COURSE OVERVIEW FE0087-4D
ASME PCC 2 - Repair of Pressure Equipment and Piping

Course Title
ASME PCC 2 - Repair of Pressure Equipment and Piping

Course Reference
FE0087-4D

Course Duration/Credits
Four days/2.4 CEUs/24 PDHs

Course Date/Venue

Session(s)	Date	Venue
1	May 04-07, 2025	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE
2	July 21-24, 2025	Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
3	September 07-10, 2025	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE
4	November 17-20, 2025	Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Description

This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

This course is designed to provide participants with a detailed and up-to-date overview of Repair of Pressure Equipment and Piping (PCC-2). It covers the scope, purpose, and framework of the PCC-2 standard; the common types of damage in pressure equipment and piping; the various repair methods covering welded, mechanical, and non-metallic; the selection of appropriate materials based on the existing system and the type of damage; the basics of welding techniques used in repairs, including safety considerations; the proper procedures for welded repairs; the calculation for welded repairs and mechanical repairs; and the guidelines for temporary and permanent mechanical repairs.

During this interactive course, participants will learn the safety and quality assurance in welding including nonmetallic and bonded repairs; the design and application of engineered wrapping; the methods and techniques for testing repaired equipment to ensure functionality and safety; setting the acceptance criteria and reviewing temporary repairs; choosing between temporary and permanent repairs; documenting repair processes and final checks before implementation; the guidelines to prevent damage during repair; and the systematic process for reviewing and getting approval on selected repair methods.

Course Objectives

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

- Apply and gain an in-depth knowledge on the repair of pressure equipment and piping (PCC-2)
- Discuss the scope, purpose and framework of the PCC-2 standard
- Identify and classify the common types of damage in pressure equipment and piping including various repair methods covering welded, mechanical, and non-metallic
- Select appropriate materials based on the existing system and the type of damage
- Apply the basics of welding techniques used in repairs, including safety considerations
- Carryout proper procedures for welded repairs, calculation for welded repairs, mechanical repairs and guidelines for temporary and permanent mechanical repairs
- Employ safety and quality assurance in welding including nonmetallic and bonded repairs
- Illustrate the design and application of engineered wrapping as well as the methods and techniques for testing repaired equipment to ensure functionality and safety
- Set acceptance criteria, review temporary repairs and choose between temporary and permanent repairs
- Document repair processes and final checks before implementation before implementation including the guidelines to prevent damage during repair
- Apply systematic process for reviewing and getting approval on selected repair methods

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 provides a wide understanding and deeper appreciation of pressure equipment and piping (PCC-2) for integrity assessment engineers, operations engineers, maintenance engineers, maintenance supervisors, facility integrity supervisors, corrosion engineers, corrosion specialists, site inspection engineers, inspectors, piping engineers, mechanical engineers and other technical staff

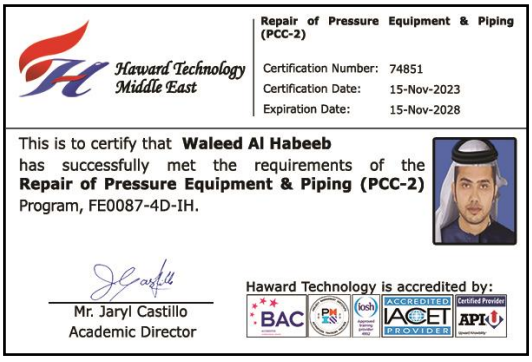
Course Certificate(s)

(1) Internationally recognized Competency Certificates and Plastic Wallet Cards will be issued to participants who completed a minimum of 80% of the total tuition hours and successfully passed the exam at the end of the course. Certificates are valid for 5 years.

Recertification is FOC for a Lifetime.

Sample of Certificates

The following are samples of certificates that will be awarded to course participants:-



(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: 15-Nov-23

HTME No. 74851

Participant Name: Waleed Al Habeeb

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
FE0087-4D-IH	Repair of Pressure Equipment & Piping (PCC-2)	November 12-15, 2023	26	2.6

Total No. of CEU's Earned as of TOR Issuance Date **2.6**

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: -

- 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.

