Manufacturing Technology Training
An IMTMA initiative

Surface Roughness Measurement, Validation and Improvement
Date : 24 to 25 November, 2021
Time : 1340 Hrs to 1700 Hrs (Online Mode)

INTRODUCTION

In the precision engineering industry, the functional properties of a component are affected by the boundary areas (or the surface) of the component. This aspect becomes all the more important when the surface comes in contact with the surface of the mating component and is operationally related to it. The unceasing demand for increased performance, interchangeability and functional reliability has resulted in shrinking of tolerances for a precision component. As the tolerances shrink the surface aspects of the component become more and more dominant and the dimensional aspects of surface finish become exceedingly important. A serious quantitative study of the quality of a surface becomes an inseparable part of component design, manufacture and inspection to ensure proper functional behaviour of the design.

Additionally, to achieve the desired finish, the entire machining system comprising the type of machining process, machine tool, work holding, cutting tool and machining parameters needs to be considered appropriately.

Keeping this in view, IMTMA is organizing an online training on **"Surface Roughness Measurement, Validation and Improvement"**

In addition to measurement / validation, session will cover the tools and techniques towards improving surface finish in machining. **Live video demo in CNC machines will be shown to stress the Do's and Don'ts in machining**.

FOCUS AREAS

- Introduction to Surface finish
- Importance, its occurrence and effects
- Assessment of Surface finish - Systems and Parameters
- Preferred values & relation between various parameters
- Surface finish & manufacturing economy; surface finish & class of fits;
- Surface finish obtainable by different manufacturing processes
- Measurement of surface finish - mechanical, optical and electric/ electronic methods & instrumentation
- Measurement of surface finish of inaccessible surfaces
- Dependence of Surface Roughness on Machining Parameters
- Proper selection of tools and machining parameters for improving finish
- **Demo on improvement of surface finish in Turning & Milling applications.**

KEY TAKE AWAYS

After undergoing the programme, the participants will be able to -

- Appreciate what is finish of a surface and why is it important.
- Get to know what factors influence a surface and its finish.
- How to express surface finish and units of measurement.
- Understanding amplitude, spacing and hybrid parameters.
- Understand how surface finish affects economics of manufacture.
- Know about various methods of measurement and empirical relations between various parameters.
- Why so many parameters and why there is no 'one' parameter.
- Insight into Technologies for Surface Finish Improvement.

FEE PER PARTICIPANT (PER LOGIN)

Rs. 4500/-
+18% GST
IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others

USD 180/-
Overseas Participants

Group Concession : 20% for 3 to 5 and 30% for 6 and more delegates being nominated from the same company

FACULTY

This programme will be conducted by **Mr. B N Taranath** and **Team from Motherson Techno Tools Limited**.
Mr Taranath is Former Head of Precision Engineering, Central Manufacturing Technology Institute (CMTI), Lead assessor for NABL and International Accreditation Service Inc. (USA) and an acknowledged expert in the field of Precision Measurements & Metrology.
Mr. Taranath is currently working with International Accreditation Service (IAS), Los Angeles, California and USA as a Staff Metrologist, Expert consultant and Accreditation Officer. His work involves assessment of laboratories, training, expert consultations etc and assessed a large number of labs & conducted many training programmes in United States, Egypt, Saudi Arabia, Mexico, Dubai, Israel, Bahrain, India Etc. He is also engaged in setting up metrology laboratories & laboratory accreditation both in India & abroad.

For Registration Contact

Amarendu Debnath
Programme Coordinator
+91 9977133067
gurgaontraining-an@imtma.in
B.L Patil
8088251077
blpatil@imtma.in

Contact Address

INDIAN MACHINE TOOL MANUFACTURERS' ASSOCIATION
Plot 249F, Phase IV, Udyog vihar,Sector - 18,
Gurgaon - 122015
Tata no- +91-124-6463101
Tel : 0124 4014101 - 04
Fax : +91-124-4014108

imtmatrainning.67038796@hdfcbank

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.