Manufacturing Technology Training
An IMTMA initiative

Geometric Dimensioning and Tolerancing (GD&T) in Design through Manufacturing
Date : 14 to 15 February, 2023
Venue : IMTMA Technology Centre, Pune

INTRODUCTION

Understand the role of GD&T in the reduction of manufacturing cost and lead time as well as enhanced product reliability. Thorough knowledge of GD&T – the essential link, connecting the functional departments in the manufacturing industry – is a must for engineers. Many times lack of proper understanding/misconceptions about GD&T lead to depriving the true benefits of GD&T in terms of enhanced reliability of the product, saving in manufacturing cost, reduction in lead time, etc. Learn the fundamentals of GD&T in detail with application examples.

Keeping this in view, Indian Machine Tool Manufacturers' Association (IMTMA) is organising a 2 days offline training programme on **"Geometric Dimensioning and Tolerancing (GD&T) in Design through Manufacturing".**

The program will be highly interactive, wherein, the participants can clear their queries with the expert faculty.

FOCUS AREAS

- Tolerance, types of tolerances, why tolerance is required?
- History, Introduction and understanding the need for GD & T
- Fundamental rules of GD&T per ASME - Rule1 and Rule2
- Coordinate vs Geometric tolerancing
- Definitions of Terms and Symbols: Feature, FOS, FCF, MMC, LMC and RFS
- DRF thro definition of datums and DOF restrained by primary, secondary and tertiary datums
- Calculation of bonus tolerance per MMC / LMC - Learn through Exercises
- Five groups of GD&T parameters - Form, Orientation, Location, Run out and Profile
- Form tolerances and applications
  - Straightness
  - Flatness
  - Circularity
  - Cylindricity
- Orientation tolerances and applications
  - Parallelism
  - Perpendicularity
  - Angularity
- Location tolerances and applications
  - Position
  - Concentricity
  - Symmetry
- Run out tolerances and applications
  - Circular run out
  - Total run out
- Profile tolerances and applications
  - Profile of a line
  - Profile of a surface
- Learn to Interpret above through Case Studies and Exercises
- **Live Demo of inspection and validation of GD&T Parameters using conventional set up (from first principles) as well as CMM**

KEY TAKE AWAYS

After undergoing the programme, participants will be able to -

- Understand the concepts of GD&T features and correctly interpret GD&T symbols in Engineering Drawings
- Learn about using Geometric tolerances at RFS, MMC and LMC conditions and Calculate Bonus tolerance
- Learn Interpretation of GD&T Parameters
- Learn GD&T through Case Studies and Exercises
- **Gain an insight into inspection of GD&T features using conventional methods**

PARTICIPATION FEE

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 20% for 6 and more delegates being nominated from the same company

PARTICIPANT PROFILE

This programme will be a Mid Level one and participants are expected to have knowledge of Engineering Drawing as a pre requisite.

This programme will benefit Managers, Engineers and Supervisory Personnel involved in the functions of Product Design, Process Planning, Production, and Quality Assurance from Machine Tool, Automobile & auto ancillaries, Tool Rooms, Consumer Durables, Aerospace, Defence & Railway establishments, General Engineering and other Capital goods manufacturing industries.

Participants are encouraged to bring their drawings for discussion and problem solving.

FACULTY

This Program will be conducted by **Mr.Ganapathi K N**

Mr. Ganapathi K N, is presently working as Advisor Training at IMTMA, having 16 years of industrial and 17 years of academic/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 GD&T and its interpretation, Materials, Metallurgy, Metal casting and heat treatment processes. He has carried out many programmes on GD&T, metal casting technologies, Metallurgy and heat treatment for industries. He has also taught these topics to post graduate engineering students. Till date he has trained more than 3000 engineers and conducted more than 250 programs on various technical topics.

For Registration Contact
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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.