IMTMA Technology Centre
Indian Machine Tool Manufacturers' Association
www.imtmatraining.in

ASME Geometric Dimensioning & Tolerancing for GDTP Technologist Level Certification
Date : 9 to 11 June, 2020
@ BIEC, 10th Mile, Tumkur Road, Madavara Post, Bangalore

INTRODUCTION

Geometric Dimensioning and Tolerancing (GD&T) system eliminates ambiguities in engineering drawings and brings out the designer's intent very clearly. It ensures seamless communication between design, engineering, manufacturing and quality teams across the entire organization enabling them working in a concurrent engineering environment. In the competitive industrial scenario prevailing today, proper application of GD&T system helps the companies to reduce the manufacturing and inspection costs.

BUILD YOUR GD&T EXPERTISE DIRECT FROM THE SOURCE !

DO YOU KNOW?

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) IS THE MOST RESPECTED PROVIDER OF GD&T TRAINING AND DEVELOPMENT COURSES, WORLD FAMOUS "GEOMETRIC DIMENSIONING & TOLERANCING PROFESSIONAL (GDTP) CERTIFICATION; PLUS HANDBOOKS AND GD&T CODES FOR ENGINEERING PROFESSIONALS!

THE INDIAN MACHINE TOOLS MANUFACTURERS' ASSOCIATION (IMTMA) HAS A STATE OF ART TRAINING FACILITY EQUIPPED WITH WORLD CLASS MACHINING AND MEASUREMENT SYSTEM LAB BEST SUITED TO FACILITATE THE HANDS ON PRACTICAL TRAINING ON GD&T!

IMTMA IS AN AUTHORISED TRAINING PROVIDER (ATP) OF ASME, CERTIFIED FOR PROVIDING IACET ACCREDITED ASME TRAINING COURSES ON ASME Y14.5 STANDARD TO ENGINEERING PROFESSIONALS ACROSS INDIA.

Keeping this in view, Indian Machine Tool Manufacturers' Association (IMTMA) is organizing a 3 day programme on **"ASME Geometric Dimensioning & Tolerancing for GDTP Technologist Level certification"** on **9 - 11 June 2020** at **Bangalore.**

COURSE CONTENTS

Introduction to GD&T

- Fundamental dimensioning rules
- Coordinate tolerancing & itsshortcomings
- Geometric tolerancing and itsbenefits
- Typical Measurement Equipmentused

GD&T Terms, Symbols, Rules,Concepts

- Dimension Types
- GD&T Symbology FCF, Modifiersand Symbols
- Feature and Feature of size
- Material conditions MMC, LMC,RFS
- Variation Types on a Feature
- Difference between Regular andIrregular Features of Size
- Virtual Condition
- Statistical Tolerancing
- Continuous Feature symbol formultiple features of sizes

Datums

- Importance of Datums
- Restraining degrees of freedomwith datums
- Datum Application to Features andFeatures of Size
- Use of Datum targets
- Datum Shift - Material Conditionsapplied to Datums

Form Tolerances

- Form Tolerances Flatness,Straightness, Circularity,Cylindricity
- Form tolerance applications
- Inspecting flatness

Orientation Tolerances

- Orientation Tolerances –Angularity, Parallelism,Perpendicularity
- Implied right angles, Degreesbasic angle, tolerance linear units
- Application of Orientationtolerances
- Inspecting Orientation tolerances

Profile Tolerance

- Profile Tolerance and its applications
- Inspecting Profile tolerances
- Composite Profile
- Profile for Co-planar surfaces

Location Tolerances

- Location Tolerances Position, Symmetry, Concentricity
- Application of Position Tolerance Feature Control Frame
- Size and Shape of Tolerance Zone
- Position Tolerance measurement methods - Functional Gage, CMM data
- Zero Tolerancing at MMC

Composite Position Tolerance

- Basic concept and characteristics
- Various Interpretations of composite position tolerance

Runout Tolerances

- Basic concepts and characteristics of Circular and Total Runout

FOCUS AREAS

- Understanding the system of GD&T and themethods of applying it in real time design by using casestudies, examples and exercises
- Cover the philosophies of how, when, and where to applygeometrics along with common sense tips for producingquality parts
- Provide a solid grounding in the fundamentals of geometrictolerancing based on the latest ASME Y14.5-2009 Standard
- Prepare participants for the ASME Geometric Dimensioning& Tolerancing Professional (GDTP-Technologist) Levelexamination

In addition the program will provide unique hands-on sessions in measurement Lab to practice the application of GD&T rules using the functional gauges , conventional as well as state of the art measuring systems like CMM on various engineering parts & components.

KEY TAKE AWAYS

At the end of course, participants will be able to understand -

- Importance of applying correct GD&T on drawings
- Important GD&T terms and definitions
- Relationship of geometric characteristic and feature types such as RFS, MMC and LMC conditions and calculatebonus tolerance
- Inspection of GD&T features using conventional, CMM's & Functional gauges
- Application of GD&T controls for new product development using case studies
- ASME Y14.5M standard rules for practice

PARTICIPATION FEE

Rs. 25000/- IMTMA Members / Micro Companies	**Rs. 25000/-** IMTMA Non Members/ Others	**Rs.** **Notice: Array to string conversion in /home/imtmatra/public_html/brochure/pdf.php on line 118** **Array/-** Educational Institutions / Students	**Rs. 23750/-** 5 % IMTMA Members / Micro Companies	**Rs. 23750/-** 5 % IMTMA Non Members/ Others	**Rs. 22500/-** 10 % IMTMA Members / Micro Companies	**Rs. 22500/-** 10 % IMTMA Non Members/ Others

+ 18% GST

PARTICIPANT PROFILE

The course is suited for beginners as well as experienced professionals with no prior or minimal GD&T experience, who are looking to get an in-depth knowledge and grip on best practices in GD&T and the ASMEY14.5M-2009 standard, OR are aiming for ASME GDTP Technologist Certification.

At the end of this course the participants will also attempt a mock test based on ASME GDTP - “Body of Knowledge” Guide to prepare individuals for ASME GDTP-Technologist certification exam. The answer Key will also be provided to all participants after completion of Mock test, for self-evaluation.

FACULTY

This Program will be conducted by **Mr. M. Krishnamoorthy.**

M. Krishnamoorthy, is the Senior Director of IMTMA Technology Centre and an authorized training instructor with ASME, NY for delivering accredited ASME GD&T Trainings. He has undergone advanced training in GD&T from ASME at Seattle, USA. He is a certified ASME GDTP Senior Professional after successful completion of Senior Level GDTP certification examination by ASME, USA.

For over 28 years of his continued engineering practice in the industry, he has acquired astute expertise in the application and use of GD&T principles in CAD/CAM, high precision CNC machining as well as conducting Technical Trainings. He has imparted specialized training in GD&T for more than 500 engineers across manufacturing companies in India and assisted them in implementing GD&T in design through manufacturing. He is a post graduate in Production Engineering from PSG College of Technology, Coimbatore. Prior to working at IMTMA,

Mr. Krishnamoorthy has worked at ISRO Satellite Centre, Bangalore in the field of Precision Machining of satellite on –board components . After ISRO, he was with Perfect Moulds and UMS technologies as a specialist in Tool Planning and Production and Technical Training in CAD/CAM/CAE, respectively. At IMTMA, his role is to develop and introduce new programs for enhancing competitiveness of industry.

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.