  Haward Technology Middle East will award **2.4 CEUs** (Continuing Education Units) or **24 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.

- 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.

Course Fee

US$ 8,000 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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. Danny Gul is a **Senior Inspection Engineer** with extensive years of experience within the **Oil & Gas**, **Petrochemical**, **Process** and **Power** Industries. His wide expertise lies extensively in the areas of **Pressure Vessels**, **Tanks & Piping** Systems, **ASME Post Construction Code** (**PCC-2**), **Pressure Equipment** Analysis & Repair, **Pressure Vessels & Tanks** Repair Methods, **Risk Based** Inspection, **RBI** Methodology, **RBI** Assessment, Fitness-for-Service (**FFS**), **Tank** Inspection & Repair, **Tank** Calibration &Testing, Welded Tanks for Oil Storage (**API 650**), Atmospheric & Low Pressure Inspection (**API RP 575**), **Pressure Vessel** Inspection & Repair, Inspection & Repair of Erection Activities, **Corrosion & Materials** Inspection, **Metallurgy**, **Corrosion & Prevention** of **Failures**, **Material Selection & Properties**, **Corrosion** Prevention, **Corrosion** Technology & Inspection, **Materials & Corrosion** Control, **Metallurgy & Corrosion** Engineering, **Material** Selection & Properties, **Welding** Inspection Technology, **Welding & Machining**, **Welding** Procedure Specifications & Qualifications, **Welding** Safety, **Fabrication & Site** Inspection, **Site Erection Quality Control**, **Welding & Non-Destructive Testing** (NDE), **Hydro & Pneumatic** Testing, Degradation Mechanism & Consequence Analysis, **Risk** Management & Reduction, **Risk** Analysis, **Risk** Determination & Assessment, **Equipment** Integrity & Reliability, Failure Mode & Effect Analysis (**FMEA**), **Reliability & Asset** Management, **Piping** System, Process Hazard Analysis (**PHA**), **Human Factor** Analysis, Hazard & Operability (**HAZOP**), Layer of Protection Analysis (**LOPA**), **QRA**, **SIL** Evaluation, **FTA**, **ETA** and **Safety & Environmental** Assessment.

During his Career Life, Mr. Gul has gained his practical and field experience through his various significant positions and dedication as the **Professional Mechanical Engineer**, an **International Welding Engineer (IWE)**, **Inspection Specialist**, **API 653 Project Control Coordinator**, **Technical Instructor/Trainer (API ASME)**, **Nuclear Material & Equipment Inspector**, **QA/QC Head and Expert**, **API 653 & API 580 Authorized Inspector, Process Safety, Inspection** and **Integrity Expert** for numerous international companies like the Schlumberger, Tumas, Silverteknik, Assystem, American Petroleum Inspector, Alltechmep, TUV Nord and Szutest.

Mr. Gul has a **Bachelor's** degree in **Mechanical Engineering** from the **Istanbul Technical University**, **Turkey**. Further, he is a **Certified Instructor/Trainer**, a **Certified** Aboveground Storage Tank Inspector (**API 653**), a **Certified** Risk Based Inspector (**API 580**), a Certified Corrosion & Materials Inspector **(API 571)**, a **Certified** Pressure Vessel Inspector (**API 510**), a **Certified** Piping Inspector (**API 570**), and holds a **Level 2** certificate in **Radiographic Testing (RT)** and **Ultrasonic Testing (UT)** by the **certification of Welds and Testing** and a **Certified Internal Verifier/Trainer/Assessor** by the **Institute of Leadership & Management** (**ILM**). He has further delivered numerous trainings, courses, seminars, conferences & workshops internationally.

