Product Definition for Additive Manufacturing Draft Standard for Trial Use

A Standard for Engineers Worldwide

Y14.46 – 2017

Y14.46 is a draft Standard that extends the ASME Y14 series of standards to leverage model-based product definitions for additive manufacturing. It covers definitions of terms and features unique to additive manufacturing (AM) technologies with recommendations for their uniform specification in product definition data sets and in related documents.

Key features:

- Theoretical Supplemental Surface – Identifying supplemental geometry within the model to assist metrology.
- Definition of 3D geometry not-only for the end item, but also for process control, such as how to identify support structure.
- Data package bundling that incorporates the large amount of design requirements, in-process manufacturing, and quality measurement data.

The draft standard helps with efficiency of manufacturing by providing a method of how to control product definition directly in the model using annotations that are human and machine readable and associated to the feature geometry they represent.

Y14.46 is intended to support engineers engaged in Additive Manufacturing – including mechanical design, drafting, and quality assurance & control personnel – especially those involved in extended, global supply chains.

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- Y14.5 - Dimensioning and Tolerancing
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- Y14.36M - Surface Texture Symbols
- Y14.37 - Composite Part Drawing
- Y14.41 - Digital Product Definition Data Practices
- Y14.100 - Engineering Drawing Practices
- Y14.38 - Abbreviations and acronyms
- Y14.43 - Dimensioning and tolerancing principles for gages and fixtures

Courses

- Drawing Interpretation - EL 504
- Introduction to Geometric Dimensioning and Tolerancing– Y14.5 - EL 505
- Advanced Geometric Dimensioning and Tolerancing (GD&T) - EL 506
- Geometric Tolerancing Applications and Tolerance Stacks - PD 561
- Geometric Dimensioning & Tolerancing Fundamentals 1 - PD 570
- 3D Model-Based Enterprise and Model Based Definition - PD 782

Books

- GD&T Update Guide: ASME Y14.5-2009: Changes, Improvements, and Clarification (Spiral Bound)
- Geometric Dimensioning and Tolerancing Visual Glossary-with GD&T At-A-Glance Sheets
- Geometric Dimensioning and Tolerancing Handbook: Applications, Analysis & Measurement (GDT-HDBK-2009)

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