

Tolerance study for Functional Design

This course is designed for anyone working in product development. The goal is to create an understanding of the dimensional and functional relationships of systems and components.

Course objectives

The purpose of this training is to encourage drafts people and product developers to consider tolerances and their impact on their product.

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

- understand the dimensional and functional relationships of systems and components
- control and structurally resolve tolerance risks
- translate GD&T to the tolerance studies
- apply basic statistics to tolerance studies
- make assumptions in a design, draw a conclusion based on the result and optimize.

The tool used is an Excel spreadsheet with a 1D vector diagram as a basis.

Target group

The course is intended for anyone whose work involves product development and has preferably already taken the GD&T short course.

Training materials

Syllabus available in Dutch and English:

- Hand-outs
- Course
- Exercises
- USB stick with Tolerance Stack-up spreadsheets in Microsoft Excel.

Course content

Introduction

- importance of tolerance analysis, understanding tolerances
- basic principles GD&T
- understanding tolerance zones and reference systems

Tolerance diagram

- setting up 1D vector diagram on workpiece and assembly
- GD&T in a stack-up
- assumptions in a tolerance analysis

Statistics

- basic statistics
- statistics in tolerance analysis
- Points of attention in stack-ups

Trigonometry, assembly shift

Practical exercises.

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, whiteboard and laptops are provided by the customer, optimally each participant has a laptop at their disposal.

The training can be given in both Dutch and English.