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 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 – 0830	***PRE-TEST***
0830 – 0930	***Introduction to ASME PCC-2**: Understanding the Scope, Purpose, & Framework of the PCC-2 Standard*
0930 - 0945	*Break*
0945 – 1045	***Overview of Damage Mechanisms**: Identifying & Classifying Common Types of Damage in Pressure Equipment & Piping*
1045 - 1145	***Types of Repairs**: Exploring Various Repair Methods Including Welded, Mechanical, & Non-Metallic*
1145 - 1230	***Material Considerations for Repair**: How to Select Appropriate Materials Based on the Existing System & Type of Damage*
1230 – 1245	*Break*
1245 – 1330	***Welded Repairs**: Basics of Welding Techniques Used in Repairs, Including Safety Considerations*
1330 - 1420	***Workshop: Assessing Damage & Selecting Repair Methods**: Practical Exercises to Apply the Morning's Learnings on Sample Damaged Components*
1420 – 1430	***Recap***
1430	*End of Day One*

Day 2

0730 – 0830	***Detailed Procedures for Welded Repairs**: Step-By-Step Guide to Welded Patches, Box Enclosures, & Sleeve Repairs*
0830 – 0930	***Calculation for Welded Repairs**: Real-Life Calculations for Designing Fillet Welded Patches & Sleeves*
0930 - 0945	*Break*
0945 – 1045	***Mechanical Repairs Overview**: Introduction to Clamps, Sleeves, & Other Mechanical Methods*
1045 – 1145	***Guidelines for Temporary & Permanent Mechanical Repairs**: Differentiating Between Repair Types & Choosing the Correct Approach*

1145 – 1200	*Break*
1200 - 1420	***Safety & Quality Assurance in Welding**: Ensuring Proper Safety Measures Are Followed & Quality Standards Are Met During Welding*
1420 – 1430	***Recap***
1430	*End of Day Two*

Day 3

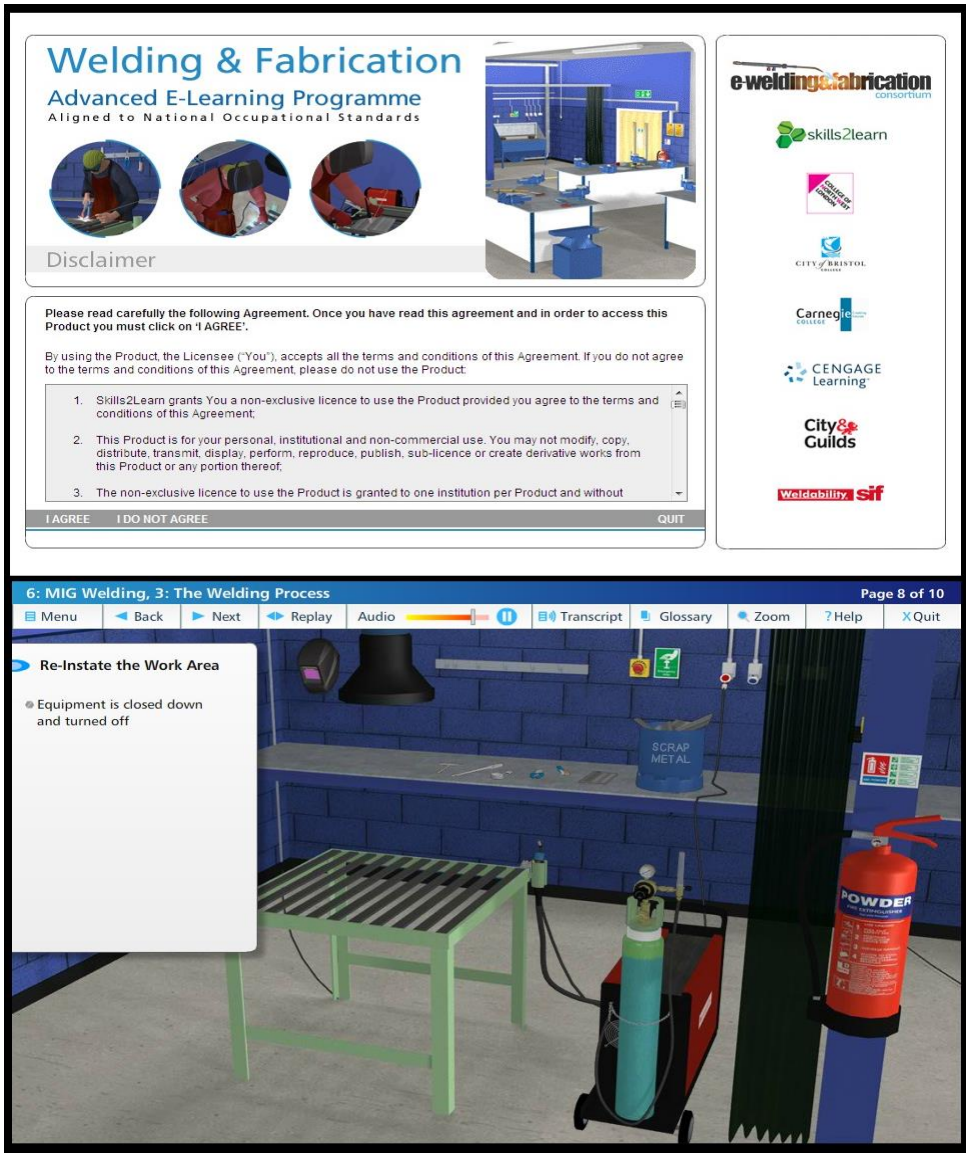
0730 – 0830	***Nonmetallic & Bonded Repairs**: Techniques for Using Nonmetallic Materials to Repair Piping & Equipment*
0830 – 0930	***Design & Application of Engineered Wrapping**: Guidelines for the Application & Design Considerations*
0930 - 0945	*Break*
0945 – 1045	***Examination & Testing of Repairs**: Methods & Techniques for Testing Repaired Equipment to Ensure Functionality & Safety*
1145 – 1200	*Break*
1200 - 1300	***Set Acceptance Criteria & Review Temporary Repairs**: Defining Criteria for Acceptance of Repairs & Reviewing Temporary Repair Methods*
1300 - 1420	***Case Studies: Real-Life Examples of Nonmetallic Repairs**: Analysis of Past Repair Cases to Understand Challenges & Solutions*
1420 – 1430	***Recap***
1430	*End of Day Three*

