid unplanned shutdown and reduce expenses!

→ AUDIENCE

This course will specifically benefit Engineers, Supervisors, and Managers from the following disciplines:

- Mechanical Engineering
- Inspection
- Maintenance & Operations
- Technical & Engineering
- QAQC

and technical personnel with 2-3 years of experience in the management and planning of inspection and maintenance activities of pressure vessel system at upstream oil & gas facilities, refineries, process plants and petrochemical facilities.

Each attendee must bring a **Laptop computer** with Microsoft operating system and **Scientific Calculator**

→ WHY YOU SHOULD ATTEND

- To ensure that all objectives of the course matches yours, all PetroSync programs are developed after intensive and extensive research within the industry
- PetroSync programs focus on your immediate working issues to ensure that you are able to apply and deliver immediate results in real work situations
- Application and implementation of industry knowledge and experience are the drivers for our course design, not theoretical academic lectures
- PetroSync training focuses on practical interactive learning tools and techniques including case studies, group discussions, scenarios, simulations, practical exercises and knowledge assessments during the course. Invest a small amount of your time to prepare before attending the course to ensure maximum learning
- PetroSync follows a rigorous selection process to ensure that all expert trainers have first-hand, up-to-date and practical knowledge and are leaders of their respective industrial discipline

→ IN-HOUSE SOLUTIONS

SAVE COST • IMPROVE PERFORMANCE • REDUCE RISK

PetroSync understands that in current economic climate, getting an excellent return on your training investment is critical for all our clients. This excellent training can be conducted exclusively for your organization. The training can be tailored to meet your specific needs at your preferred location and time.

We will meet you anywhere around the globe. If you like to know more about this excellent program, please contact on +65 3159 0800 or email general@petrosync.com

→ PROGRAM SCHEDULE

08:00	Registration (Day1)
08:10 – 10:00	Session I
10:00 – 10:15	Refreshment & Networking Session
10:15 – 12:30	Session II
12:30 – 13:30	Networking Buffet Lunch
13:30 – 15:00	Session III
15:00 – 15:15	Refreshment & Networking Session
15:15 – 16:00	Session IV
16:00	End of Day

*Schedule may vary for each training

AGENDA OUTLINE

DAY-1

MODULE – 1

Welcome and Introduction

Overview of API 510 Course

MODULE – 2

JOINT EFFICIENCIES

- a. Weld Joint Categories from UW-3;
- b. Type of radiography (full, spot, or none , RT-1, RT-2, etc.);
- c. Joint efficiency by reading Table UW-12;
- d. Joint efficiency for seamless heads and vessels Sections per UW-12 (d); and
- e. Joint efficiency for welded pipe and tubing per UW-12 (e).

MODULE - 3

THICKNESS CALCULATIONS

- a) The required thickness of a cylindrical shell (UG-27(c)(1));
- b) The vessel part MAWP for a cylindrical shell
- c) The required thickness of a head-Hemispherical, Ellipsoidal, Torispherical
- d) The vessel part MAWP for a head

MODULE - 4

STATIC HEAD

- a) Calculate static head pressure on any vessel part;
- b) Calculate total pressure (MAWP + static head) on any vessel part;
- c) Calculate maximum vessel MAWP given vessel parts MAWP and elevations

MODULE - 5

EXTERNAL PRESSURE

- a) Calculate the maximum allowable external pressure;
- b) Calculate whether a cylindrical shell meets Code design for external pressure.

IMPACT TESTING

- a) Determine the minimum metal temperature of a material which is exempt from impact testing (UG-20 (f), UCS-66, UCS-68(c).)

DAY-2

MODULE - 1

PRESSURE TESTING

- a) Calculate a test pressure compensating for temperature. (UG-99 & UG-100)
- b) The precautions associated with hydrostatic and pneumatic testing,
- c) Steps in a hydrotest Procedure (UG 99 and UG 100)
- d) All steps in a pneumatic test procedure (UG 100 and UG 102)

MODULE - 2

WELD SIZE FOR ATTACHMENT WELDS AT OPENINGS

- a) Conversion of a fillet weld throat dimension to leg dimension , conversion factor(0.707)
- b) Determine the required size of welds at openings (UW-16).

