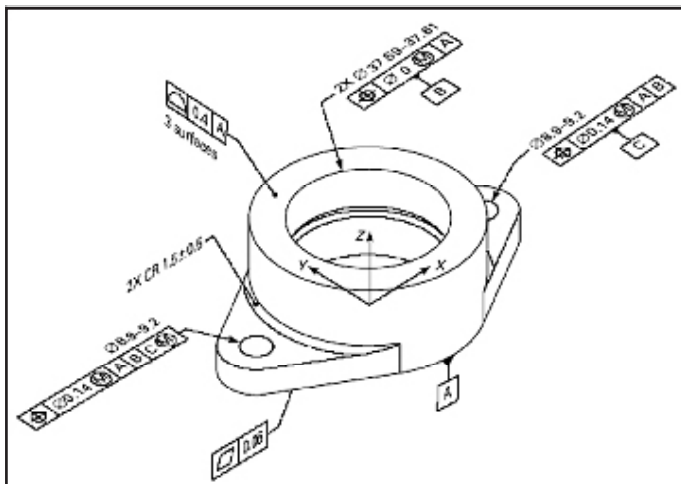


# Solid Model Tolerancing Workshop

(Based on ASME Y14.41-2003)

Exclusively from ETI, the Solid Model Tolerancing Workshop will help you to understand the benefits of a math-based product development process. You'll learn:

- How to use solid models to eliminate 2D drawings
- How to apply GD&T to solid models
- The new symbols and conventions used in Y14.41
- The changes required in GD&T when tolerancing solid models
- The annotated model method and the drawing plus model method from Y14.41
- Six factors to determine which method is best for your organization
- The issues and challenges encountered when adopting the tolerancing of solid models
- How to use the flexibility in Y14.41 for a practical transition to a math-based development process
- Six organizational issues that must be addressed when implementing solid models to replace drawings



## Course Developer:

**Alex Krulikowski, President of Effective Training**

The solid model tolerancing course was developed by GD&T expert, Alex Krulikowski. Alex is the former Chairman of the Y14.41 Standard Committee on Solid Model Tolerancing. The ASME Y14.41 Standard advances the capabilities of Y14.5, Dimensioning and Tolerancing, the widely used standard pertaining to 2D engineering drawings.

This workshop will teach you to become familiar with the ASME Y14.41-2003 Standard on Digital Product Definition Data Sets. You'll also learn about some of the gaps, issues and challenges facing industry in transitioning to a math-based product development process.

## Who Should Attend

This course is intended for designers, engineers, and managers who are implementing math-based product development processes.

## Workshop Highlights

The Y14.41 Standard establishes requirements for preparing, organizing and interpreting 3D digital product images. You'll learn the two major methods for tolerancing solid models in accordance with Y14.41: how to create model and drawing (reduced dimension drawings) as a data set and how to annotate models. The Solid Model Tolerancing course is not based on any single CAD system or product development process. It covers concepts and standards that can be applied with a number of CAD systems.

## Skill Level Needed

Attendees must have a basic understanding of Y14.5 Dimensioning and Tolerancing practices.

## Each workshop participant receives:

- A *Digital Product Definition Workbook*, by Alex Krulikowski
- An official certificate of completion



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(Based on ASME Y14.41-2003)

## The 8-hour workshop covers:

### Introduction

Characteristics and problems of current product development processes  
Explanation of math-based product development processes  
The role of standards in implementing math-based product development processes

### General information on the Y14.41 Standard

History of the standard  
Terms used in the standard  
Data set concept  
Two options for creating data sets

### Requirements common for annotated model and model & drawing data sets

Data set requirements  
Design model requirements  
Display management  
Model values  
Resolved dimensions  
Basic dimensions  
Size dimensions

### Model and drawing data sets

Data set and general method requirements  
Work coordinate systems  
Using section views  
Presentation of dimensions in axonometric views  
Datum applications  
Geometric tolerances

### Annotated model data sets

Data set and general model requirements  
Views on annotated models  
Model requirements  
Resolved dimensions  
Datum applications  
Geometric tolerances

### Gaps, issues, and challenges for industry

Gaps, issues, and challenges  
Future trends

### Why it is important to use Y14.41

Benefits of using the standard  
How to purchase the standard  
Creating an addendum to the standard

## Receive a complete GD&T education.

Don't stop with the fundamentals. We have a series of workshops that add up to a total GD&T education:

- Engineering Drawing Requirements
- GD&T Fundamentals
- GD&T Advanced Concepts
- Tolerance Stacks
- Statistical Tolerance Stacks
- GD&T One-Day Overview

## Provide your management with a half-day overview of GD&T.

ETI also provides a half-day Executive Overview of geometric dimensioning and tolerancing.

## Understand the difference between the ASME and ISO standards.

If you do business internationally, we can train your employees in the differences between the ASME and ISO standards.

Students who attend our workshops walk away with more than knowledge. They gain on-the-job skills because our materials are performance-based, and each workshop approaches the subject from a design perspective.

For more onsite workshop information—or to request a custom quote package—contact a GD&T account executive at 1-800-886-0909, or email [sales@etinews.com](mailto:sales@etinews.com).

## Need to train a large group?

ETI provides training onsite, online and through the *GD&T Trainer Professional Edition* computer-based training software and in our ETI Online Learning Center. Call to learn more about the training option that's right for your company.



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**Quantity discounts available. Call 1-800-886-0909 to enroll today.**