Manufacturing Technology Training
An IMTMA initiative

Advanced Concepts of GD&T
Date : 13 to 14 November, 2024
Venue : IMTMA Technology Centre, Bengaluru

INTRODUCTION

The Geometric Dimensioning and Tolerancing systems have been getting evolved over the last 20 plus years continuously. Globalization in various streams of engineering has been instrumental in defining the details and implementation . ASME has revised and improvised the definitions in the last release of year 2009 with examples in which almost all the readers find their own parallels.

However, thorough understanding is a must across the design, manufacturing and quality personnel for implementing GD&T and realizing the true benefits in terms of interchangeability, reduced cost, reduced re work, simplified inspection & gauging etc. Keeping this in view, Indian Machine Tool Manufacturers' Association (IMTMA) is organizing a 2 days programme on **Advanced concepts of GD&T.**

The program will be focusing on application and interpretation of GD&T interlaced with interesting real life examples which the participants from various industries will be able to identify with. Participants can seek solutions from the expert faculty for discussing and solving their specific issues in design / product development.

FOCUS AREAS

- Definitions of Terms and Symbols, MMB,LMB,RMB,DRF, Rule#1 or
- Definitions of Terms and Symbols, MMB,LMB,RMB,DRF, Rule#1 or Taylor principle
- Definition of datums', Selection of datums based on design / manufacturing / Inspection requirements
- Wooden/plastic prototypes: Part/assy prototypes used for effective training.
- Brief explanation five groups of tolerances and their hierarchy
- MMB,LMB, RMB and translation concepts
- Zero tolerance and application (straightness - axis, orientation and position)
- Virtual conditions, IB and OB calculations and applications
- Paper gauge concept, and Verification of positional tolerances
- Functional dimensioning and Functional gauge design
- Composite position and profile tolerances, PLTZF and FRTZF
- Floating and fixed fastener assy
- Axis controls by position, run out, concentricity and profile, case studies
- Verification of effect of datum modifiers / datum shift - using paper gauge
- Exercises throughout the work shop, over 25 nos
- Live Demo of Measuring GD&T parameters

KEY TAKE AWAYS

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

- Distinguish between RFS, MMC and LMC conditions with practical applications
- Do position verification: By calculation, paper gauge, functional gauge and CMM.
- Apply new concepts, MMB,LMB,RMB and translation, and functional gauge design
- Understand advanced concepts viz. Zero, composite position and profile tolerancing
- Selection of axial controls position, run out, profile and concentricity, case studies
- Gain a practical insight into inspection of GD&T feature

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

PARTICIPANT PROFILE

This programme will benefit Middle/ Senior management members from 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 industries and Engineering service providers.

Pre requisite: This will be an advanced level training programme. Basic Knowledge of Engineering Drawing, Limits/Fits/Tolerances and GD&T principles will be a pre requisite for this programme. Participants need to complete a precourse questionnaire upon applying for registration.

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

FACULTY

This programme will be conducted by **Mr. Ravi Shankar Nadig.**

Mr. Ravi Shankar Nadig, holds a Bachelor's Degree in Mechanical Engineering, is a Manufacturing and Dimensional Management Professional with 27 years of experience in Machine tool, Automotive and Aerospace industries, He has worked as a Scientist in Central Manufacturing Technology Institute (CMTI), Bangalore (9 years) and as a Consultant in Tata Consultancy Services (TCS) for 15 years His core competency is in Design and Manufacture of precision machine elements for Defence and Space applications, Manufacturing Engineering support for Fabrication of sheet metal parts of Aero Engine assemblies, Dimensional Management -Tolerance Stack Analysis of Automotive and Aero engines, GD&T practice and training, and Rapid Prototyping.

He is a Senior GD&T professional certified by ASME (Y14.5-2009).

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.