COURSE OVERVIEW FE0850
API 936: Refractory Personnel Certification Program
(API Exam Preparation Training)

Course Title
API 936: Refractory Personnel Certification Program *(API Exam Preparation Training)*

Course Reference
FE0850

Course Duration/Credits
Five days (40 hours)/4.0 CEUs/40 PDHs

Course Date/Venue

Sessions	Date	Venue	Exam Window	Exam Closing Date
1	January 26-30, 2025	Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE	April 11-May 02, 2025	January 31, 2025
2	April 27-May 01, 2025	Club B, Ramada Plaza By Wyndham Istanbul City Center, Istanbul, Turkey	August 08-29, 2025	May 30, 2025
3	July 07-11, 2025	Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE	August 08-29, 2025	May 30, 2025
4	October 05-09, 2025	Al Azziya Hall, The Proud Hotel Al Khobar, KSA	December 05-26, 2025	September 26, 2025
Exam Venue	Abu Dhabi, Dubai, Al Khobar, Jeddah, Kuwait, Amman, Beirut, Cairo, Manama and Muscat. Participant has the option to attend at any of the above cities.			

Course Description

This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.

This API Certification Program is designed to train individuals on Refractory installation, inspection, testing and repair in accordance with API Recommended Practice 936. API RP 936 provides guidelines for the installation quality control of refractory linings and usually used to supplement owner specifications. The course also covers the material, equipment and personnel qualification requirements along with procedures and responsibilities for quality control inspection personnel.

API Refractory Certification Program provides the industry with a means for central, independent, unbiased and legally defensible certification and ensures that refractory personnel demonstrate competence in content areas that are relevant to their practices. The program raises the bar of competence for qualified personnel and provides a peace-of-mind to the industry that the certified individual has demonstrated knowledge of the relevant content of refractory installation and inspection. For the refractory personnel, this certification provides a method to demonstrate knowledge and experience with refractories and refractory inspection to employers and clients.

By participating in API's 936 Certification Program, inspectors and other professionals serving the petroleum, petrochemicals, and chemical industries are readily able to provide evidence of proper qualification. Certification provides personnel with industry-directed and industry-accepted professional credentials.

This course is designed to train individuals who are interested in obtaining the API 936 Certification, as well as those who are seeking knowledge and skills needed for the installation, inspection, testing and repair of refractory systems. Included with the course is a pre-study guide and student classroom workbook. The student receives instruction regarding how to take the test, as well as insight into the intricacies of "real world" situations. Daily tests are designed to gauge students' proficiency and understanding of the material.

Haward Technology is proud of its **90% pass rate** on all API examinations.

Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Get prepared for the next API 936 exam and have enough knowledge and skills to pass such exam in order to get the API 936 certification
- Perform the installation, repair, testing and inspection requirements of refractory systems
- Gain in-depth understanding on the laboratory testing procedures including the testing equipment and methods, sample preparation techniques, dimensional requirements for test specimen and the responsibilities for personnel and documentation requirements
- Determine what is an applicator and identify the various material qualification needed in the installation, sample preparation and surface separation requirements of the refractory system
- Recognize the responsibilities of personnel and list down the documentations needed in the material qualification of a refractory system
- Enumerate the various requirements and guidelines needed in the installation of the refractory system including the knowledge of detailed execution plan such as the design details and quality standards
- List gunite procedures and equipment including variables that affect gunite quality
- Employ the procedures of inspection including the job specifications, application standards and data collection procedures
- Identify the acceptance and rejection criteria for the inspection of the refractory system
- Develop an in-depth knowledge on the post-installation methods for refractory systems and be able to learn the applicable heating rates for various classes of refractories

Exclusive Smart Training Kit - H-STK®

*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

Who Should Attend

This course prepares participants for the API 936 exam. It is designed for those who are involved in in the installation, inspection, testing or repair of refractory systems. Other engineers, managers or technical staffs who are seeking broad knowledge of refractory properties, installations and application will definitely benefit from this course.

