

## Design principles for shock proof design

Price:	€ 1,300 excl. VAT
Duration:	2 consecutive days
Contact:	training@hightechinstitute.nl, +31 85 401 3600
Score:	7.8 ★★★★★

### Intro

In this course you will learn:

- Grouping of failure modes into generic failure types, for use in design, FMEA (failure mode and effect analysis), problem solving etc.
- Impact dynamics (point, single mass-spring system, two mass-spring system, 2-D rigid body). The influence of damping.
- Test methods and standards: fragility testing, shock response spectra (SRS), the damage boundary curve.
- Measurement techniques for acceleration, displacement, force, etc.
- Simulation: types of simulation software, the effective use of simulation.
- Robust design principles: a practical guide to evaluating and improving product strength.

### Objective

After the course the participant is able to understand the dynamic effects of drops and shocks on products and is able to design products that have a higher resistance to this type of loading.

### Intended for

Mechanical designers of products that are subject to shock and drop loading.

### Methods

Lectures, demonstrations, exercises, cases.

### Program

The participants will be able to estimate accelerations, forces and deflections based on simple one-dimensional dynamics and is aware of the available simulation and measurements techniques (together with their advantages, limitations and how they can be most effectively applied) for more realistic situations. Training in the use of simulation and measurement tools is not included in this course.

### Trainers

Dave Corben BSc  
Toon Hardeman  
George Siau MSc

### Certification

An High Tech Institute certificate after completing homework and final assignment.

### Course leader

[Dr. Adrian Rankers](#)

### Trainers

[Dave Corben BSc](#)

[Toon Hardeman](#)

[George Siau MSc](#)

*\* Prices are subject to change.  
Price correction will be applied  
at the end of the year.*