

Geometric Dimensioning and Tolerancing (GD&T) in Design through Manufacturing

Date: 18 to 19 November, 2025

Venue: IMTMA Technology Centre, Pune

Last date for registration 11 November 2025

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 is organising a 2 days 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
- 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
 - ParallelismPerpendicularity
 - Angularity
- Location tolerances and applications
- Position
 - Concentricity
 - Symmetry
- Run out tolerances and applications
- Circular run outTotal run out
- Profile tolerances and applications
 Profile of a line
 - Profile of a surface
- Learn to Interpret above through Case Studies and Exercises
- Inspection Methodology for GD&T Parameters

KEY TAKE AWAYS

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

- 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 about using tolerances at RFS, MMC and LMC conditions and Calculate Bonus tolerance
- Gain a practical insight into inspection of GD&T features using conventional methods, Co-ordinate Measuring Machine and functional gauges.
- Implement GD&T controls for a new project with proper selection of datum features.

PARTICIPATION FEE

Rs. 10450/-+18% GST

IMTMA Members/ Micro Companies/ Individuals/

Educational Institutions / Students/ IMTMA Non Members/ Others Overseas Participants

USD 415/-

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 prerequisite.

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. Yuvaraj Patil**, **Mr. Yuvaraj Patil** is a mechanical engineer having more than 16 years of experience in CNC Machine Shop & Tool Room. He has worked with

various companies - ASB International, Videocon, Menon & Menon and PARI. Additionally, he has 10+ years of experience in training engineers in CNC Machining area with hands-on practice he has trained 3500+ Industry professionals in the CNC Machining area, Dimensional Metrology, and Inspection. And trained 500+ fresh graduate mechanical engineers in Production engineering for making engineers industry ready. Also, he has conducted the training program on Machining fundamentals, Machining Defects Analysis, Cost & Cycle Time Reduction, Dimensional Metrology, and GD & T for Sigma Electrical, Maruti Suzuki, Volkswagen, Mahindra, Fleetguard, Bajaj Auto, Advik Hitech and ENPRO.

For Registration Contact Nagraj Hamilpure Programme Coordinator

9881616902 n.hamilpure@imtma.in Back End Operations 9742626488 enquiry@imtmablr.com

INDIAN MACHINE TOOL MANUFACTURERS' ASSOCIATION 12/5, D-1 Block, MIDC, Chinchwad,

Contact Address

Pune-411019 Board Line: +91 7066030531 / 532



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.