

Geometric Dimensioning and Tolerancing (GDT)

This two to three day workshop is intended for those product designers, manufacturing personnel, and quality staff that need to both specify, and interpret GDT. All workshop materials and discussion are based on the American National Standard, ASME Y14.5M:2009. Through lecture and activities participants will learn the fundamentals of the 14 GDT symbols and how they are used, datums and datum schemes, feature control frames, maximum material condition, fixed and floating fastener tolerance calculation, etc. *This course should be customized to meet the needs of your organization. A one day session for general information, up to a multi day development workshop using your specific drawings.*

Coursework covers:

- Fundamental review of the ASME Y14.5M:2009 GDT standard
- Detailed review of all GDT symbols
- How to properly specify, and interpret each symbol
- The proper methodology for reading and feature control frame
- The proper way to inspect each symbol and the resulting tolerance
- Specifying and interpreting datums
- Detail discussion of maximum material condition, how and when to use it

Course Outcomes:

- Be able to explain the ASME standard and how to use it
- Understand, interpret, and specify the 14 GDT symbols
- Know how to read and interpret the entire feature control frame
- Be able to interpret datums
- Fundamentally understand how to inspect each of the 14 symbols
- Be able to interpret, and use maximum materials condition

Course duration:

- 16-24 hours

Materials Provided:

- Copy of the presentation materials

Notes: Organizations are encouraged to have electronic (pdf) copies of their drawings for use in the class.

Copies of the ASME standard can be provided if requested from

Blue Print Reading

This one day seminar covers the basics of how to read, and interpret blue prints and common product drawings. Recommended participants are those manufacturing and quality personnel that will have to interpret, and use, product drawings. Through lecture, activities, and drawing examples, participants will learn the basics of orthographic projection, identification of primary and section view, line formats, dimensioning and tolerancing, and proper drawing note interpretation. Geometric Dimensioning and Tolerancing symbols are also introduced.

Coursework covers:

- Definitions and examples of both isometric, and orthographic pictorials
- A detailed understanding of third angle projection and it uses
- The sequence of reading, and interpreting an orthographic drawing
- Proper interpretation of section views, general notes, tolerances, and dimensions
- Review of drawing examples supplied by the instructor, and/or your organization (pdf format recommended)

Course Outcomes:

- Understand the differences between isometric and orthographic drawings
- Know how to use third angle projection for the proper interpretation of drawing views
- Be able to identify, and explain to other the proper sequence of reading an engineering drawing
- Know how to interpret lines, title blocks, general notes, dimensions and tolerances

Course duration:

- 8 hours

Materials Provided:

- Copy of the presentation materials

Note: Organizations are encouraged to have examples of their product drawings for use as example and case study during the session