Day 4

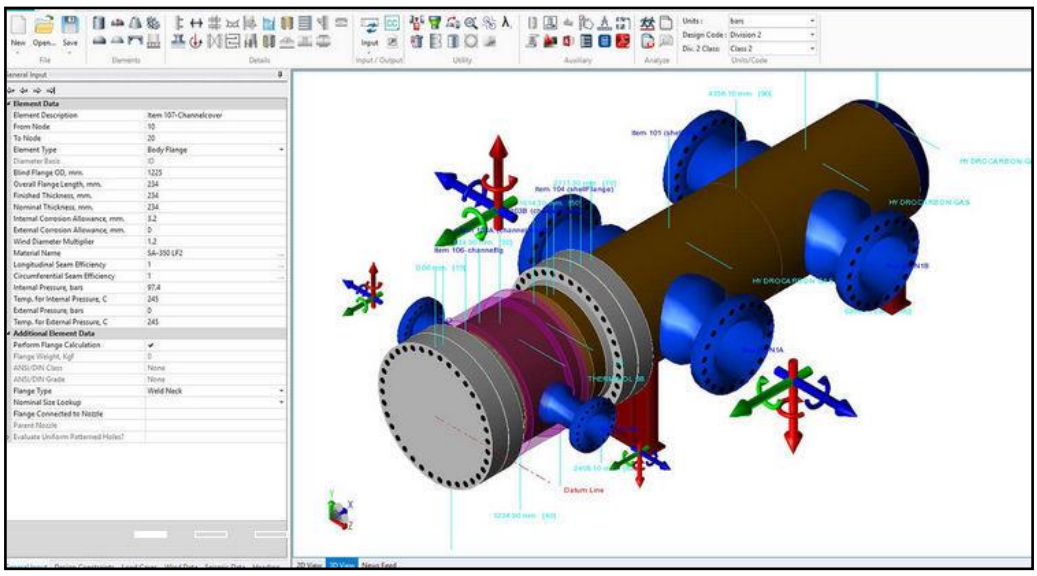
0730 – 0830	***Choosing Between Temporary & Permanent Repairs**: Criteria & Decision-Making Processes for Selecting the Type of Repair*
0830 – 0930	***Finalizing Repair Plans & Documentation**: How to Document Repair Processes & Final Checks Before Implementation*
0930 - 0945	*Break*
0945 – 1100	***Workshop: Designing & Calculating Temporary Repairs**: Participants Use Spreadsheets to Calculate & Design Temporary Repairs Based on Real Parameters*
1100 – 1200	***Guidelines to Prevent Damage During Repair**: Techniques to Minimize Additional Damage During the Repair Process*
1200 - 1215	*Break*
1215 – 1230	***Review & Approval of Repair Methods**: Process for Reviewing & Getting Approval on Selected Repair Methods*
1230 - 1300	***Final Examination & Course Wrap-Up**: A Comprehensive Test to Assess Participants' Understanding & A Feedback Session to Conclude the Training*
1300 – 1315	***Course Conclusion***
1315 – 1415	***COMPETENCY EXAM***
1415 – 1430	*Presentation of Course Certificates*
1430	*End of Course*

