

**ASME Y14.41-2012**  
[Revision of ASME Y14.41-2003 (R2008)]

# Digital Product Definition Data Practices

---

**Engineering Drawing and Related  
Documentation Practices**

**AN AMERICAN NATIONAL STANDARD**



**The American Society of  
Mechanical Engineers**

## ADOPTION NOTICE

ASME Y14.41, Product Definition Data Practices — Digital, was adopted on 7 July 2003 for use by the Department of Defense, (DoD). Proposed changes by DoD activities must be submitted to the DoD Adopting Activity: Commander, U.S. Army ARDEC, ATTN: RDAR-QES-E, Picatinny Arsenal, NJ 07806-5000. Copies of this document may be purchased from The American Society of Mechanical Engineers (ASME), 22 Law Drive, PO Box 2900, Fairfield, NJ 07007-2900; <http://www.asme.org>.

Custodians:

Army — AR  
Navy — SA  
Air Force — 16

Adopting Activity:

Army — AR  
(Project DRPR-2011-001)

Review Activities:

Army — CR, MI, PT, TE, TM  
Navy — AS, CG, CH, EC, MC, NP, TD  
Air Force — 13, 99  
OSD — SE  
NGA — MP  
NSA — NS  
Civil agency:  
DLA — DH, IS

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <http://assist.daps.dla.mil>.

AMSC N/A

FSC DRPR

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

**ASME Y14.41-2012**  
[Revision of ASME Y14.41-2003 (R2008)]

# Digital Product Definition Data Practices

---

**Engineering Drawing and Related  
Documentation Practices**

**AN AMERICAN NATIONAL STANDARD**



**The American Society of  
Mechanical Engineers**

Three Park Avenue • New York, NY • 10016 USA

Date of Issuance: May 14, 2012

This Standard will be revised when the Society approves the issuance of a new edition.

Periodically certain aspects of the ASME Y14 Committee may be published as Cases. Cases are published on the ASME Web site under the Committee Pages at <http://cstools.asme.org/> as they are published.

Errata to codes and standards may be posted on the ASME Web site under the Committee Pages to provide corrections to incorrectly published items, or to correct typographical or grammatical errors in codes and standards. Such errata shall be used on the date posted.

The Committee Pages can be found at <http://cstools.asme.org/>. There is an option available to automatically receive an e-mail notification when errata are posted to a particular code or standard. This option can be found on the appropriate Committee Page after selecting “Errata” in the “Publication Information” section.

ASME is the registered trademark of The American Society of Mechanical Engineers.

This code or standard was developed under procedures accredited as meeting the criteria for American National Standards. The Standards Committee that approved the code or standard was balanced to assure that individuals from competent and concerned interests have had an opportunity to participate. The proposed code or standard was made available for public review and comment that provides an opportunity for additional public input from industry, academia, regulatory agencies, and the public-at-large.

ASME does not “approve,” “rate,” or “endorse” any item, construction, proprietary device, or activity.

ASME does not take any position with respect to the validity of any patent rights asserted in connection with any items mentioned in this document, and does not undertake to insure anyone utilizing a standard against liability for infringement of any applicable letters patent, nor assumes any such liability. Users of a code or standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, is entirely their own responsibility.

Participation by federal agency representative(s) or person(s) affiliated with industry is not to be interpreted as government or industry endorsement of this code or standard.

ASME accepts responsibility for only those interpretations of this document issued in accordance with the established ASME procedures and policies, which precludes the issuance of interpretations by individuals.

No part of this document may be reproduced in any form,  
in an electronic retrieval system or otherwise,  
without the prior written permission of the publisher.

The American Society of Mechanical Engineers  
Three Park Avenue, New York, NY 10016-5990

Copyright © 2012 by  
THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS  
All rights reserved  
Printed in U.S.A.

# CONTENTS

Foreword .....	v
Committee Roster .....	vi
Correspondence With the Y14 Committee .....	vii
<b>Section 1 General</b> .....	1
1.1 Scope .....	1
1.2 Structure of Standard .....	1
1.3 ASME Y14 Series Conventions .....	1
1.4 Reference to This Standard .....	2
1.5 Symbols .....	2
<b>Section 2 References</b> .....	3
<b>Section 3 Terms and Definitions</b> .....	4
<b>Section 4 Data Set Identification and Control</b> .....	6
4.1 General .....	6
4.2 Related Data .....	6
4.3 Data Management .....	6
<b>Section 5 Data Set Requirements</b> .....	8
5.1 General Model Requirements .....	8
5.2 General Method Requirements .....	8
5.3 Management Data .....	10
5.4 Security Marking .....	10
5.5 Views on Models .....	11
<b>Section 6 Design Model Requirements</b> .....	12
6.1 General .....	12
<b>Section 7 Common Requirements for Models and Drawing Graphics Sheets</b> .....	13
7.1 Common Requirements .....	13
7.2 Model Requirements .....	13
7.3 Drawing Graphic Sheet Requirements .....	15
<b>Section 8 Notes and Special Notations</b> .....	29
8.1 Common Requirements .....	29
8.2 Model Requirements .....	29
8.3 Drawing Graphic Sheet Requirements .....	29
<b>Section 9 Model Values and Dimensions</b> .....	30
9.1 Common Requirements .....	30
9.2 Model Requirements .....	30
9.3 Drawing Graphic Sheet Requirements .....	31
<b>Section 10 Plus and Minus Tolerances</b> .....	35
10.1 Common Requirements .....	35
10.2 Model Requirements .....	35
10.3 Drawing Graphic Sheet Requirements .....	35

<b>Section 11 Datum Applications</b> .....	41
11.1 Common Requirements .....	41
11.2 Model Requirements .....	41
11.3 Drawing Graphic Sheet Requirements .....	42
<b>Section 12 Geometric Tolerances</b> .....	56
12.1 Common Requirements .....	56
12.2 Model Requirements .....	56
12.3 Drawing Graphic Sheet Requirements .....	57
<b>Mandatory Appendix</b>	
I .....	97