Manufacturing Technology Training
An IMTMA initiative

Design for Welding - A Scientific approach for Strength and cost optimization
Date : 30 to 31 October, 2025
Time : 0930 Hrs to 1300 Hrs (Online Mode)

INTRODUCTION

Welding is one of the most widely used metal joining techniques for fabrication. Most Industrial structures are fabricated or repaired by welding, which is not ornamental, but is what carries the load of the members, and is critical for structural integrity. Welding design, which is satisfactory for one part may not necessarily be adequate for another. Working conditions and application requirements are vital elements for good design. Communicating the design to the shop is always a challenge to a designer. Hence clear understanding of welding symbology and the standards nullifies ambiguity in drawings and makes the design intent clear, ensuring seamless communication between design, manufacturing, and quality teams enabling a concurrent engineering environment. A good design also needs to be verified by methods prescribed by relevant codes before fabrication, both for structural and human safety.

Keeping this in mind, IMTMA is conducting a training program on **Design for Welding,** for providing and understanding of symbols for communication; effective design, and verification, which are key to meet design objectives.

FOCUS AREAS

- Understand all the elements of a welding symbol
- Learn types of joints and welds
- Know welding standards in IS, ISO, and AWS
- Understand the difference between standards
- Build Welding symbols from scratch
- Hands-on exercise on Welding symbols
- Principles of welding design
- Joint Design criteria and design parameters
- Basics of edge preparation for welding
- Selection of right type and size of weld
- Designing weld for minimum Size
- Weld dissimilar metals
- Minimizing post welding distortion
- Tolerances for welded structures
- Understand parameters of strength
- Strength theories and limit states
- Calculate strength for different load types and joint configuration
- Examples of calculations
- Optimization of weld size to minimize cost
- Evaluation of weld strength per EN 1993

KEY TAKE AWAYS

- Read weld symbols on drawings with a greater fluency
- Apply Welding Symbols on new drawings as per standard
- Articulate on various welding options for every design case
- Design each welding for ease of manufacturing
- Select the right welding process and type for cost-effective manufacturing
- Verify strength of each weldment for different types of loads
- Comply with verification process as per EN 1993 1-8 for Approval

FEE PER PARTICIPANT (PER LOGIN)

Rs. 7500/-
+18% GST
IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others

USD 300/-
Overseas Participants

Group Concession : 10% for 3 to 5 and 30% for 6 and more delegates being nominated from the same company

FACULTY

This program will be conducted by ***Mr. Manoharan***

Mr. Manoharan, has over 39 years of experience in the areas of Design, Development, Project Engineering / Management, and Marketing in diversified industries. His expertise spans multiple domains like Pollution Control, Cement Plants, Power, Oil & Gas, Gas Turbines, and Industrial Automation. His strength is in providing global engineering support on the design and development of Mechanical Engineering Projects. Had been actively provided engineering support to prestigious Customers like GE, Rolls-Royce, Siemens, Procter & Gamble, Halliburton, and Baker Hughes.

He is graduated in Mechanical Engineering and secured PG Diploma in Ecology and Environment and PG Management from IIM, Calcutta.

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REGISTRATION : Prior registration with an online advance payment is must. Number of participants is limited and will be accepted on 'First Come First Serve' basis. A Certificate of participation will be issued to participants.