

# Geometric Dimensioning & Tolerancing (GD&T)

## AUDIENCE:

Engineers  
Tool Designers  
Drawing Maker  
Inspection Personnel

## DURATION:

3 days

## METHODOLOGY:

Instructor-led  
presentation, exercise,  
and discussion

## PREREQUISITES:

Technical or engineering  
background



## CONTACT:

### TRAINING REP.

[training@mawea.com.my](mailto:training@mawea.com.my)

## INTRODUCTION:

Geometrical Dimensioning and Tolerancing (GD&T) provides you the knowledge in current standards and the ability to use this knowledge in your drawings or 3D models.

Understand the geometric dimensioning and Tolerancing is essential for anyone to read blueprints/ technical drawing. It is also important for academic instructors who conduct design and manufacturing related courses too.

This training introduces the engineering concepts of size control and material tolerances. After defining the terminology, geometric characteristics and symbols, the course demonstrates how the geometric system works through practical applications, blueprint readings and interpretation.

The course covers application of position tolerance measurement and limits of size methods. Form tolerances for configurations such as flatness, straightness and roundness are discussed, and datum reference methods are covered in detail. Orientation tolerances are also discussed, for perpendicular, parallel and profile views of various items. Profile and position tolerances, co-axial, symmetrical and concentric applications are also covered in this course.

## OBJECTIVES:

After completing this course, you will be able to:

- Understanding the difference between ASME Y14.5M and ISO 1101 and the used TOLERANCE PRINCIPLE
- Understand the DATUM REFERENCE and the FORM, POSITION, ORIENTATION and RUN notifications
- Able to interpret the MODIFIER symbol and their usage for production and inspection
- Able to APPLY the learned knowledge in CASE STUDIES



## MAWEA INDUSTRIES SDN BHD

Certified ISO 9001:2015 QMS

**Representative office** C-3A-3A Oasis Square, No 2 Jln PJU 1A/7A, Ara Damansara, 47301 PJ, Selangor, Malaysia. +603-7734 2881

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## COURSE OUTLINES:

### Day 1: GD&T Notification

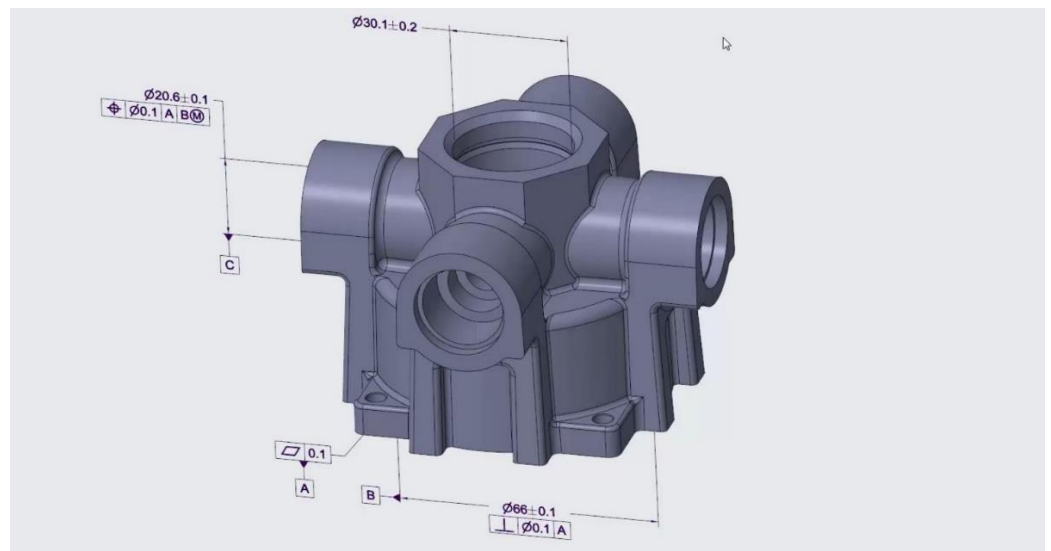
- GD&T vs. dimensional tolerances
- Tolerance principles and the difference between ISO and ASME
- Interpretation of DATUM reference system
- Basic of FORM, PROFILE, ORIENTATION, LOCATION and RUN tolerances
- Interpretation of FORM, PROFILE and ORIENTATION tolerances
- Interpretation of LOCATION and RUN tolerances

### Day 2: MODIFIER & DESIGN Aspects

- MODIFIER and the effect of the tolerance zone
- Calculation of MODIFIER
- Inspection methods
- Aspects of surface quality, GD&T and costs

### Day 3: Case Studies

- CASE STUDIES for HIGH and LOW volume production



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