Manufacturing Technology Training
An IMTMA initiative

Geometric Dimensioning and Tolerancing (GD&T) in Design through Manufacturing
Date : 1 to 2 August, 2024
Venue : IMTMA Technology Centre, Bengaluru

INTRODUCTION

Understand the role of GD&T in reduction of manufacturing cost and lead time as well as enhanced product reliability.Thorough knowledge in GD&T – the essential link, connecting the functional departments in the manufacturing industry – is a must for engineers. Many a 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"**

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 the above through Case Studies and Exercises
- Inspection Methodology for GD&T Parameters
- 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, the participants will be able to -

- Understand the concepts of GD&T features and correctly interpret GD&T symbols in Engineering Drawings
- Learn about using 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. 10450/-
+18% GST
IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others

USD 415/-
Overseas Participants

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

FACULTY

This program will be conducted by **Mr. Preetham B. M.**

Mr. Preetham B. M, is having over 24 years of experience in the industry, in the field of manufacturing of precision components for Nuclear, Aerospace & Automation industry. He has acquired expertise in the application and use of GD&T principles in precision manufacturing of components as well as experience in conducting training programs. He has imparted training in CNC, CAD/CAM, CMM & GD&T for more than 1500 engineers. Has conducted more than 30 batch of Finishing school. Trained industry professionals from TVS, Ceratizit India, Ashok Leyland, Kennametal etc. Prior to working at IMTMA, he has worked at Avasarala Technologies Limited, as Assistant Manager, in the field of machining the precision components using CNC machines. Components manufactured for prestigious projects like Centre for Advanced Technology (BIGBANG test), ITER which is expected to be operational in the year 2030 at France. He was deputed to M/s Kimberly Clark Corporation's KIMTECH plant at Neenah, Wisconsin state, United States of America for one year to understand their best manufacturing practices. At IMTMA, as Assistant Director, his role is to impart hands-on training for manufacturing professionals.

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.