Required Codes & Standards

Listed below are the effective editions of the publications required for the next API-936, Refractory Personnel Certification Examination. **Each student must purchase these documents separately and have them available for use during the class as their cost is not included in the course fees**:-

API Publications

- **API Standard 936,** Refractory Installation Quality Control Guidelines – Inspection and Testing Monolithic Refractory Linings and Materials**, 4th Edition, June 2014**
- **API TR 978,** Monolithic Refractories: Manufacture, Properties, and Selection**, 1st Edition, March 2019**
- **API TR 979,** Applications of Refractory Lining Materials**, 1st Edition, October 2018**
- **API TR 980,** Monolithic Refractories: Installation and Dryout**, 1st Edition, April 2018**

ASTM (American Society for Testing and Materials) Publications

- **C113-14 (2019) –** Standard Test Method for Reheat Change of Refractory Brick
- **C133-97 (2021) –** Standard Test Methods for Cold Crushing Strength and Modulus of Rupture of Refractories
- **C181-11 (2018) –** Standard Test Method for Workability Index of Fireclay and High-Alumina Plastic Refractories
- **C704-15 –** Standard Test Method for Abrasion Resistance of Refractory Materials at Room Temperatures

***Note:* API and ASME publications are copyrighted material. Photocopies of API and ASME publications are not permitted.**

API Certificate(s)

(1) API-936 certificate will be issued to participants who have successfully passed the API-936 examination.

API INDIVIDUAL CERTIFICATION PROGRAMS

verifies that

SALEM GHANEM

HAS MET THE ESTABLISHED AND PUBLISHED REQUIREMENTS FOR API CERTIFICATION AS AN

API 936: Refractory Personnel

IN ACCORDANCE WITH THE KNOWLEDGE DEFINED IN THE API Recommended Practice 936

CERTIFICATION NUMBER 112567890

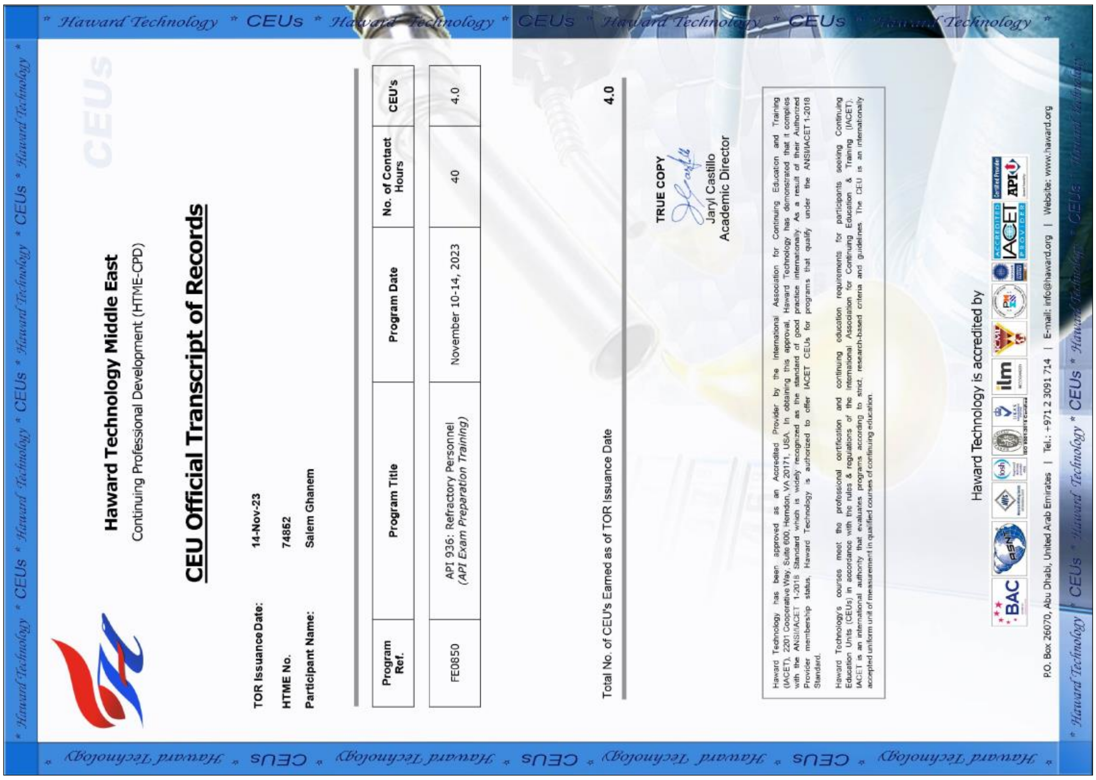
ORIGINAL CERTIFICATION DATE February 28, 2021
CURRENT CERTIFICATION DATE February 28, 2021
EXPIRATION DATE February 28, 2024