Practical Sessions

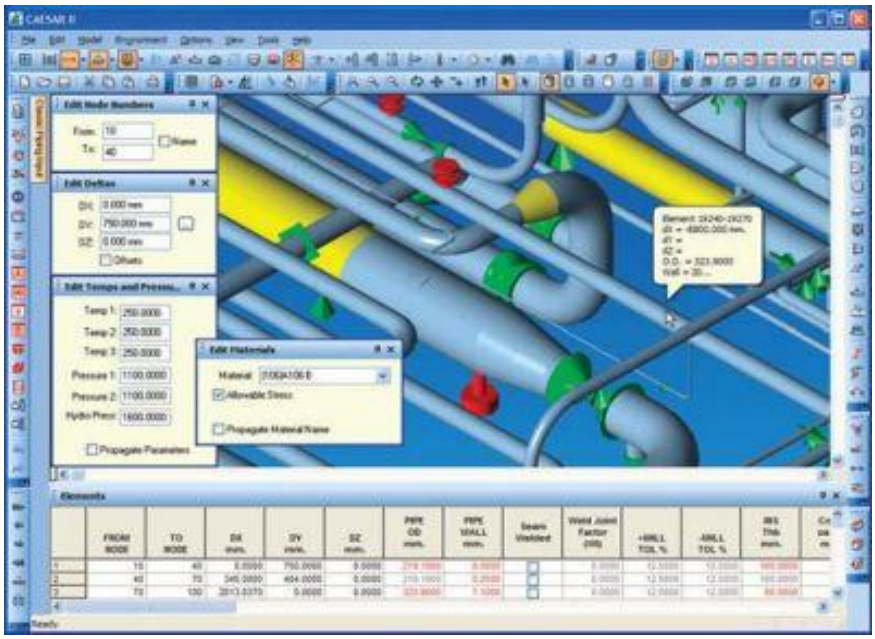
Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout welding inspection using the “E-Welding & Fabrication”, “PV Elite”, “CAESAR II”, “PIPESIM”, “AutoPIPE”, “PIPE-FLO”, “Nozzle-Pro” simulator, “American Welding Society (AWS) Tool Kit” and “Structural Weld Replica Kit” suitable for classroom training.



