TCR ADVANCED

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One-Day Training Programme on Weldability of Steel, Testing Methods and Standards

20th December, 2025

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

- Weldability Issues in CS/LAS Weld Metal & Heat-Affected Zone (HAZ).
- Cold Cracking & Hot Cracking.
- Assessing Weldability of Materials.
- Varestraint Test.
- Lehigh Restraint Test.
- Implant Test.
- Oblique Y Groove Test.
- Controlled Thermal Severity (CTS) Test.
- Weldability Tests: Fabrication Weldability Test & In-Service Weldability Test.
- Latest Simulation Test Methods to Assess Weldability.

Who Should Attend

- Welding Engineers and Technicians
- Quality Assurance and Control Professionals
- Materials Engineers
- Welding Supervisors and Inspectors
- Fabrication and Maintenance Engineers

Objectives of the Training Programme:

- Gain in-depth knowledge of steel weldability, with a focus on carbon equivalent, hardenability, and the influence of thermal cycles on weld metal and HAZ microstructures.
- Understand the relationship between metallurgical transformations and weld integrity, including the effects of preheat, Interpass temperature, and post-weld heat treatment (PWHT).
- Develop proficiency in standard weld evaluation techniques, including mechanical testing (tensile, impact, hardness), non-destructive testing (RT, UT, PT, MT), and metallographic characterization.
- Interpret and apply international welding codes and standards (ASME, ISO, AWS) to ensure structural reliability, safety, and compliance in critical applications.
- Build capability to critically assess and enhance weld quality in real-world industrial fabrication, maintenance, and repair scenarios.

Meet The Faculty

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 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. Kamlesh Rana

- With a Diploma in Mechanical Engineering and an impressive 38 years of experience, this professional has built a solid career in the QA/QC departments of the fabrication, fitting, and forging manufacturing industries. Over the years, they have developed deep expertise in quality assurance protocols and inspection standards critical to heavy industrial manufacturing.
- Their technical proficiency includes strong command over ASME Code Specifications, particularly Sections IX, VIII, and II (A, B, C). They are a certified welding engineer under AWS, an API-qualified internal auditor, and hold ASNT Level 2 certifications in Radiographic Testing (RT), Ultrasonic Testing (UT), Penetrant Testing (PT), and Magnetic Particle Inspection (MPI), making them a highly skilled and versatile asset to any engineering or inspection team.

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.

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

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