TCR ADVANCED

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One-Day Training Programme on Introduction to Welding Metallurgy (An overview of basic metallurgical principles in welding)

24th January, 2026

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

Fees: INR 5,000/- for single person + GST 18% extra.

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

Course Content

- Fundamentals of Welding Metallurgy.
- Physical Metallurgy and Phase Transformations in Steels.
- Interpretation of Fe-Fe_3C Diagram, TTT, and Weld CCT Diagrams.
- Influence of Heat Input on Weld.
- Microstructure and Mechanical Properties.
- Embrittlement Mechanisms in Welded Joints and Their Mitigation.
- Microstructural Evolution During Welding.

Who Should Attend

- Welding Engineers and Technologists
- Materials Engineers
- QA/QC Inspectors
- Welding Supervisors and Managers
- Welding Procedure and Performance Qualification Specialists
- Manufacturing Engineers
- Industry Consultants
- Students and Academics

Objectives of the Training Programme:

- Establish a foundational understanding of key physical and mechanical metallurgy principles as they apply to welding processes and materials behaviour.
- Analyze the effects of welding thermal cycles on microstructural evolution, including grain growth, phase transformations, and precipitation behaviour in both fusion and heat-affected zones.
- Correlate metallurgical phenomena such as solidification modes, cooling rates, and alloy chemistry with the resulting mechanical properties and integrity of welded joints.
- Develop comprehensive insight into the metallurgical behaviour of weldments, encompassing weld pool solidification, heat-affected zone transformation, and their implications on weld performance and serviceability.

Meet The Faculty

Subject Matter Expert (Another Faculty)

- He holds an M.E. in Metallurgical Engineering and a Ph.D. in Welding Technology, with over 15 years of expertise in welding consumable testing, selection for similar/dissimilar metals, and welding procedure qualification. He is proficient in advanced welding processes including SMAW, GTAW, GMAW, SAW, Pulse TIG, Plasma TIG, Activated TIG, and WAAM, and is a recognized expert in induction heating for pre- and post-weld heat treatment. With deep insight into welding metallurgy and heat-affected zone behaviour, he has trained professionals across industries on ASME Section VIII Div. 1, ASME IX, and EN/ISO 15614-1 & 9606-1 standards. His unique ability to connect metallurgical theory with practical applications makes him a highly respected trainer in welding technology and heat treatment practices.

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.

Subject Matter Expert (Another Faculty)

- He holds a Ph.D. in Metallurgical Engineering and is a certified International Welding Technologist (IWT), BS EN ISO 14731 Welding Coordinator, and BS EN ISO 3834 Auditor. With over 12 years of specialized experience in welding training, he brings deep technical knowledge in welding metallurgy—particularly of stainless steels and dissimilar metal combinations. He is highly proficient in international welding standards, including ASME Section VIII Div. 1, ASME IX, EN ISO 15614-1, ISO 9606-1, ISO 14732, and AWS D1.1. Known for his clarity in interpreting welding codes and qualification processes (WPS-PQR-WPQ), he has successfully trained engineers, inspectors, and coordinators across industries. His strong academic foundation and code-based expertise make him an authoritative trainer in welding metallurgy and compliance-driven welding practices.

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. He has also developed innovative tools for asset management and reliability enhancement, specifically tailored to the needs of critical infrastructure in the fertilizer and chemical industries.
- Paresh has authored 'Failure Investigation of Boiler Tubes: A Comprehensive Approach', published by ASM International, USA. 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. He holds expertise in inspection of fertilizer and petrochemical tanks

For NFET/ RTGS/ Bank transfer:

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Bank: BOB, Makarpura Branch
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UPI ID : tcrad93762@barodampay

QR code for payment

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