MODULE – 3

NOZZLE REINFORCEMENT

Key concepts of reinforcement, such as replacement of strength and limits of reinforcement.

Credit for extra metal in shell and nozzle

Calculate the required areas for reinforcement

MODULE - 4

1 SCOPE OF API 510

1.1 General Application

1.2 Specific Applications

1.3 Recognized Technical Concepts

2 references

MODULE - 5

3 definitions

4 owner/user inspection organization

4.1 General

4.2 Owner/user Organization Responsibilities

DAY-3

MODULE - 1

5 inspection, examination and pressure testing practices

5.1 Inspection Plans

5.2 Risk-based Inspection

5.3 Preparation For Inspection

5.4 Inspection For Types Of Damage Modes Of Deterioration And Failure

MODULE – 2

5.5 General Types Of Inspection And Surveillance

5.6 Condition Monitoring Locations

5.7 Condition Monitoring Methods

MODULE - 3

5.8 Pressure Testing

5.9 Material Verification And Traceability

5.10 Inspection Of In-service Welds And Joints

5.11 Inspection Of Flanged Joints

MODULE - 4

6 interval/frequency and extent of inspection

6.1 General

- 6.2 Inspection During Installation And Service Changes
- 6.3 Risk-based Inspection
- 6.4 External Inspection
- 6.5 Internal And On-stream Inspection
- 6.6 Pressure-relieving Devices

MODULE - 5

- 7 inspection data evaluation, analysis, and recording
- 7.1 Corrosion Rate Determination
- 7.2 Remaining Life Calculations
- 7.3 Maximum Allowable Working Pressure Determination

MODULE - 6

- 7.4 Fitness For Service Analysis Of Corroded Regions
- 7.5 API RP 579 Fitness For Service Evaluations
- 7.6 Required Thickness Determination
- 7.7 Evaluation Of Existing Equipment With Minimal Documentation
- 7.8 Reports And Records



MODULE - 1

8 repairs, alterations, and rerating of pressure vessels .

8.1 Repairs And Alterations

- Authorization
- Approval
- Materials Requirements
- Welding Requirements

MODULE - 2

- Heat Treating Requirements
- Preheating
- Post weld Heat Treating
- Local Postweld Heat treatment
- Repairs to Stainless Steel Weld Overlay and Cladding
- Rerating

MODULE - 3

- Introduction to ASME Sec. IX
- Welding Procedure tests
- Performance qualification tests
- Acceptance criteria
- Welding positions
- P-No, F-No and A-No.
- Review of:
 - a. Welding Procedure Specification (WPS); and
 - b. Procedure Qualification Record (PQR)
- And determine:
 - a) Whether number and type of mechanical test listed on PQR are appropriate
 - b) Whether the results of the tests are acceptable
 - c) Whether all required essential and non-essential variables have been properly addressed.



MODULE - 1

API RP 576, Inspection of Pressure-Relieving Devices

- 1. Relief Devices
 - a) Description of Types -- (API RP-576, Section 2)
 - b) Causes of Improper Performance (API RP-576, Section 4)
 - c) Reasons for Inspection and Frequency Determination (API RP 576, Sections 3 & 5)
 - d) Inspection and Test Service Procedures (API RP-576, Sections 6 and 7)

MODULE - 2

- A. Article 1, General Requirements:
- B. Article 2, Radiographic Examination

MODULE - 3

- C. Article 6, Liquid Penetrant Examination,
- D. Article 7, Magnetic Particle Examination (Yoke and Prod techniques only):
- E. Article 23, Ultrasonic Standards, Section SE-797