Director, Individual Certification Programs

SAMPLE

API ICP

(2) Official Transcript of Records will be provided to the successful delegates with the equivalent number of ANSI/IACET accredited Continuing Education Units (CEUs) earned during the course.



Haward Technology Middle East

Continuing Professional Development (HTME-CPD)

CEU Official Transcript of Records

TOR Issuance Date: 14-Nov-23

HTME No. 74862

Participant Name: Salem Ghanem

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
FE0850	API 936: Refractory Personnel (*API Exam Preparation Training*)	November 10-14, 2023	40	4.0

Total No. of CEU's Earned as of TOR Issuance Date 4.0

TRUE COPY

Jaryl Castillo
Academic Director

Haward Technology has been approved as an Accredited Provider by the International Association for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this approval, Haward Technology has demonstrated that it complies with the ANSI/IACET 1-2018 Standard which is widely recognized as the standard of good practice internationally. As a result of their Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for programs that qualify under the ANSI/IACET 1-2018 Standard.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking Continuing Education Units (CEUs) in accordance with the rules & regulations of the International Association for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology is accredited by

P.O. Box 26070, Abu Dhabi, United Arab Emirates | Tel.: +971 2 3091 714 | E-mail: info@haward.org | Website: www.haward.org

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations:-

- The International Accreditors for Continuing Education and Training (IACET - USA)

  Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

  Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

  Haward Technology Middle East will award **4.0 CEUs** (Continuing Education Units) or **40 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

Mr. Michael Linck, MBA, BBA, is a **Senior Piping & Mechanical Engineer** with over **30 years** of practical experience in the **Oil**, **Gas**, **Petrochemical** and **Power** industries. His expertise covers **ASME Post Construction Code**, **Inspection Planning**, **Fitness-for-Service**, **Damage Mechanisms & Repair of Vessels**, **Tanks**, **Piping & Process Equipment**, **Pipeline Pigging**, **Pipeline Integrity Assessment**, **Corrosion Monitoring**, **Control**, **Prevention** and **Inspection**, **Screw Compressors**, **Building & Facilities Maintenance Management**, **Maintenance Planning**, **Maintenance Auditing & Benchmarking**, **Risk Management Program** (**RMP**), **Reliability**, **Availability & Maintability** (**RAM**), **Material Cataloguing**, **planning** and **implementation** of small to large **boiler projects**, **insulation**, **scaffolding**, installation, operation and inspection of steel, cement, petrochemical and power industries, both new installations and aftermarket service projects. Currently, he is the **VP of Operations** for **Refractory Repair Services** as well as the **President** of **LINCK REFRACTORY INTERNATIONAL SERVICES**, taking full charge of all refractory and mechanical maintenance related operations.

