Manufacturing Technology Training
An IMTMA initiative

Heat Treatment - Metallurgy and Processes
Date : 21 to 22 December, 2022
Time : 1340 Hrs to 1700 Hrs (Online Mode)

INTRODUCTION

There is always a demand by the customers to get superior product for less cost. Engineers and scientists in organisations constantly work in their R&D laboratories to achieve this objective. About 70-80 percent of the components of industrial products, be it automotive or Engineering are manufactured out of various types of steel due to its favourable cost to strength ratio. Steel properties can be changed to meet the design requirement by suitable heat treatment processes. Therefore in-depth knowledge of different Industrial heat treating processes is essential to find solutions to the problems quickly and effectively.

Keeping this in view, IMTMA is organising an online training on “Heat treatment - Metallurgy and processes”.

FOCUS AREAS

- Understanding of Basic metallurgy of Iron , Crystal structure, phase transformation, Iron carbon diagram, TTT diagram
- Classification of Heat treatment processes
- Bulk(through) heat treatment processes
    - Annealing, Normalizing
    - Hardening and tempering
    - Austempering, Martempering
    - Precipitation hardening
- Surface heat treatment processes
    - Carburizing
    - Flame and Induction hardening
    - Nitriding, Carbo nitriding, Nitrocarburizing
    - Laser hardening
- Structural changes during heat treatment
- Concept of Hardenability and factors affecting it
- Role of alloying elements in hardenability

KEY TAKE AWAYS

- Learn about various heat treatment methods and specific application of each process
- Understand structural changes during heat treatment
- Understand how to achieve required strength through right microstructure
- Understand various heat treatment processes based on metallurgical changes
- Understand Hardenability and impact on hardenability

FEE PER PARTICIPANT (PER LOGIN)

Rs. 5500/-
+18% GST
IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others

USD 220/-
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. Ganapathi K N.**
Mr. Ganapathi K N, is presently working as Advisor at IMTMA, having 16 years of industrial and 16 years of academic and training experience. He is a mechanical engineer with post graduate in metal casting science and engineering. Prior to IMTMA, Ganapathi has worked at various capacity in manufacturing companies. He has thorough knowledge of Materials, Metallurgy, Metal casting and heat treatment processes. He has carried out many specialised programmes on metal casting technologies, Metallurgy and heat treatment for industries. He has also taught these topics to post graduate engineering students. At IMTMA his role is to develop and introduce new programmes for enhancing competitiveness of Industries.

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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.