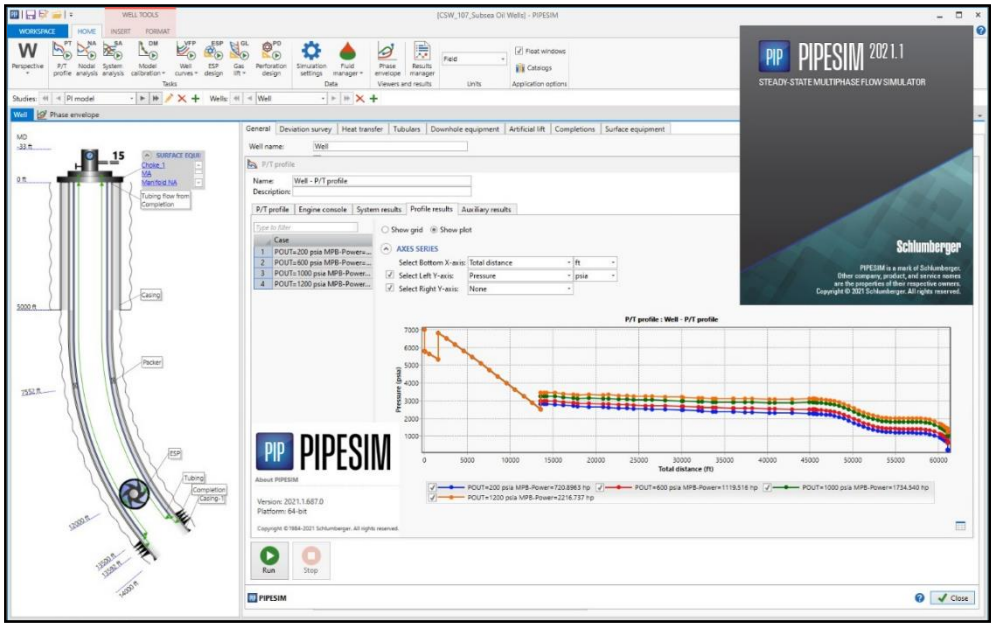
E-Welding & Fabrication



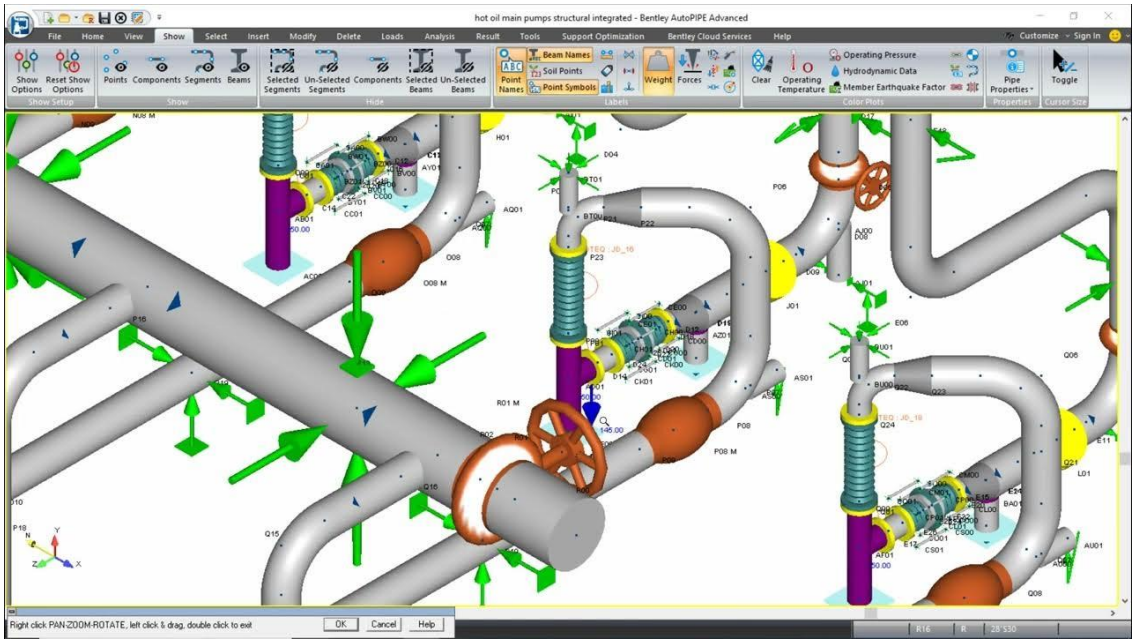
PV Elite



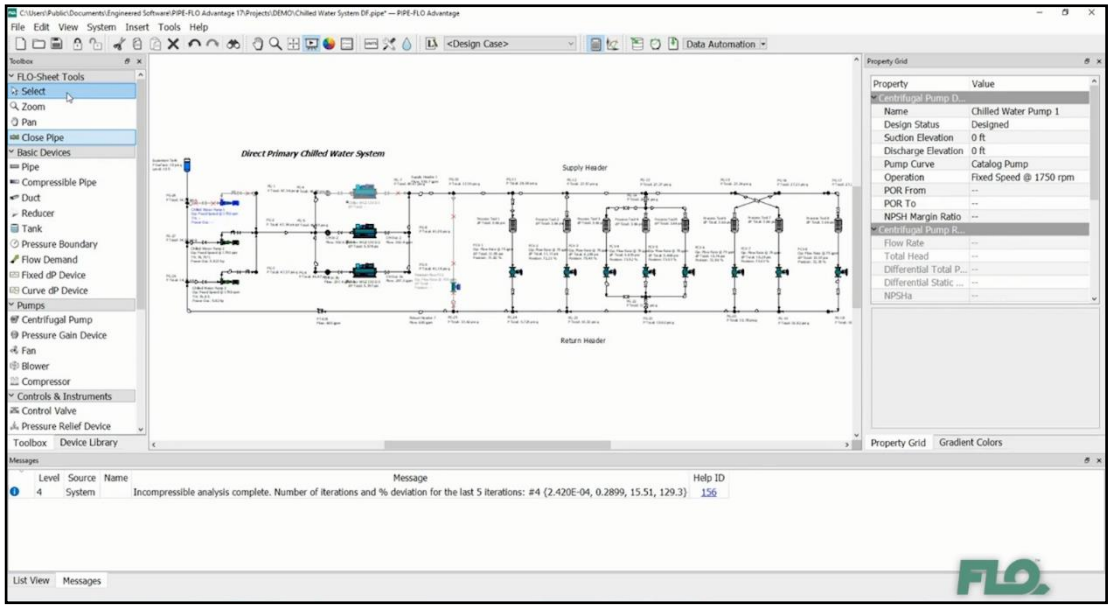
CAESAR II



