ASME Y14.37-2019
(Revision of ASME Y14.37-2012)

Product Definition for Composite Parts

Engineering Product Definition and Related Documentation Practices

AN AMERICAN NATIONAL STANDARD

The American Society of Mechanical Engineers

ADOPTION NOTICE

ASME Y14.37, Product Definition for Composite Parts, was adopted on 27 April 2012 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 Research, Development and Engineering Center (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), 150 Clove Road, 6th Floor, Little Falls, NJ 07424-2139; http://www.asme.org.

Custodians:
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Adopting Activity:
Army — AR
(Project DRPR-2012-002)

Review Activities:
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Two Park Avenue • New York, NY • 10016 USA

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The next edition of this Standard is scheduled for publication in 2024.

Periodically certain aspects of the ASME Y14 Committee may be published as Cases. Cases are published on the ASME website under the Y14 Committee Page at http://go.asme.org/Y14committee as they are issued.

Errata to codes and standards may be posted on the ASME website 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 Y14 Committee Page can be found at http://go.asme.org/Y14committee. 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.

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

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FOREWORD

This Standard establishes engineering practices for the definition of *composite parts* and together with related documentation practices in the Y14 Series will enable full *composite part* definition.

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) This Standard may be tailored via contractual agreement or documented business requirements to meet any specific needs. All users shall take careful note of the potential impacts of tailoring this Standard and provide downstream users of the product definition a map of the changes and relationship to this Standard.

(b) It is not the intent of this Standard to prevent individual organizations from using specific product definition practices that meet their individual needs, but rather to provide common engineering delineation standards to aid the increasing interchange of product definition for composite parts among industry, government, and other users.

(c) 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.

Between 2012 and 2017, the Y14.37 Subcommittee worked diligently to address the requirements for composite product definition in a model-based enterprise, including harmonization with ISO 10303 for the definition of ply orientation transformation types used to query the ply orientation at a specific *datum point* location. Requirements specific to composite Limited Length or Area Indicators (LLAIs) were also added.

The successful creation and release of this Standard is attributed to the Subcommittee members and their respective companies.

This Standard is available for public review on a continuing basis. This provides an opportunity for additional public review input from industry, academia, regulatory agencies, and the public-at-large.

This Standard was approved as an American National Standard on March 22, 2019.

ASME Y14 COMMITTEE
Engineering Product Definition and Related Documentation Practices

(The following is the roster of the Committee at the time of approval of this Standard.)

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CORRESPONDENCE WITH THE Y14 COMMITTEE

General. ASME Standards are developed and maintained with the intent to represent the consensus of concerned interests. As such, users of this Standard may interact with the Committee by requesting interpretations, proposing revisions or a case, and attending Committee meetings. Correspondence should be addressed to:

Secretary, Y14 Standards Committee
The American Society of Mechanical Engineers
Two Park Avenue
New York, NY 10016-5990
http://go.asme.org/Inquiry

Proposing Revisions. Revisions are made periodically to the Standard to incorporate changes that appear necessary or desirable, as demonstrated by the experience gained from the application of the Standard. Approved revisions will be published periodically.

The Committee welcomes proposals for revisions to this Standard. Such proposals should be as specific as possible, citing the paragraph number(s), the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent documentation.

Proposing a Case. Cases may be issued to provide alternative rules when justified, to permit early implementation of an approved revision when the need is urgent, or to provide rules not covered by existing provisions. Cases are effective immediately upon ASME approval and shall be posted on the ASME Committee web page.

Requests for Cases shall provide a Statement of Need and Background Information. The request should identify the Standard and the paragraph, figure, or table number(s), and be written as a Question and Reply in the same format as existing Cases. Requests for Cases should also indicate the applicable edition(s) of the Standard to which the proposed Case applies.

Attending Committee Meetings. The Y14 Standards Committee regularly holds meetings and/or telephone conferences that are open to the public. Persons wishing to attend any meeting and/or telephone conference should contact the Secretary of the Y14 Standards Committee. Future Committee meeting dates and locations can be found on the Committee Page at http://go.asme.org/Y14committee

PRODUCT DEFINITION FOR COMPOSITE PARTS

1 SCOPE

This Standard establishes the requirements for composite product definition that are not covered within the existing ASME Y14 Series of standards.

1.1 ASME Y14 Series Conventions

The conventions in paras. 1.1 through 1.10 are used in this and other ASME Y14 standards.

1.2 Mandatory, Nonmandatory, Guidance, and Optional Words

(a) The word "shall" establishes a requirement.
(b) The word "will" establishes a declaration of purpose on the part of the design activity.
(c) The word "should" establishes a recommended practice.
(d) The word "may" establishes an allowed practice.
(e) The words "typical," "example," "for reference," or the Latin abbreviation "e.g." indicate suggestions given for guidance only.
(f) The word "or" used in conjunction with a requirement or a recommended practice indicates that there are two or more options for complying with the stated requirement or practice.
(g) The phrase "unless otherwise specified" or UOS shall be used to indicate a default requirement. The phrase is used when the default is a generally applied requirement and an exception may be provided by another document or requirement.

1.3 Cross-Reference of Standards

Cross-reference of standards in text with or without a date following the standard designator shall be interpreted as follows:
(a) Reference to other ASME Y14 standards in the text without a date following the standard designator indicates that the issue of the standard identified in the References section (section 2) shall be used to meet the requirement.
(b) Reference to other ASME Y14 standards in the text with a date following the standard designator indicates that only that issue of the standard shall be used to meet the requirement.

1.4 Invocation of Referenced Standards

The following examples define the invocation of a standard when specified in the References section (section 2) and referenced in the text of this Standard:
(a) When a referenced standard is cited in the text with no limitations to a specific subject or paragraph(s) of the standard, the entire standard is invoked. For example, "Dimensioning and tolerancing shall be in accordance with ASME Y14.5" is invoking the complete standard because the subject of the standard is dimensioning and tolerancing and no specific subject or paragraph(s) within the standard are invoked.
(b) When a referenced standard is cited in the text with limitations to a specific subject or paragraph(s) of the standard, only the paragraph(s) on that subject is invoked. For example, "Assign part or identifying numbers in accordance with ASME Y14.100" is invoking only the paragraph(s) on part or identifying numbers because the subject of the standard is engineering drawing practices and part or identifying numbers is a specific subject within the standard.
(c) When a referenced standard is cited in the text without an invoking statement such as "in accordance with," the standard is invoked for guidance only. For example, "For gaging principles, see ASME Y14.43" is only for guidance and no portion of the standard is invoked.

1.5 Parentheses Following a Definition

When a definition is followed by a standard referenced in parentheses, the standard referenced in parentheses is the source for the definition.