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The American Society of Mechanical Engineers

AN AMERICAN NATIONAL STANDARD

ENGINEERING DRAWING PRACTICES

ASME Y14.100-2000

(Revision of ASME Y14.100M-1998)

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FOREWORD

This Standard establishes engineering drawing practices and ties together the engineering drawing and related documentation practices in the Y14 series. ASME Y14.100 is not intended to be a stand-alone document for the purpose of addressing basic practices. An accurate perception of engineering drawing practices is derived by treating ASME Y14.100, ASME Y14.24, ASME Y14.34M, and ASME Y14.35M as a composite set.

This Standard is a revision of ASME Y14.100M-1998, Engineering Drawing Practices. The revision of this Standard was initiated immediately after the official release of ASME Y14.100M-1998 in response to deferred comments and the Department of Defense (DoD) objective of a single industrial base. The initial attempt to convert the DoD drawing practices standard, MIL-STD-100, to a nongovernment standard resulted in two drawing practices standards: ASME Y14.100M-1998, which consisted of basic practices common to DoD and industry, and MIL-STD-100G, which consisted of those practices and requirements unique to DoD. The impact on the community was that judgments on when to use which standard as a stand-alone or in combination was causing a good deal of confusion. Accordingly, the realization of the problems presented by the existence of two basic drawing practices standards is the basis for the issue of this revision to ASME Y14.100M-1998. The consensus was that one standard was needed. To accomplish this, this Standard contains appendices that may be invoked and tailored by DoD, thereby making possible the cancellation of MIL-STD-100.

Changes contained in this revision are intended to improve standardization and to harmonize practices and methodology between industry and government. The following is a summary of the significant differences between ASME Y14.100M-1998 and this revision:

(a) the addition of Appendix A, Tailoring, which provides items to consider when using this Standard either with or without the use of Appendices;

(b) the addition of Appendix B, Noncommercial Drawing Practices, for other than commercial application;

(c) the addition of Appendix C, Drawing Titles, for other than commercial application;

(d) the addition of Appendix D, Numbering, Coding, and Identification, for other than commercial application; and

(e) the addition of Appendix E, Markings on Engineering Drawings, for other than commercial application.

When this Standard is specified as a requirement, its defined requirements are assumed to be consistent with the needs of the user. Therefore, each user provides appropriate application consistent with the environment in which it is applied. Those who use this standard as a requirement for contractual purposes should keep the following facts in mind:

(a) The appendices are not a mandatory part of ASME Y14.100 unless so specified.

(b) This Standard and any specified appendices should be tailored to meet any specific needs. All users must take careful note of the necessity of tailoring this Standard and the applicability of the appendices as contained herein. The extent of any tailoring and the inclusion, whole or in part, of Appendices B through E will in large part be governed by drawing ownership and the logistics intent.

It is not the intent of this Standard to prevent individual organizations from designing specific drawing practices that meet their individual needs, but rather to provide common

engineering delineation standards to aid the increasing interchange of drawings between industry, government, and other users. It is well recognized that individual companies have many detailed requirements for their specific method of operation. Consequently, the minimum requirements set forth in this Standard will provide them flexibility in implementation. The appendices are intended for use by other than strictly commercial organizations, such as DoD, in other than strictly commerical applications; however, nothing prevents commercial organizations from using the appendices and tailoring them as necessary to meet their own needs.

The successful revision of this Standard is attributed to the subcommittee members and their respective companies and the department and agencies of the U.S. government.

Suggestions for improvement of this Standard are welcome, and should be sent to The American Society of Mechanical Engineers; Attention: Secretary, Y14 Main Committee; Three Park Avenue, New York, NY 10016-5990.

This revision was approved as an American National Standard on December 8, 2000.

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Engineering Drawing and Related Documentation Practices

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CONTENTS

Foreword iii
Committee Roster v

1 General 1
1.1 Scope 1
1.2 Application 1
1.3 Figures 1
1.4 Notes 1

2 References 1

3 Definitions 2

4 General Drawing Practices 5
4.1 Nonmandatory Appendix B — Noncommercial Drawing Practices 5
4.2 Types and Application of Engineering Drawings 5
4.3 Associated Lists 5
4.4 Revisions of Engineering Drawings and Associated Lists 5
4.5 Size and Format of Engineering Drawings 5
4.6 Application Data 5
4.7 Preparation of Duplicate Original 6
4.8 Line Conventions and Lettering 6
4.9 Single, Multiple, and Sectional View Drawings 6
4.10 Isometric and Pictorial Views 6
4.11 Projection Systems 6
4.12 Dimensioning and Tolerancing 6
4.13 Surface Texture 6
4.14 Screw Thread Representation 6
4.15 Gears 6
4.16 Mechanical Springs 6
4.17 Optical Elements and Optical Systems 6
4.18 Castings and Forgings 6
4.19 Graphic Symbols, Designations, Letter Symbols, and Abbreviations 6
4.20 Logic Circuit Diagrams 7
4.21 Printed Boards 7
4.22 Digital Data 7
4.23 Scale 7
4.24 Drawing Marking for Item Identification 8
4.25 Optional/Alternative Designs 8
4.26 Drawing Notes 8
4.27 Drawing Verification and Approval 9
4.28 Dating Drawings 9
4.29 Reference Identifiers 9

