

FUNDAMENTALS OF GD&T

DESCRIPTION

An introduction to the Y14.5 standard. The main goal is to ensure that all participants reach a shared, basic, and practical understanding of the GD&T concept. This course is ideal for those who are new to GD&T or have some experience, offering a thorough introduction and a robust refresher.

LEARNING OBJECTIVES

- Introduce the key rules concepts of the Y14.5 standard
- Understand GD&T symbols and their practical applications
- Understand the meaning and effects of Material Condition Modifiers
- Understand the function of Datum Reference Frames in drawings
- Recognize GD&T's value as a tool to manage imperfect geometry

PREREQUISITES

Technical Print Reading course is recommended or ability to read and understand technical drawings

INCLUDED IN THE TRAINING:

- 3 Day course (24 hrs.) = 8 hr. / day
- Student exercises
- Workbook: A Practical Guide to Geometric Tolerancing
- GD&T Pocket Guide
- Certificate of Attendance

COURSE OUTLINE

- Explanation of what are the tolerances, where do they come from, and how they are communicated?
- Introduction to GD&T concepts.
- Definitions, Fundamental Rules, Tolerancing Defaults and Dimensioning Practices will be explained.
- All Geometric characteristic symbols will be explained.
- How to read a Feature Control Frame and decode its meaning.



- Material Condition Modifiers – Concept and applicability.
- Form Tolerances: Flatness, Straightness, Circularity, and Cylindricity.
- Datum Reference Frames terminology and understanding
 - ✓ Understanding the difference between datum, datum feature, physical datum feature simulator, and true geometric counterpart
 - ✓ Selecting datums, applying datum feature symbols, and understanding their relevance for manufacturing and inspection
 - ✓ Datum Targets application
 - ✓ Introduction to datum feature modifiers
- Orientation Tolerances: Parallelism, Perpendicularity, and Angularity
- Position Tolerances and Coaxial Controls
- Profile Tolerances
- Run-out Tolerances
- Reporting Practices according to Y14.45 standard
- Overview of Y14.5-2018 standard and significant changes

MEET THE INSTRUCTOR

Your training instructor, Jacek Macias, has 35 years of experience in dimensional inspection service. Jacek has practical experience working with drawings from a wide range of industries: precision machining, injection molding, stamping and casting. He's worked with rigid and non-rigid parts, parts with standard geometry, and complex surfaces. Jacek is ASME 2009 Senior GDTP Certification holder (Number: GDTP S09-8513), and Certified Trainer for AUKOM coordinate metrology training standard (Registration 2016-232).

