ASME B16.48-2025
(Revision of ASME B16.48-2020)

Line Blanks

AN AMERICAN NATIONAL STANDARD

The American Society of
Mechanical Engineers

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The American Society of Mechanical Engineers
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FOREWORD

In July 1993, the ASME B16 Committee gave to its Subcommittee C the assignment to convert the API 590 Steel Line Blanks Standard into an ASME standard. The American Petroleum Institute no longer publishes the API 590 Standard.

These line blanks were designed in accordance with the rules of the ASME B31.3-2002 edition. Materials and relevant footnotes have been added following the ASME format.

Significant additions were made to the 2005 edition that included reference to the use of all materials listed in ASME B16.5, Table 1A plus Metric units. The added materials of construction included additions to classes of alloy steels, stainless steels, and nickel alloys. The 2005 edition was also metricated over previous editions to include both U.S. Customary units (in parentheses) and Metric units in the text, Metric units in dimensional tables in the body, and U.S. Customary units in dimensional tables in Nonmandatory Appendix A.

Following the approval of the Standards Committee and ASME, approval for the 2005 edition was granted by the American National Standards Institute (ANSI) on September 19, 2005.

The 2010 edition included revisions to paragraph numbering and adjustments of appendices. In addition to renumbering of main text, updates were made to the Materials section and Marking Method. Illustrations for the figure-8 blanks for raised face flange joints were revised. Finally, the tables for male ring-joint facing figure-8 blanks were revised to support both oval and octagonal ring shapes.

The 2015 edition included revisions to paragraph numbering, and updates to the Materials and Thickness Tolerances sections. Tables for class 300 male oval ring-joint figure-8 blanks were updated for thickness.

The B16 Committee operates under procedures accredited by ANSI. Following approval by the Standards Committee and ASME, the 2015 edition was approved as an American National Standard by ANSI on September 18, 2015, with the designation ASME B16.48-2015.

In ASME B16.48-2020, the U.S. Customary tables in former Mandatory Appendix I were merged with the SI tables in the main text. The tables and figures were redesignated, former Mandatory Appendix I was deleted, and the subsequent Mandatory Appendix was redesignated. Cross-references were updated accordingly. In addition, ASME B16.48-2020 included revisions to former Tables 1, 7, and 14. Following approval by the ASME B16 Standards Committee, ASME B16.48-2020 was approved as an American National Standard by ANSI on November 13, 2020.

In ASME B16.48-2025, definitions of “may,” “shall,” and “should” have been added and references have been updated. Following the approval by the ASME B16 Standards Committee, ASME B16.48-2025 was approved as an American National Standard by ANSI on March 5, 2025.

ASME B16 COMMITTEE
Standardization of Valves, Flanges, Fittings, and Gaskets

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Revisions and Errata. The committee processes revisions to this Standard on a continuous basis 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 in the next edition of the Standard.

In addition, the committee may post errata on the committee web page. Errata become effective on the date posted. Users can register on the committee web page to receive email notifications of posted errata.

This Standard is always open for comment, and the committee welcomes proposals for revisions. Such proposals should be as specific as possible, citing the paragraph number, the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent background information and supporting documentation.

Cases

(a) The most common applications for cases are

(1) to permit early implementation of a revision based on an urgent need

(2) to provide alternative requirements

(3) to allow users to gain experience with alternative or potential additional requirements prior to incorporation directly into the Standard

(4) to permit the use of a new material or process

(b) Users are cautioned that not all jurisdictions or owners automatically accept cases. Cases are not to be considered as approving, recommending, certifying, or endorsing any proprietary or specific design, or as limiting in any way the freedom of manufacturers, constructors, or owners to choose any method of design or any form of construction that conforms to the Standard.

(c) A proposed case shall be written as a question and reply in the same format as existing cases. The proposal shall also include the following information:

(1) a statement of need and background information

(2) the urgency of the case (e.g., the case concerns a project that is underway or imminent)

(3) the Standard and the paragraph, figure, or table number

(4) the editions of the Standard to which the proposed case applies

(d) A case is effective for use when the public review process has been completed and it is approved by the cognizant supervisory board. Approved cases are posted on the committee web page.