4.30 In-House Peculiar Information 10
4.31 Use of Specifications and Standards 10
4.32 Metric Practices 10

5 Drawing Titles 10
5.1 Nonmandatory Appendix C — Drawing Titles 10
5.2 General Rules 10

6 Numbering, Coding, and Identification 11
6.1 Nonmandatory Appendix D — Numbering, Coding, and Identification 11
6.2 Drawing Numbers 11
6.3 Special Characters 11
6.4 Drawing Number Prefixes and Suffixes 11
6.5 Drawing Identification 11
6.6 Part or Identifying Number 12
6.7 Reference to Items 12
6.8 Item Identification 12
6.9 Model Number or Catalog Number 12
6.10 Serial Number 12
6.11 Version Number 12
6.12 Data Base Number 13

7 Markings on Drawings 13
7.1 Nonmandatory Appendix E — Markings on Engineering Drawings 13
7.2 Items and Processes — Special Notations 13
7.3 Marking for Special Items and Processes 13
7.4 Feature Identification 13
7.5 Symbology 13
7.6 Notes 13
7.7 Item Replacement Notations 14
7.8 Rights in Data Legends on Drawings 14
7.9 Duplicate Original 14
7.10 Duplicate Production Master (Stable Base Artwork) 16
7.11 Reproductions From Digitally Maintained Data 16
7.12 Ozone Depleting Substances 16

Nonmandatory Appendices
A Tailoring 21
B Noncommercial Drawing Practices 24
C Drawing Titles 27
D Numbering, Coding, and Identification 30
E Markings on Engineering Drawings 38

Index 40

Table
1 Acronyms for Special Items and Processes 14

Figures
1 Symbology 15
2 Duplicate Original Notation 17
3 Duplicate Production Master Drawing Notation 18
4 Location of CAD Generated Drawing Note 19

ENGINEERING DRAWING PRACTICES

1 GENERAL

1.1 Scope

This Standard establishes the essential requirements and reference documents applicable to the preparation and revision of engineering drawings and associated lists. It is essential that this Standard be used in close conjunction with ASME Y14.24, ASME Y14.34M, and ASME Y14.35M.

1.2 Application

Application of this Standard may necessitate tailoring to exclude unnecessary requirements. A tailoring guide, Nonmandatory Appendix A, has been included for that purpose.

1.3 Figures

The figures in this Standard are intended only as illustrations to aid the user in understanding the practices described in the text. In some cases, figures show a level of detail as needed for emphasis; in other cases, figures were deliberately left incomplete to illustrate a concept or facet thereof. The absence of figures has no bearing on the applicability of the stated requirement or practice.

1.4 Notes

Notes depicted in this Standard in capital letters are intended to reflect actual drawing entries. Notes in lower case letters are to be considered supporting data to the contents of this Standard and are, therefore, not intended for literal entry on drawings.

2 REFERENCES

The following is a list of publications referenced in this Standard. When the following American National Standards referred to in this Standard are superseded by a revision approved by the American National Standards Institute (ANSI), the revision shall apply.

ANSI Y14.6, Screw Thread Representation

ANSI Y14.6aM, Screw Thread Representation (Metric Supplement)

ANSI Y14.7.1, Gear Drawing Standards — Part 1: For Spur, Helical, Double Helical, and Rack

ANSI Y14.7.2, Gear and Spline Drawing Standards — Part 2: Bevel and Hypoid Gears

ANSI Y14.13M, Mechanical Spring Representation

ANSI Y32.10, Graphic Symbols for Fluid Power Diagrams

Publisher: The American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990; Order Dept.: 22 Law Drive, P.O. Box 2900, Fairfield, NJ 07007-2900

ANSI/AIIM MS4, Flowchart Symbols and Their Use in Micrographics

Publisher: Association for Information and Image Management (AIIM), 1100 Wayne Avenue, Silver Spring, MD 20910

ANSI/AWS A2.4, Standard Symbols for Welding, Brazing, and Nondestructive Examination

ANSI/AWS A3.0, Welding Terms and Definitions, Including Terms for Brazing, Soldering, Thermal Spraying, and Thermal Cutting

Publisher: American Welding Society (AWS), 550 NW Le Jeune Road, Miami, FL 33135

ANSI/IEEE 91, Graphic Symbols for Logic Functions

ANSI/IEEE 200, Reference Designations for Electrical and Electronic Parts and Equipment

ANSI/IEEE 260.1, Letter Symbols for Units of Measurement (SI Units, Customary Inch-Pound Units, and Certain Other Units)

ANSI/IEEE 260.3, Mathematical Signs and Symbols for Use in Physical Sciences and Technology

ANSI/IEEE 268, Standard Metric Practice

ANSI/IEEE 280, Letter Symbols for Quantities Used in Electrical Science and Electrical Engineering (Same as ANSI Y10.5)

ANSI/IEEE 315a, Supplement to Graphic Symbols for Electrical and Electronics Diagrams

ANSI/IEEE 991, Logic Circuit Diagrams

Publisher: Institute of Electrical and Electronics Engineers (IEEE), 445 Hose Lane, Piscataway, NJ 08855