Manufacturing Technology Training
An IMTMA initiative

Challenges and Solutions in Thread Cutting Operations
Date : 30 September, 2025
Venue : IMTMA Technology Centre, Pune

INTRODUCTION

One of the most important but less understood machining processes is Threads and Thread Machining. Most components produced today, whether in the Auto Sector, Process control, or Equipment manufacturing contain at least one form of thread. Hence thorough understanding of the basics and usage of Threads and Thread Cutting tools is of primary importance, especially so with internal threads, where the operation is constrained.

Threading applications today call for materials with high strength to weight ratios which are more often than not, difficult to machine. These impose high demands on thread cutting tools and tool holding and performance limits are stretched continuously. Therefore it becomes imperative that all aspects of threading, be it Thread Cutting, Thread Forming, Tool Holding or Thread Gauging, be explored fully to realize the full potential of the tooling available today.

This programme will provide an in depth understanding of forms of threads, thread cutting and gauging practices. Live demonstrations will be carried out in CNC Machining Centre for demonstrating different thread cutting tools and machining methods.

FOCUS AREAS

• Basics of threads
• Overview of thread cutting methods - Thread rolling, Thread cutting, Tapping, Threadmilling, Relative advantages and limitations
• Tap geometries, Cold Forming Taps
• Basics of Tapping
• Basics of Thread Milling. Tap Holders, Rigid Tapping.Care of Tap Holders
• High speed Tapping for mass production
• Demo of Tapping and Thread Milling in CNC Machining centre and cycle time analysis
• Observation of Chips produced. Demo of Softsynchro to measure Synchronising errorsCheck list for tap trials
• Use of thread gauges; Do's and Don'ts; Calibration of gauges; care and Maintenancetips

KEY TAKE AWAYS

After undergoing the programme, the participants will be able to
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1.Understand types of Taps / Tapping holders and their selection criteria for different applications
2.Optimise tapping process for improved productivity and quality
3.Learn about Thread Milling and Tools for thread milling in CNC Machines
4.Go through Live Demo of Tapping and Thread Milling in CNC Machining centre

PARTICIPATION FEE

Rs. 6600/-
+18% GST
IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others

USD 260/-
Overseas Participants

Group Concession : 10% for 3 to 5 and 20% for 6 and more delegates being nominated from the same company

PARTICIPANT PROFILE

This programme will benefit Managers, Engineers and Middle Management personnel involved in Production, Process Planning, Methods, and other related areas from Automobile & auto ancillaries, Machine Tool manufacturing, Aerospace, Tool rooms, CNC Shops, Defence & Railway establishments, General Engg. and other manufacturing industries.
The programme will be highly interactive where participants can raise questions and solicit feedback from the expert faculty.

FACULTY

This programme will be conducted by Industry experts from Emuge-Franken India Pvt. Ltd and IMTMA Technology Centre.

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REGISTRATION : Prior registration for participation is necessary. Number of participants is limited and will be accepted on 'First Come First Serve' basis. A Certificate of participation will be issued to participants.
Important Information : Participation fee includes, course material, working lunch and tea / coffee. Interested companies are requested to register online by clicking on 'REGISTER' button and by filling up the nomination authority and participant's details in specified form.