Interpretations. Upon request, the committee will issue an interpretation of any requirement of this Standard. An interpretation can be issued only in response to a request submitted through the online Inquiry Submittal Form at https://go.asme.org/InterpretationRequest. Upon submitting the form, the inquirer will receive an automatic email confirming receipt.

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Committee Meetings. The B16 Standards Committee regularly holds meetings that are open to the public. Persons wishing to attend any meeting should contact the secretary of the committee. Information on future committee meetings can be found on the committee web page at https://go.asme.org/B16committee.

ASME B16.48-2025
SUMMARY OF CHANGES

Following approval by the ASME B16 Standards Committee and ASME, and after public review, ASME B16.48-2025 was approved by the American National Standards Institute on March 5, 2025.

ASME B16.48-2025 includes the following changes identified by a margin note, **(25)**. The Record Numbers listed below are explained in more detail in the "List of Changes in Record Number Order" following this Summary of Changes.

Page	*Location*	*Change (Record Number)*
1	2.1	Paras. 2.1.2, 2.1.5, and 2.1.6 added and existing paragraphs redesignated (*22-2279*)
22	Mandatory Appendix I	Updated (*23-2265*)

LIST OF CHANGES IN RECORD NUMBER ORDER

Record Number	Change
22-2279	Added paras. 2.1.2, 2.1.5, and 2.1.6 to define “may,” “shall,” and “should.”
23-2265	Updated references.

LINE BLANKS

1 SCOPE

This Standard covers pressure–temperature ratings, materials, dimensions, tolerances, marking, and testing for operating line blanks in sizes NPS ½ through NPS 24 for installation between ASME B16.5 flanges in the 150, 300, 600, 900, 1500, and 2500 pressure classes.

2 GENERAL

(25) ### 2.1 Definitions

2.1.1 Figure-8 Blank. A figure-8 blank (also called a spectacle blank) is a pressure-retaining plate with one solid end and one open end connected with a web or tie bar (see Figure 2.1.1-1).

2.1.2 May. "May" is the term used in this Standard to denote permission, which is neither a requirement nor a recommendation.

2.1.3 Paddle Blank. A paddle blank is similar to the solid end of a figure-8 blank. It has a plain radial handle. It is generally used in conjunction with a paddle spacer in large sizes.

2.1.4 Paddle Spacer. A paddle spacer is similar to the open end of a figure-8 blank. It has a plain radial handle. It is generally used in conjunction with a paddle blank.

2.1.5 Shall. "Shall" is the term used in this Standard to denote a requirement.

2.1.6 Should. "Should" is the term used in this Standard to denote a recommendation.

2.2 References

Codes, standards, and specifications, containing provisions to the extent referenced herein, constitute requirements of this Standard. These reference documents are listed in Mandatory Appendix I.

2.3 Quality Systems

Nonmandatory requirements relating to the product manufacturer's Quality System Program are described in Nonmandatory Appendix A.

2.4 Relevant Units

This Standard states values in both SI (metric) and U.S. Customary units. These systems of units are to be regarded separately as standard. Within the text, the U.S. Customary units are shown in parentheses. The values stated in each system are not exact equivalents; therefore, it is required that each system of units be used independently of the other. Combining values from the two systems constitutes nonconformance with the Standard.

2.5 Convention

For determining conformance with this Standard, the convention for fixing significant digits where limits (maximum and minimum values) are specified shall be as defined in ASTM E29. This requires that an observed or calculated value be rounded off to the nearest unit in the last right-hand digit used for expressing the limit. Decimal values and tolerances do not imply a particular method of measurement.

2.6 Size

NPS, followed by a dimensionless number, is the designation for nominal blank size. NPS is related to the reference nominal diameter, DN, as defined in ISO 6708. The relationship is typically as follows:

NPS	DN
½	15
¾	20
1	25
1¼	32
1½	40
2	50
2½	65
3	80
4	100

GENERAL NOTE: For NPS ≥ 4, the related DN = 25 multiplied by the NPS number.

2.7 Service Conditions

Criteria for selection of materials suitable for particular fluid service are not within the scope of this Standard.