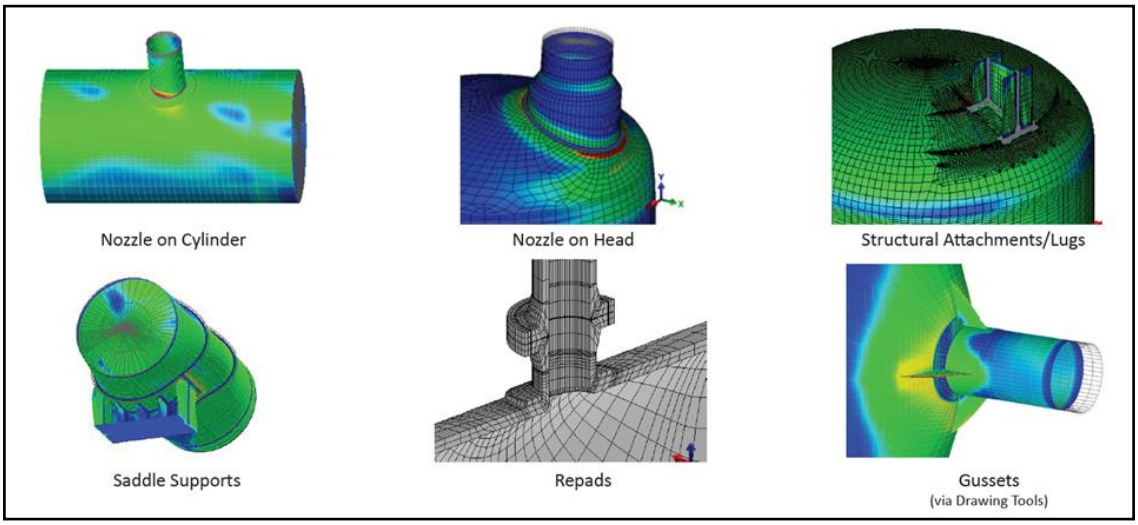
PIPESIM



AutoPIPE



PIPE-FLO



NozzlePRO

AWS Tool Kit

Structural Weld Replica Kit

Course Coordinator

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