TCR ADVANCED

EVOLVE by TCR
Innovate your skillset, Empower the mind

Two-Day Training Programme on Heat Exchanger: Inspection, Remaining Life Assessment, FFS and Failure Investigation

12th & 13th March 2026

Evolve by TCR
215, Pancham Icon,
Vasna Road, near D-Mart,
Vadodara, Gujarat 390007

Fees: INR 20,000/- for single person + GST 18% extra.

10% Discount on total amount of invoice for 03 or more nominations from the same organization.

Course Content

- Different types of heat exchangers and their functions.
- Materials of construction and metallurgy involved in heat exchangers.
- Understanding of damage mechanisms prevailing in the heat exchanger.
- Inspection techniques for effective remaining life assessment of heat exchangers.
- Fundamentals and principles of fitness-for-service assessment for continued usage.
- Different life-limiting factors and failures associated with heat exchangers, and the methodology for failure investigation.
- Specific case studies.

Who Should Attend

- Mechanical Engineers
- Maintenance / Inspection Engineers
- Plant Engineers / Managers
- QA / QC Engineers
- Reliability Engineer
- Metallurgical / Materials Engineers
- HAZOP Engineers / Managers

Objectives of the Training Programme:

- **Develop Understanding of Heat Exchanger Types and Functions:** Provide detailed knowledge about various types of heat exchangers and their operating principles in industrial applications.
- **Introduce Key Metallurgy and Material Considerations:** Explain the materials used in heat exchanger construction, with focus on their behaviour under stress, temperature, and corrosion exposure.
- **Identify Damage Mechanisms and Their Root Causes:** Train participants to detect and interpret damage mechanisms such as corrosion, fouling, and weld failures, and relate them to operational or design flaws.
- **Apply Inspection and Life Assessment Techniques:** Familiarize attendees with appropriate NDT and diagnostic methods for estimating remaining life and assessing equipment fitness for service (FFS).
- **Perform Structured Failure Investigations:** Equip participants with tools and methodologies for systematic failure analysis of tubes and components based on real case studies.

Meet The Faculty

Mr. Paresh Haribhakti, MD

- He holds a post-graduate degree in Materials Technology from M.S. University, providing him with a solid academic foundation in metallurgy and materials science. With a leadership role at TCR Advanced Engineering Services, he has accumulated extensive experience in metallurgical engineering, and has solved over 9000+ industrial challenges. He is expert in risk mitigation and management.
- Paresh has authored 'Failure Investigation of Boiler Tubes: A Comprehensive Approach', published by ASM International, USA. He passionately advocates for eliminating failures across industries and working towards predicative approach. His commitment to advancing knowledge and expertise is evident through his active participation in global conferences and contributions to leading metallurgical journals. He is an acclaimed expert for damage mechanism of oil & gas, refinery, petrochemicals, power, fertilizers. Mr. Haribhakti is highly suited to guide participants on failure mechanisms, root cause analysis, and predictive approaches related to heat exchangers.

Mr. M.N. Patel

- BE & ME in Metallurgy. Has 33 years of teaching experience in UG and PG level in subjects like Plastic Deformation of Metals, Mechanical Metallurgy, NDT and Failure Analysis, Mechanical behavior of materials, Selection of Materials and Failure Analysis, Physical Metallurgy and Welding Metallurgy.
- He holds expertise in physical metallurgy, micro structural analysis, scanning electron microscopy, welding metallurgy, failure analysis.. His 33 years of teaching and academic depth in metallurgy, mechanical behavior, and failure analysis make him ideal for explaining the theoretical foundations and failure analysis techniques relevant to heat exchangers.

Mr. Ketan Upadhyaya

- BE in Metallurgical engineering, PGD in computer science. He has experience of 25 years in the field of NDE, Acoustic emission techniques, Vibration measurement and signature analysis, Failure Investigations, microstructure interpretation, Scanning electron microscopy and digital imaging system.
- He is a qualified level II for Acoustic Emission testing (IISC Bangalore), Vibration Analyst VT-II (Entec IRD) and Ultrasonic Flaw Detection (EEC Mumbai) techniques. He has expertise in Engineering Critical Analysis, high-temperature degradation of materials, Remaining Life Assessment (RLA), and Fitness-for-Service (FFS) evaluations. He has investigated over 1,000 failure cases related to petrochemical and oil & gas plants. Mr. Upadhyaya brings valuable expertise in diagnostic techniques essential for fitness-for-service assessment and remaining life evaluation of heat exchangers.

Mr. Nikhil Sabhaya

- He is a post graduate in Metallurgy. He has over 5 years of hands-on industrial experience in the field of Boiler Remaining Life Assessment (RLA) and Non-Destructive Testing (NDT). He is an ASNT Level III certified professional in ET, UT, PT, and MT. Additionally, he holds API 510 certification as a Pressure Vessel Inspector and is a CSWIP 3.1 Certified Welding Inspector. His deep practical experience, combined with his knowledge of various national and international codes and standards, enables him to effectively formulate and validate test procedures for diverse NDT applications.
- He has working experience in NDT testing at various Power projects, Petrochemicals, Refineries, Structural and Automobile Industries. He has an expertise in NDT and the application of various NDT methods for solving problems of Industry. His hands-on experience in Boiler RLA and NDT testing, along with certification in ET/UT/MT/PT, aligns well with the inspection techniques and code-compliant testing procedures critical to assessing heat exchanger integrity.

For NFET/ RTGS/ Bank transfer:

Account No: 05730400000034
IFSC: BARB0INDMAK (5th letter is zero)
Bank: BOB, Makarpura Branch
Merchant Name: TCR ADVANCED ENGINEERING PVT LTD
UPI ID : tcrad93762@barodampay

QR code for payment

+91-75748 34848 evolve@evolvetcr.com www.evolvetcr.com