Geometrical Dimensioning and Tolerancing (GD&T)

This course is designed for anyone whose work involves GD&T.

Course objectives

The main goal of the course is to get everyone into alignment regarding the application and interpretation of GD&T.

There is time and space for discussion during the course.

This sharpens communication and ensures that everyone is on the same page.

At the end of the two-day course, participants will be able to:

- correctly interpret any given GD&T
- functionally apply GD&T tolerances independently, when formulating product specifications and producing drawings.

Target group

This course is suitable for a wide range of team members, including CAD engineers, work planners, quality control engineers and anyone else whose work requires a familiarity and understanding of GD&T.

Training materials

Syllabus available in English:

- Hand-outs
- Tolerance zone and Measurement techniques
- ASME ISO
- Exercises.

Pocket guide.



Course content

Introduction

- GD&T and 2-point size dimensions, a comparison
- ISO GPS Terms and definitions, Envelope principle and basic rules
- ISO 14405 Linear size modifiers and non-size dimensions
- ISO 22081-2021 General geometric specification

Datums

- According to standard ISO 5459-2011
- Degrees of freedom
- Datums, Datum systems and sequences
- Datum targets

GD&T symbols

- According to standard ISO 1101-2017 ISO 5458-2018 - ISO 2692-2021
- Flatness, straightness, circularity and cylindricity
- Perpendicularity, angularity and parallelism
- Tolerance of position, coaxiality, concentricity and symmetry
- Multi segment tolerancing and patterns
- Profile of a surface and profile of a line
- Circular runout and Total runout
- Maximum material principle, projected tolerance zone and Functional gages
- Direction feature, Intersection plane, Orientation plane and Collection plane
- Contacting feature, Variable distance for common datums

Theoretical and practical exercises represented in Model-Based Definition PMI 3D models.

General

The full training takes 2 days, which do not have to be consecutive. Our training hours are flexible.

A maximum of 12 participants per course, in order to promote mutual discussion and interaction.

The projector and whiteboard are provided by the customer.

The training can be given in both Dutch and English.