MODULE - 4

API RP 576, Inspection of Pressure-Relieving Devices

- 1. Relief Devices
 - a) Description of Types -- (API RP-576, Section 2)
 - b) Causes of Improper Performance (API RP-576, Section 4)
 - c) Reasons for Inspection and Frequency Determination (API RP 576, Sections 3 & 5)
 - d) Inspection and Test Service Procedures (API RP-576, Sections 6 and 7)

MODULE - 5 (1 hour + 1 hour discussion)

- Practice Examination-Open Book
- Practice Examination-Closed Book
- Feed Back and Closing

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- EN 473 (ISO 9721) Level 3 (RT, UT, MT, PT, VT)

Uday B. Kale is a Post Graduate Mechanical Engineer with experience in Inspection, Welding and NDE/NDT projects for last 18 years. Currently he is the technical director of M/s KUB Quality Services. He has involved in inspection, welding and NDT projects in the Middle East, Africa and India on offshore production platform and petrochemical refineries. He has vast experience in Manufacturing and In Service Inspection of Static Equipment used in Oil and Gas.

Mr. Uday is very well-versed in international Codes and Standards. He performed and led the shutdown teams in performing NDE, internal and external inspection of equipments in central processing plant, ammonia plant, FCCU, SRU, SWS and amine treating units for Code stamp facilities of ADCO, Qatar Petroleum, Oil India, QAFAC, Banagas, Al Jubail Fertilizer Company, and other various units of Refineries, Petrochemicals, Gas Plant and Fertilizer Plant and so on.

He was a lead API inspector for various shutdown and Turnaround. He was also the appointed plant inspector for BP (GUPCO) in asset integrity management, who took charge of 9 offshore production complex, 75 Satellites and Onshore process units involving Close Visual Inspection of piping, equipments, NDT co-ordination, Baseline and Corrosion Monitoring. Furthermore, as an Inspector in GASCO OAG pipeline project, he conducted and witnessed Ultrasonic Examination of first 50 production weld joints of pipeline done by PWT (Pipe Welding Technology, GMAW).

PARTIAL CLIENT /PROJECT LIST

- Qatar Petroleum
- BP - GUPCO (Egypt)
- Oil India Limited
- ADCO (Abu Dhabi)
- ADGAS (Abu Dhabi)
- ADMA (Abu Dhabi)
- GASCO (Abu Dhabi)
- QAFAC
- Rosen Europe (The Netherlands)
- Banagas (Bahrain)
- TATA (India)
- Al Jubail Fertilizer Company
- Technip (Bahrain)
- Equate Petrochemicals (Kuwait)
- TUV Akademie Middle East (UAE, Saudi Arabia and Qatar)
- Inspection and Test Nigeria Ltd
- Dacon Inspection Ltd
- HBJ pipeline up-gradation projects

With his extensive involvement in various projects, Mr. Uday is also an enthusiastic and knowledgeable mentor, who has been a faculty in training, examination, qualification and certification of API 510 & 570, ASME B31.3, API653, welding and NDT in the Middle East, Africa and Asia. He is a chartered engineer with 25 + International certification in Welding, NDE and In Service Inspection.

Please checklist the package that you are attending!

API 510 Investment Package	Standard Price <input type="checkbox"/>
<input type="checkbox"/> 17 th - 21 st February 2020 at Kuala Lumpur, Malaysia	USD 2,595
<input type="checkbox"/> 28 th September - 02 nd October 2020 at Bandung, Indonesia	USD 2,595
<input type="checkbox"/> 23 rd - 27 th November 2020 at Kuala Lumpur, Malaysia	USD 2,595

- * Price is nett excluding Withholding Tax if any and will be quoted separately. Please send us the withholding tax payment receipt.
- * Price include lunches, refreshments and training materials.
- * We can help to register API exam certification which incur USD 100 administration fee per application

DELEGATE DETAILS

1st Delegate Name _____ Mr Mrs Ms Dr Others
 Direct Line Number: _____ Email: _____
 Job Title: _____ Department: _____
 Mobile Number: _____ Head of Department: _____