Earlier in his career life, Mr. Linck held numerous significant and challenging positions as the **Commissioning Specialist**, **Maintenance Specialist**, **Contract Specialist**, **Site Manager**, **General Manager**, **Project Manager**, **Branch Manager**, **Construction Manager**, **Manager** and **Contract Site Service Representative** in several international companies such as **Foster Wheeler**, **NV Gouda Vuurvast**, **Insultec Ltd**., **National Refractories Clay Alumina Specialties**, **Thermo Tech**, **Turnaround Maintenance Inc**., **Solar Industries** and **Anco Industries**.

Mr. Linck has a **Master** and **Bachelor** degrees in **Engineering** from the **North Texas University** and **University of Dallas** respectively. He is **certified** as an **API 936 Inspector** early in 2003 as well as holds or has held state contracting licenses related to heavy construction and engineering in West Virginia, Mississippi, Louisiana, Oklahoma and Arizona

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Fee

Dubai	**US$ 7,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Istanbul	**US$ 8,000** per Delegate + **VAT**. This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Abu Dhabi	**US$ 7,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day
Al Khobar	**US$ 7,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Exam Fees

US$ 780 per Delegate + **VAT**.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0900	***Introduction***
0900 – 0930	***Students Take Initial Math Quiz***
0930 – 1000	***Review Math Quiz Answers***
1000 – 1015	*Break*
1015 – 1045	***Overview of Course Outline***
1045 – 1230	***Review of API 936 Body of Knowledge***
1230 – 1330	*Lunch*
1330 – 1500	***Laboratory Testing Procedures*** *Terms & Definitions ● Test Methods (E.G., C704, CCS, PLC, Density) & Related Calculations ● Material Qualification ● Testing Equipment, Sample Preparation Techniques, Dimensional Requirements for Test Specimens*
1500 – 1515	*Break*
1515 – 1645	***Laboratory Testing Procedures (cont'd)*** *Various Materials Utilized (For Example, Plastic, Ceramic Fiber, Anchor, Metal Fiber, Corrosion, Coatings, Etc.) ● Curing & Firing Procedures ● Acceptance/Rejection Criteria ● Responsibilities of Personnel & Documentation Requirements*
1645 – 1700	***Distribute Homework & Recap***
1700	*End of Day One*

Day 2

0730 – 0830	***Review of Day 1 & Homework Answers***
0830 – 0930	***Applicator & Material Qualification*** *Installation Methods (E.G., Gunning, Casting, Ramming & Hand Packing) ● Sampling & Sample Preparation Procedures ● Terms & Definitions*

0930 – 0945	*Break*
0945 – 1215	***Applicator & Material Qualification (cont'd)*** *Procedures for Determining Optimal Water Content & Mixing ● Applicable Formulation & Manufacturing Information ● Applicable Knowledge of Equipment & Qualification Process*
1215 – 1230	***Administer Quiz***
1230 – 1330	*Lunch*
1330 – 1515	***Applicator & Material Qualification (cont'd)*** *Applicable Test Panel/Mock-Up Requirements ● Applicable Environmental Controls*
1515 – 1530	*Break*
1530 – 1630	***Applicator & Material Qualification (cont'd)*** *Surface Preparation Requirements ● Responsibilities of Personnel & Documentation Requirements*
1630 – 1645	***Administer Quiz***
1645 – 1700	***Distribute Homework & Recap***
1700	*End of Day Two*

