TCR ADVANCED

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Two-Day Training Programme on Basics of Metallurgy for Engineers (A Metallurgy program for non-Metallurgist)

06th & 07th November 2025

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

Fees: INR 15,000/- for single person + GST 18% extra.

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

Course Content

- Introduction and Importance of Metallurgy.
- Correlation of properties with composition and microstructure.
- Manufacturing methods (casting, rolling, extrusion, an forging).
- Defects and characterization.
- Metallography and interpretation of microstructure
- Heat treatment of steels and cast iron, non-ferrous alloys.
- Mechanical behavior of steels.
- Welding metallurgy and failure analysis.
- Corrosion and preventions.
- Non-destructive techniques.
- Lab visit and practical demonstration.

Who Should Attend

- Mechanical Engineers
- Materials Engineers
- Design Engineers
- Quality Assurance/ Quality Control Professionals
- Maintenance Engineers
- Process Engineers
- Project Managers
- Anyone interested in gaining a foundational understanding of metallurgy
- Chemical Engineers

Objectives of the Training Programme:

- **Build Fundamental Understanding:** Equip engineers with core knowledge of metallurgy principles like phase diagrams, heat treatment, and alloy selection critical for design and manufacturing.
- **Highlight Material Behaviour:** Explain how different materials respond to stresses, environments, and manufacturing processes, and how ignorance leads to failures.
- **Link Metallurgy to Product Performance:** Demonstrate how metallurgical decisions directly impact mechanical strength, corrosion resistance, wear life, and reliability.
- **Identify and Prevent Material Failures:** Train engineers to recognize typical metallurgical failure modes (e.g., fatigue, creep, corrosion) early, reducing downtime and liability.
- **Improve Material Selection Skills:** Guide on systematic material selection for cost optimization, sustainability, and enhanced performance based on service conditions.

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. Mr. Haribhakti brings a rich blend of strategic insight and real-world case studies, making complex metallurgical concepts accessible to engineers from non-metallurgical backgrounds.
- 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. 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. Mr. Patel brings academic depth and structured pedagogy to the program, helping participants build a strong foundational understanding of metallurgy.

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. 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.

For NFET/ RTGS/ Bank transfer:

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IFSC: BARB0INDMAK (5th letter is zero)
Bank: BOB, Makarpura Branch
Merchant Name: TCR ADVANCED ENGINEERING PVT LTD
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QR code for payment

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