2nd Delegate Name _____ Mr Mrs Ms Dr Others
 Direct Line Number: _____ Email: _____
 Job Title: _____ Department: _____
 Mobile Number: _____ Head of Department: _____

3rd Delegate Name _____ Mr Mrs Ms Dr Others
 Direct Line Number: _____ Email: _____
 Job Title: _____ Department: _____
 Mobile Number: _____ Head of Department: _____

* Please fill all the details including mobile number.
 This help us to contact participant if they are late in class or if there is any urgent update (through WhatsApp/Call)

INVOICE DETAILS

Attention Invoice to: _____
 Direct Line Number: _____ Fax: _____
 Company: _____ Industry: _____
 Address: _____ Postcode: _____
 Country: _____ Email: _____

Please note:
 - Indicate if you have already registered by Phone Fax Email Web
 - If you have not received an acknowledgement before the training, please call us to confirm your booking.

PAYMENT METHODS

By Credit Card :
 Please debit my credit card: Visa MasterCard AMEX Security Code:
 Card Number: - - - Expiry Date:
 Name printed on card: _____

By Direct Transfer : Please quote invoice number(s) on remittance advice
 PetroSync Global Pte Ltd Bank details:
 Account Name: PetroSync Global Pte Ltd
 Bank Name : DBS Bank Ltd
 Bank Code : 7171 • Bank Swift Code : DBSSSGSGXXX • Branch code : 288
 Account No : • SGD : 288-901898-0 • USD : 0288-002682-01-6
 Bank Address : 12 Marina Boulevard, Level 3. Marina Bay Financial Centre Tower 3. Singapore 018982

All bank charges to be borne by payer. Please ensure that PetroSync Global Pte Ltd receives the full invoiced amount.

Confirmation

I agree to PetroSync's payment terms and cancellation policy.

Authorized Signature : _____
 Date : _____

PAYMENT TERMS : Payment is due in full at the time of registration. Full payment is mandatory for event attendance.

Contact : Cay Aagen
 Email : registration@petrosync.com
 Phone : +65 3159 0800
 Fax : +65 6826 4322

TERMS AND CONDITIONS

DISCLAIMER

Please note that trainers and topics were confirmed at the time of publishing; however, PetroSync may necessitate substitutions, alterations or cancellations of the trainers or topics. As such, PetroSync reserves the right to change or cancel any part of its published programme due to unforeseen circumstances. Any substitutions or alterations will be updated on our web page as soon as possible.

DATA PROTECTION

The information you provide will be safeguarded by PetroSync that may be used to keep you informed of relevant products and services. As an international group we may transfer your data on a global basis for the purpose indicated above. If you do not want us to share your information with other reputable companies, please tick this box

CANCELLATION POLICY

Delegates who cancel after the training is officially confirmed run by email, are liable to pay the full course fee and no refunds will be granted. You may substitute delegates at any time as long as reasonable advance notice is given to PetroSync.

In the event that PetroSync cancels or postpones an event for any reason and that the delegate is unable or unwilling to attend in on the rescheduled date, you will receive a credit voucher for 100% of the contract fee paid. You may use this credit voucher for another PetroSync to be mutually agreed with PetroSync, which must occur within a year from the date of postponement.

PetroSync is not responsible for any loss or damage as a result of the cancellation policy. PetroSync will assume no liability whatsoever in the event this event is cancelled, rescheduled or postponed due to any Act of God, fire, act of government or state, war, civil commotion, insurrection, embargo, industrial action, or any other reason beyond management control.

CERTIFICATE OF ATTENDANCE

80% attendance is required for PetroSync's Certificate of Attendance.

DETAILS

Please accept our apologies for mail or email that is incorrectly addressed.
 Please email us at registration@petrosync.com and inform us of any incorrect details. We will amend them

CHARGES & FEE(S)

- For Payment by Direct TelegraphicTransfer, client has to bear both local and oversea bank

- For credit card payment, there is additional 4% credit card processing fee.