Day 3

0730 – 0830	***Review of Day 2 & Homework Answers***
0830 – 0930	***Installation*** *Terms & Definitions ● Responsibilities of Personnel & Documentation Requirements ● Knowledge of Detailed Execution Plan Including Design Details & Quality Standards*
0930 – 0945	*Break*
0945 – 1215	***Installation (cont'd)*** *Packaging & Storage Requirements ● Surface Preparation & Cleanliness Requirements ● Anchor: Welding, Layouts, Patterns, Materials ● Frequency & Methods of Production Sampling: Gunning, Casting, Hand Packing*
1215 – 1230	***Administer Quiz***
1230 – 1330	*Lunch*
1330 – 1515	***Installation (cont'd)*** *Water Addition: Quantity & Temperature, Mixing Procedures ● Fiber Addition: Percentage, Material, Mixing ● Installation Environmental Controls (Minimum & Maximum Temperatures) ● Gunite Procedures & Equipment, Including Variables that Affect Gunite Quality (I.E., Air Pressure, Humidity, Temperature, Aging, Water Pressure, Water Purity, Additives)*
1515 – 1530	*Break*
1530 – 1630	***Installation (cont'd)*** *Knowledge of Flash Set ● Casting Procedures & Equipment (E.G., Air Vibrator, Vibrator Frequency, Vibrator Sizing, Forming,Setup) ● Ramming/Hand Packed Procedures & Equipment*
1630 – 1645	***Administer Quiz***
1645 – 1700	***Distribute Homework & Recap***
1700	*End of Day Three*

Day 4

0730 – 0830	***Review of Day 3 & Homework Answers***
0830 – 0930	***Inspection*** *Terminology, Job Specifications, Application Standards ● Inspection & Data Collection Procedures ● Lining Design & Installation Requirements*

0930 – 0945	*Break*
0945 – 1215	***Inspection (cont'd)*** *Visual & Non-Destructive Test Methods & Qualification Testing Methods ● Application/Limitation for Various Inspection Techniques (For Example, Hammer Testing, Sonic Testing, Radiography, Core Sampling, Portable Abrasion Testing) ● Material Verification & Traceability*
1215 – 1230	***Administer Quiz***
1230 – 1330	*Lunch*
1330 – 1515	***Inspection (cont'd)*** *Acceptance & Rejection Criteria ● Repair Procedures ● Curing & Dry Out Procedures*
1515 – 1530	*Break*
1530 – 1630	***Inspection (cont'd)*** *Inspectors' & Contractors' Responsibilities ● Record Keeping Systems & Requirements*
1630 – 1645	***Administer Quiz***
1645 – 1700	***Distribute Homework & Recap***
1700	*End of Day Four*

Day 5

0730 – 0830	***Review of Day 4 & Homework Answers***
0830 – 1000	***Post-Installation*** *Terms & Definitions ● Responsibilities of Personnel & Documentation Requirements ● Knowledge of Dryout Requirements ● Sealing Requirements (For Example, Water Mist, Covering, Membrane, Curing)*
1000 – 1015	*Break*
1015 – 1215	***Post-Installation (cont'd)*** *Application & Time Limits for Applying Membrane Curing Compounds ● Environmental Conditions Required For Curing*
1215 – 1230	***Administer Quiz***
1230 – 1330	*Lunch*
1330 – 1515	***Post-Installation (cont'd)*** *Heating Equipment, Methods & Procedures (E.G., Gas Fired Burner, Stress Relieving Heating Elements) ● Placement of Temperature Sensing Probes*
1515 - 1530	*Break*
1530 - 1615	***Post-Installation (cont'd)*** *Knowledge of Manufacturer's Recommended Heatup & Cool Down Schedules ● Heating Rates for Various Classes of Refractories ● Lining Integrity Inspection Te*
1615 – 1630	***POST-TEST***
1630 – 1645	***Course Conclusion***
1645 – 1700	*Presentation of Course Certificates*
1700	*End of Course*

MOCK Exam

Upon the completion of the course, participants have to sit for a MOCK Examination similar to the exam of the Certification Body through Haward's Portal. Each participant will be given a username and password to log in Haward's Portal for the MOCK Exam during the 30 days following the course completion. Each participant has only one trial for the MOCK exam within this 30-day examination window. Hence, you have to prepare yourself very well before starting your MOCK exam as this exam is a simulation to the one of the Certification Body.

Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-

Course Coordinator

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org